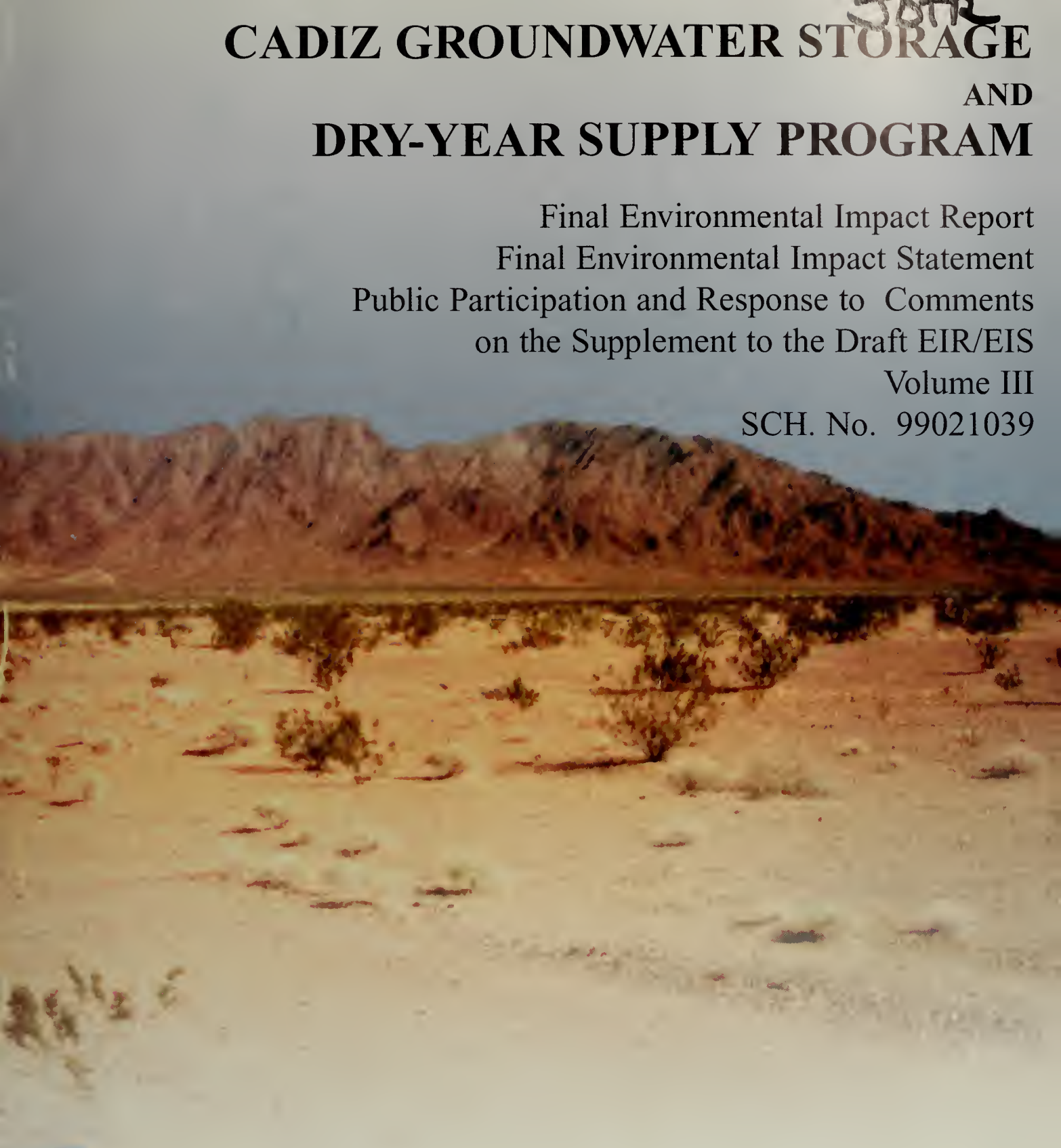
CADIZ GROUNDWATER STORAGE
AND
DRY-YEAR SUPPLY PROGRAM

Final Environmental Impact Report
Final Environmental Impact Statement
Public Participation and Response to Comments
on the Supplement to the Draft EIR/EIS
Volume III
SCH. No. 99021039



MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

REPORT NO. 1174

U.S. Department of the Interior
Bureau of Land Management


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COVER SHEET

FINAL ENVIRONMENTAL IMPACT REPORT
FINAL ENVIRONMENTAL IMPACT STATEMENT
CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM
SAN BERNARDINO COUNTY, CALIFORNIA

LEAD AGENCIES:

The Metropolitan Water District
of Southern California
Los Angeles, California

U.S. Department of the Interior
Bureau of Land Management
Riverside, California

COOPERATING AGENCIES:

U.S. Department of the Interior
National Park Service

U.S. Department of the Interior
U.S. Geological Survey

PROPOSED ACTION:

Construction and operation of the Cadiz Groundwater Storage and Dry-Year Supply Program (Cadiz Project) including a groundwater monitoring and management program, amendment of the California Desert Conservation Area (CDCA) Plan for an exception to the utility corridor requirement, and issuance of associated right-of-way grants and permits.

For further information, contact Metropolitan or BLM at:

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, California 90054-0153
Attention: Mr. Jack Safely (213) 217-6981

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, California 92507-0714
Attention: Mr. James Williams (909) 697-5390

DESIGNATION:

Final EIR/EIS

ABSTRACT:

In February 1999, Metropolitan issued a Notice of Preparation of an EIR for the Cadiz Project which would be constructed and operated by Metropolitan in the Cadiz and Fenner Valleys of the eastern Mojave Desert, San Bernardino County, California. The BLM determined that an EIS would be required as the proposed action includes an amendment of the CDCA Plan for an exception to the utility corridor requirements and grant(s) of right-of-way across federal lands. The BLM issued a Notice of Intent to Prepare an EIS for the proposed action in March 1999. In May 1999, the BLM issued a Notice of Public Meeting and extension of the scoping comment period. The Draft EIR/EIS was published in November 1999 with a 104-day public review period that ended in March 2000.

Because numerous comments raised questions regarding groundwater management issues, a Supplement to the Draft EIR/EIS was prepared to provide additional information and to present the Groundwater Monitoring and Management Plan (Management Plan) that has been incorporated into the proposed project. The Management Plan will govern the water storage and extraction operations in the affected groundwater basins to ensure that project operations will not result in any unacceptable adverse impacts to groundwater resources or air quality. The Supplement to the Draft EIR/EIS was circulated for an 80-day public review period that ended in January 2001.

The Cadiz Project is proposed by Metropolitan who is acting in partnership with the private company Cadiz Inc. The project will involve construction and operation of a 35-mile pipeline for conveying water between the Iron Mountain Pumping Plant on the Colorado River Aqueduct and the Cadiz/Fenner area, a Cadiz Pumping Plant at Metropolitan's existing Iron Mountain Pumping Plant facility, 390 acres of spreading basins for percolation of Colorado River water into the groundwater basin in the Cadiz/Fenner area, a wellfield for extracting stored Colorado River water and indigenous groundwater, and associated power poles and line along the conveyance pipeline and in the wellfield.

This Final EIR/EIS contains comments received on the Draft EIR/EIS and the Supplement to the Draft EIR/EIS, detailed responses to those comments, and integrates the information contained in the Draft EIR/EIS and Supplement to the Draft EIR/EIS with revisions as appropriate in response to comments. The Final EIR/EIS is also available for review on request at the Metropolitan and BLM offices and at the following public libraries:

- Metropolitan Water District
  700 North Alameda Street
  Los Angeles, California 90012

- Bureau of Land Management
  6221 Box Springs Boulevard
  Riverside, California 92507

- Bureau of Land Management
  101 West Spikes Road
  Needles, California 92363

- Norman Feldheym
  Central Library
  555 West 6th Street
  San Bernardino, California 92410

- Needles Branch Library
  1111 Bailey Avenue
  Needles, California 92363

- Twentynine Palms Branch Library
  6078 Adobe Road
  Twentynine Palms, California 92277

- Barstow Branch Library
  304 East Buena Vista Street
  Barstow, California 92311

This Final EIR/EIS has been approved for public distribution.

SEP 13 2001

Tim Salt
District Manager
California Desert District
U.S. Bureau of Land Management

Date

SEP 14 2001

Stephen N. Arakawa
Manager, Water Resources Management Group
Metropolitan Water District of Southern California

Date

The following technical reports and documents for the Cadiz Project are available:

- Final Environmental Impact Report/Environmental Impact Statement (September 2001)
- Public Participation and Response to Comments on the Draft EIR/EIS (September 2001)
- Public Participation and Response to Comments on the Supplement to the Draft EIR/EIS (September 2001)
- Groundwater Monitoring and Management Plan (September 2001)
- Draft EIR/EIS Public Participation (November 1999)
- Environmental Planning Technical Reports:

    - Project Feasibility and Facilities (November 1999)
    - Groundwater Resources (November 1999)
    - Biological Resources (November 1999)
    - Cultural Resources (November 1999)

The Final EIR/EIS shall govern over the Environmental Planning Technical Reports in the event of any discrepancies between the documents.

The Final EIR/EIS and technical reports are available for review at the Metropolitan Water District office located at 700 North Alameda Street, Los Angeles, California and at the BLM offices in Needles (101 West Spike's Road, Needles, California) and Riverside (6221 Box Springs Boulevard, Riverside, California).

VOLUME III
PUBLIC PARTICIPATION AND RESPONSES TO COMMENTS ON THE SUPPLEMENT TO THE DRAFT EIR/EIS

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SECTION 1

SUMMARY OF PUBLIC PARTICIPATION ON THE SUPPLEMENT TO THE DRAFT EIR/EIS

The Metropolitan Water District of Southern California (Metropolitan) in conjunction with the Bureau of Land Management (BLM) has carried out a public participation program for the Cadiz Groundwater Storage and Dry-Year Supply Program in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) requirements. The Public Participation volume of the Draft Environmental Impact Report/Statement (Draft EIR/EIS) identified the public scoping process conducted prior to the publication of the Draft EIR/EIS. The Response to Comments to the Draft EIR/EIS summarizes the public participation process conducted for the Draft EIR/EIS. This volume of the Final EIR/EIS provides an overview of the public participation program conducted for the Supplement to the Draft EIR/EIS.

As a direct result of the public participation program conducted for the Draft EIR/EIS, Metropolitan and BLM prepared the Supplement to the Draft EIR/EIS to address public concerns regarding potential impacts to groundwater and air resources in the project area. The public involvement process was designed to inform the public and solicit public comments on the proposed project in compliance with CEQA and NEPA requirements. The public participation process included the following components:

- Publication of the Notice of Availability (NOA) of the Supplement to the Draft EIR/EIS (Supplement),
- Circulation of the Supplement for public and agency review,
- Conducting two public hearings on the Supplement, and
- Responding to comments received on the Supplement.

The Notice of Availability of the Supplement (NOA) was published in the Federal Register and in two newspapers in the project area. Additionally, it was posted with the San Bernardino County Clerk of the Board of Supervisors and sent to an extensive mailing list of potentially interested parties. Numerous individuals, organizations, and public agencies were also mailed a copy of the Supplement. The mailing list for the NOA and the Supplement included BLM's list of those who have expressed interest in its management of Southern California desert lands, those who participated in the scoping process for the project, as well as local, regional, State, and federal public agencies and officials.

Metropolitan and the BLM circulated the Supplement for public review from October 20, 2000 through January 8, 2001. The NOA provided a public notice that the Supplement had been completed and that Metropolitan and the BLM were accepting public comments on the document. The NOA also indicated how a copy could be obtained for review. A copy of the NOA of the Supplement is provided in Appendix A of this volume.

Metropolitan and BLM held two public hearings during the public review period to accept verbal and written comments on the Draft EIR/EIS. Public testimony at those hearings was taken by a court reporter. Transcripts of the hearings are provided in this volume in Section 2. The hearings were held at Twentynine Palms on November 29, 2000 and Los Angeles on December 18, 2000. Additionally, the Cadiz Project was discussed at a meeting of the California Desert District Advisory Council on October 21, 2000 in Barstow.

Numerous written comment letters on the Supplement were received during the public review period and are also included in this volume in Section 2.

Responses to the written and oral comments received on the Supplement at the public hearings and by letter are included in the responses to comments portion of this volume (Section 3). Each hearing transcript including written comments handed in and comment letters received during the comment period are included in the comments received portion of this volume (Section 2). The transcript from each meeting is numbered (T1, T2, etc.) and each comment within the transcript is bracketed and numbered (T1-1, T1-2, etc.) Comment letters are organized and coded as received from federal (F), State (S), or regional/local agencies (R), businesses (B), groups/organizations (G), and the general public (P). Each letter received is numbered as well (e.g. F3) and the comments within each letter are bracketed and numbered (e.g. F3-1, F3-2). The numbering sequence for comment letters follows on from those received on the Draft EIR/EIS.

Responses to comments utilize the coding system described above. Additionally, where similar or related comments were made by a number of commentors, a master response was prepared to provide a comprehensive response to that issue. The master responses are included in Section 3 of this volume. Where a comment resulted in modification to the text of the Final EIR/EIS, this is noted in the response. The Final EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program incorporates all the necessary changes based on the comments received during the public review period.

SECTION 2

COMMENTS RECEIVED ON THE SUPPLEMENT TO THE DRAFT EIR/EIS

Comment Letters Received from Federal Agencies

F3 United States Environmental Protection Agency (1/3/01)
F4 United States Department of Interior National Park Service (1/8/01)

Comment Letters Received from State Agencies

S7 State of California Governor's Office of Planning and Research, State Clearinghouse (10/25/00)
S8 State of California Governor's Office of Planning and Research, State Clearinghouse (12/5/00)
S9 California Regional Water Quality Control Board, Colorado River Basin Region (12/4/00)
S10 California Regional Water Quality Control Board, Colorado River Basin Region (12/4/00)
S11 California Regional Water Quality Control Board, Colorado River Basin Region (12/5/00)
S12 California Department of Water Resources (12/5/00)
S13 California Regional Water Quality Control Board, Colorado River Basin Region (1/8/01)

Comment Letters Received from Regional and Local Agencies

R5 City of San Diego (10/23/00)
R6 Riverside County Sheriff (11/1/00)
R7 James Bryant, Curator of Natural History (11/16/00)
R8 City of Twentynine Palms
R9 Southern California Association of Governments (11/29/00)
R10 Baldy Mesa Water District (1/1/01)
R11 Cucamonga County Water District (1/4/01)
R12 County of San Bernardino Economic Development and Public Services Group (1/5/01)
R13 Victor Valley Water District (12/19/00)

Comment Letters Received from Businesses

B7 Claypool & Co. (11/29/00)
B8 The Gas Company (10/26/00)
B9 GSi/Water (1/3/01)
B10 Palecek & Skaja (1/2/01)
B11 Deco Foodservice (1/4/00)
B12 Latham & Watkins (1/5/01)
B13 CT Associates (1/7/01)

Comment Letters Received from Groups and Organizations

G18 Environmental Defense (1/7/00)
G19 Desert Protective Council (10/19/00)
G20 Western Environmental Law Center (10/20/00)
G21 The Wilderness Society (11/1/00)
G22 Lorey Cachora (11/23/00)
G23 Western Environmental Law Center (11/16/00)
G24 Desert Tortoise Council (12/3/00)
G25 California Indian Arts (12/28/00)
G26 Cherokee Watershed Group (1/3/01)
G27 Desert Tortoise Preserve Committee, Inc. (1/4/01)
G28 Law Office of Garry L. Hayes (1/4/01)
G29 The League of Women Voter Environmental Action Committee (1/5/01)
G30 Law Offices of Morisset, Schosser, Ayer & Jozwiak (1/5/01)
G31 Morongo Basin Conservation Association (1/5/01)
G32 Desert Tortoise Council (1/6/01)

G33 Desert Survivors (1/7/01)
G34 Sierra Club (1/8/01)
G35 Environmental Defense (1/8/01)
G36 Clean Water Action (1/8/01)
G37 Mono Lake Committee (1/8/01)
G38 California Native Plant Society (1/8/01)
G39 Desert Protective Council, Inc. (1/8/01)
G40 People Against Radioactive Dumping (1/8/01)
G41 Sierra Club Cal/Nev Regional Conservation Committee, BLM Lands Committee (1/4/01)
G42 Western Environmental Law Center (as amended 1/11/01)
G43 Sierra Club, San Fernando Valley (1/2/01)

Comment Letters Received from Members of the General Public

P18 John Hill (10/30/00)
P19 Cathy Danzeisen (11/2/00)
P20 Kate Blair (11/21/00)
P21 Citizen Letter/Roger Armstrong (11/29/00) (and list 5,529 commentors sending identical letter)
P22 Barbara Paschke (12/4/00)
P23 James Bryant (11/16/00)
P24 William T. McCarvill (11/24/00)
P25 Aubrey Johnson (11/20/00)
P26 Carol Aronowsky (12/21/00))
P27 Kirk D. Mayes (12/26/00)
P28 Marsha Westropp (12/27/00)
P29 Susan Zwinger (12/29/00)
P30 Mary C. Westake (12/28/00)
P31 Jeffrey Blake (12/28/00)
P32 Richard H. Knox (12/28/00)
P33 Lauire Battin (12/28/00)
P34 Lillian Hannhan (12/28/00)
P35 Kristina Golden (12/29/00)
P36 Joseph Olson (12/29/00)
P37 Marcus Libkind (12/29/00)
P38 Andrew Lee Roth (12/31/00)
P39 Andrew Roth & Elizabeth Boyd (12/31/00)
P40 Tony B. de Bellis (12/31/00)
P41 Dr. Thomas McNichlos (12/30/00)
P42 Seth Shteir (12/30/00)
P43 Stephen B. Brown (1/2/01)
P44 Will Connell (1/1/01)
P45 Jack Robbins (1/1/01)
P46 Orson Hughes (1/1/01)
P47 Bruce J. Weekly (1/2/01)
P48 Michael Crandell (1/2/01)
P49 Ralph Landers (1/2/01)
P50 Eve Watson (1/3/01)
P51 Paul Limon (1/3/01)
P52 MaryAnn Lockhart (1/3/01)
P53 Bob Brister (1/3/01)

P54 Stephen Turnbull (1/3/01)
P55 Lisanne Fresse and John Hinkle (1/3/01)
P56 Russell Blalack (1/3/01)
P57 Katherine Rodgers (1/4/01)
P58 Steven D. Gabel (1/4/01)
P59 Kenton E. Bentley (1/4/01)
P60 Cifford E. Anderson (1/4/01)
P61 Catherine C. Beauchamp (1/4/01)
P62 Phil Beyman (1/4/01)
P63 Larry and Loretta Bodiford (1/4/01)
P64 Mrs. Terry Bing (1/4/01)
P65 Lynne Plambeck (1/5/01)
P66 Nancy Hall (1/5/01)
P67 Edward H. Lubin (1/6/01)
P68 Stanley James (1/6/01)
P69 Alan Carlton Attorney at Law (1/6/01)
P70 Carolyn B. Jennings (1/6/01)
P71 John E. Hiatt (1/6/01)
P72 Alice Tseng (1/6/01)
P73 Jim Blomquish (1/7/01)
P74 Glenn Torbett (1/7/01)
P75 Jeffrey Yuan (1/7/01)
P76 Joan Jones Haltz (1/7/01)
P77 Lorraine Unger (1/7/01)
P78 Carolyn B. Jenning (1/6/01)
P79 Ada Bahine (1/7/01)
P80 George Hague (1/8/01)
P81 Ruth Lopez/ PARDners Archaeological Consulting (1/8/01)
P82 Lawrence Livermore National Laboratory (1/8/01)
P83 Peggy Lauer (1/8/01)
P84 Bob Criss, Washington University in St. Louis (1/8/01)
P85 Mr. & Mrs. Joe Friedman
P86 San Joaquin River Parkway and Conservation Trust
P87 Laura Sherrod
P88 Seth Shteir
P89 Barry Melius
P90 Alison Sweeter (12/30/00)
P91 Michael T. Jarvis
P92 Donald Holtz
P93 Jeri Andrews
P94 Connie Garcia
P95 Lane P. Labbe
P96 Michael Rifkind
P97 Dr. Thomas M. McNicholas (12/30/00)
P98 Eve Lager
P99 Derek Sowers
P100 Cheryl A. Reiff
P101 A. B. Amster
P102 Matthias F. Reese
P103 Bonnie Miller (and list of 12 identical letters) (12/21/00)
P104 Mariana Cherry (identical letter by K. Bouvier) (1/4/01)

P105 Carol Prager (identical letter by Ronald Brusha) (1/2/01)
P106 Kelly Cohen (12/22/00)
P107 Celeste Moore (12/26/00)
P108 Tom Camara (1/9/01)
P109 Jason Hashimi
P110 Iris Edinger (1/3/01)
P111 Annick Wolf (1/5/01)
P112 Mark Weaver
P113 Pam McMichael (1/4/01) (and list of 668 commentors sending identical email letter)
P114 Susan Stuart (1/8/01)
P115 Sue Buckley and Wally Elton (1/6/01)
P116 Glenn Stewart (12/24/00)
P117 David and Marsha Low (12/31/00)
P118 Vivian Newman (12/30/00)
P119 Melissa Buhler (12/25/00)
P120 Joan Gambill (12/21/00)
P121 Barbara Tidball (1/5/01) (and list of 600 commentors sending nearly identical email letter)
P122 Richard Knox (12/29/00)

Transcripts and Written Comments Received at Public Hearings

T1 Public Hearing at Twentynine Palms (11/29/00)
T2 Public Hearing at Metropolitan Water District, Los Angeles (12/18/00)
T3 Meeting of California Desert District Advisory Council, Barstow (10/21/00)
T4 Written Comments Received at Public Hearings

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JAN 3 2001

Tim Salt
California Desert District
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507-0714

F3

Dear Mr. Salt:

The U.S. Environmental Protection Agency (EPA) has reviewed the Cadiz Groundwater Storage and Dry-year Supply Program Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement (SDEIS), San Bernardino County, California **(CEQ # 000358)**. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The SDEIS provides additional information to the original Draft Environmental Impact Statement (DEIS), published in November, 1999. This information includes the Groundwater Monitoring and Management Plan ("Management Plan") which would govern the water storage and extraction operations in the affected groundwater basins, including the amount of indigenous groundwater that may be extracted over the 50-year operational life of the proposed project. The project proposed by Metropolitan Water District of Southern California (Metropolitan) involves conveying water from the Iron Mountain Pumping Plant on the Colorado River Aqueduct to a spreading basin in the Cadiz and Fenner valleys for storage of Metropolitan's water supplies during wet years. During dry years, the stored water, along with indigenous groundwater, would be extracted by wells and transferred to the Colorado River aqueduct for conveyance to Metropolitan's service area. The proposed project, the Eastern Alternative, involves construction and operation of a 35-mile pipeline east of the Iron Mountains and north through Cadiz Valley. The project also involves construction of spreading basins in Cadiz and Fenner valleys; power lines, pumping plants, and service roads along the pipeline; and an extraction well field in Fenner Gap. Metropolitan has requested a right-of-way from the Bureau of Land Management (BLM) for construction and operation of the pipeline.

F3-1

We have rated this SDEIS as EC-2 – Environmental Concerns - Insufficient Information (see the enclosed "Summary of Rating Definitions and Follow-Up Actions"). Our concerns are based on potential impacts to groundwater quality and quantity, as well as uncertainties in the Groundwater Monitoring and Management Plan (Management Plan) proposed in the SDEIS. We recommend additional information in the Final Environmental Impact Statement (FEIS) regarding groundwater monitoring and impacts. We also recommend that the FEIS provide

F3-2

crucial information on the Management Plan, including protocols and criteria for selecting members for the scientific and decisionmaking work groups, as well as protocols for making recommendations, independent review, and decisionmaking.

We appreciate the opportunity to review this SDEIS. Please send two copies of the FEIS to this office when it is officially filed with our Washington, D.C., office. If you have any questions, please call me at (415) 744-1584, or call Jeanne Geselbracht at (415) 744-1576.

Sincerely,

David J. Farrel, Manager
Federal Activities Office

003227

Enclosures

cc: Kathy Kunysz, Metropolitan Water District
Dave Spath, California Department of Health Services
Charles Fryxell, Mojave Desert Air Quality Management District
U.S. Fish and Wildlife Service - Carlsbad Field Office
Mojave National Preserve
Joshua Tree National Park
Robert Purdue, California Regional Water Quality Control Board, Colorado River Region
Peter Martin, U.S. Geological Survey, San Diego
Pat Port, Department of Interior, San Francisco

GROUNDWATER MONITORING AND MANAGEMENT PLAN

The Groundwater Monitoring and Management Plan (Management Plan) proposed in the SDEIS involves continuous monitoring and scientific evaluation over the life of the Cadiz project in order to adaptively manage the project to avoid significant impacts to environmental resources. EPA believes the adaptive management approach to operating the Cadiz Project is appropriate in light of the uncertainties regarding water quality and quantity issues here, and we commend the involved parties for proposing to take this approach. Adaptive management can be controversial and difficult to implement, however, particularly if the ground rules are not specifically spelled out ahead of time. Furthermore, Cadiz and Metropolitan have enormous financial interest in the project and make up the majority of parties sitting on the Technical Review Team (TRT) and Basin Management Group (BMG) if no federal agency is represented on these groups in a recommendation or decisionmaking role. The makeup of these groups and the protocols for scientific evaluation and decisionmaking, therefore, are extremely important to public confidence in the proposed Management Plan. We believe the members of the TRT must be highly qualified in their fields and selected for their expertise, not simply as representatives of their respective agencies or parties. We also suggest that recommendations by the TRT to the BMG be reviewed by an independent party not affiliated with a party represented on the BMG, and that the reviewer's comments/evaluation be submitted to the BMG along with the TRT's recommendations. It is imperative that the FEIS provide much more information regarding protocols and criteria for selecting TRT and BMG members, as well as protocols for recommendations by the TRT, independent review, and decisionmaking by the BMG. This information should also be specifically documented in the Record of Decision (ROD). F3-4

The SDEIS provides some protocols for adaptive management and decisionmaking for the proposed project. Pages 3-70 and 71 state that the Interior Department's roles on the TRT and BMG have not yet been determined, but would likely not be more than an observer based on conflict of interest considerations. This conflict of interest for the Department is not at all clear in the SDEIS. The FEIS should indicate whether the BLM, U.S. Geological Survey, or National Park Service would sit on the TRT or BMG, and if not, specifically why not. In addition, if there would be a potential conflict of interest on the part of San Bernardino County related to enforcement of special use permits, this should also be identified and discussed in detail. F3-5

The SDEIS (pp. 3-71) also indicates that if the BMG does not reach consensus resolving issues raised by the TRT, BLM would retain ultimate control over the enforcement of the terms and conditions of any ROW issues. The FEIS should clarify that BLM would retain ultimate control over the enforcement of ROW terms and conditions *regardless* of BMG consensus. That is, even if the BMG does reach consensus on an issue subject to the ROW, it is our understanding that F3-6

BLM could still disagree and would retain ultimate control over enforcement of the ROW. It is also unclear who would make decisions on issues not covered by the ROW where consensus was not reached by the BMG. How would disputes be resolved and consensus reached? The FEIS should clarify this.

Furthermore, undoubtedly there will be potential impacts and issues not covered under the terms and conditions of BLM's ROW. We believe the specific terms and conditions of the ROW are crucial information in the FEIS, as are any other issues that could arise that would be controlled solely by the decisionmakers on the BMG. A table in the FEIS would be extremely useful which lists all conditions of the ROW, potential impacts not subject to or covered by the ROW, action criteria for each potential impact, whether the mitigation measures are conditions of the ROW or ROD or would be determined by the TRT/BMG or other agency, and who would have ultimate decisionmaking authority (e.g., BLM, the BMG, the landowner, other agencies, etc.). This should be included in the FEIS.

The SDEIS (pp. 3-70,71) indicates that the TRT would make annual recommendations to the BMG, including changes in operations of the Cadiz Project if any action criteria were exceeded. Action criteria are based on significance thresholds, and transgressions may warrant more timely recommendations and decisionmaking by the TRT and BMG, respectively. Therefore, the BMG and TRT should have the flexibility to call meetings as needed regarding recommendations for necessary operational changes.

GROUNDWATER MONITORING AND MANAGEMENT

Apparently the groundwater flow and transport model relies on mass balance equations (SDEIS, p.3-15). Are equations informed by Darcy's law ever utilized? Density of solute is discussed with regard to this model. If there is a concern about chemicals with densities significantly greater than water, it would be relevant to design of the monitoring program, and should be stated in the FEIS.

The issue of ambient groundwater quality adjacent to the project area (SDEIS, p.6-3) warrants further discussion in the FEIS. How does the Management Plan's suite of groundwater monitoring analytes reflect known or suspected contaminants that might be captured by extraction activities, including such contaminants as chromium VI? The FEIS should discuss the potential impacts of chromium VI in drinking water and what measures would be taken to ensure that federal and state maximum contaminant levels (MCLs) for chromium would not be exceeded. As a related concern, agricultural activities in the project area might suggest nitrates and total dissolved solids as contaminants of concern. Is the Management Plan capable of corrective measures addressing agricultural activities?

WATER RESOURCES IMPACTS AND MITIGATION

Any injection of fluids to hydrogeologic formations containing or connected to Underground Sources of Drinking Water (see 40 CFR Part 144.3) are subject to the federal Underground Injection Control regulations and the state water Code. Both federal and state water quality agencies implement regulations and permit programs for this activity, to ensure that the beneficial uses of ground water, most significantly as a source of drinking water, are protected. Based on the DEIS and the SDEIS, it is unclear if the project involves injection activities. The FEIS should include a discussion of the transport of aquifer recharge fluids through a typical project spreading basin inlet structure to the subsurface. Exactly how the inlet structures facilitate subsurface emplacement of fluids should be explained. F3-13

The statement in the SDEIS (p.6-3) that introduced Colorado River water will be captured by extraction activities is not compelling without an evaluation of well field pumping and ambient groundwater hydrodynamics. This issue might be complicated by any significant temporal separation between mounding and pumping activities. The FEIS should provide a thorough discussion of this issue. F3-14

It is suggested that pumping-induced mobilization of groundwater contaminants would involve only vertical migration from a lower aquifer. Why isn't the possibility of lateral migration being considered? This should be discussed in the FEIS. F3-15

The SDEIS (p.6-4) mentions a maximum area of influence of project operations. The FEIS should identify the boundary criteria that are being used. F3-16

AIR QUALITY MONITORING

According to the SDEIS (p. 3-18), analyses would be conducted under the guidance of the TRT to determine whether the project could contribute to lakebed dust mobilization, and if dust storms on the dry lake beds occur simultaneously with regional winds that are capable of transporting lakebed dust into a class I area. Please note that, for distances of over 50 km, the straight-line Gaussian models such as ISCST3 are not very reliable. Therefore, EPA recommends the use of the CALPUFF model. Analysis of air quality impacts in Class I areas is now typically done with CALPUFF. The FEIS should identify the model that would be used by the TRT for this purpose. F3-17

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

F3-

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

United States Department of the Interior

NATIONAL PARK SERVICE
Mojave National Preserve
222 East Main Street, Suite 202
Barstow, California 92311

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BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:31
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RIVERSIDE, CA.

L3031 (MOJA-RM)

8 January 2001

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

F4

Re: National Park Service comments on the Cadiz Groundwater Storage and Dry-Year Supply Program Supplement to the Draft Environmental Impact Statement

Dear Mr. Williams:

Mojave National Preserve is providing additional comments to you during this public comment period concerning the draft Supplement to the Draft Environmental Impact Report and Draft Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-Year Supply Program ("Supplement"). As a cooperating agency under NEPA for this project, Mojave National Preserve has been involved in numerous meetings on the Supplement and has offered comments throughout the process. The goal of the parties involved in the process, including Mojave National Preserve, was to reach agreement wherever possible on the issues contained within the Supplement, particularly with respect to Section 3.0, the Groundwater Monitoring and Management Plan.

Over the past year, a great deal of progress and agreement among the parties was reached as to the Groundwater Monitoring and Management Plan. However, due to the press of deadlines in this process, not all issues were fully resolved by the parties, especially issues relating to possible impacts of the project on Mojave National Preserve. Two issues, in particular, have not been fully addressed in the Groundwater Monitoring and Management Plan: 1) the role of U.S. Bureau of Land Management vis a vis the Technical Review Team/Basin Management Group ("TRT/BMG"); and 2) air quality issues concerning Mojave National Preserve. F4-1

This letter will set out Mojave National Preserve's concerns and positions relating to these two outstanding issues. In addition, Mojave National Preserve is providing comments on various other aspects of the Supplement. These comments include issues or editorial changes which, in the view of Mojave National Preserve were not addressed, were not addressed adequately, or were resolved by the other parties contrary to the interests of Mojave National Preserve. Mojave

National Preserve is also providing comments on changes to the Supplement inserted subsequent to Mojave National Preserve's last review of one or more of the many draft versions circulating just prior to the final draft being sent out for public comment. Several times a new version of the draft came out before staff had adequate time to review the previous version. The time period you provided for review made it simply not possible for Mojave National Preserve and National Park Service (NPS) staff to review each and every version of the draft that preceded issuance of the final draft. Mojave National Preserve has now had the opportunity to review the final draft and makes the following comments. F4-

GENERAL COMMENTS

The TRT/BMG Issue

Mojave National Preserve is concerned that the current Technical Review Team/Basin Management Group management structure for the project will undercut the federal government's ability to protect its lands and resources from impacts arising from the project. Although the TRT/BMG management structure was attractive on its face, further discussions within Mojave National Preserve as well as within the U.S. Department of the Interior have revealed many potential pitfalls in this management structure. As initially proposed, the federal government would have had only one out of four votes on the BMG. Decisions by the BMG concerning implementation of corrective measures, types of corrective measures and even the level of study triggered by a potential adverse effect would be out of the hands of the federal government. As noted in the final draft of the Supplement, there are also concerns about potential violations of the Federal Advisory Committee Act should the current TRT/BMG management structure be implemented.

It is the position of Mojave National Preserve, that project management decisions affecting or potentially affecting federal lands or resources must be made solely by the federal government. Because this project will require a right-of-way grant from the U.S. Bureau of Land Management (BLM) in order for the project proponents, the Metropolitan Water District of Southern California (MWD) and Cadiz, Inc. (Cadiz), to transfer water across federal land to and from the project site and to store water beneath federal land, it is the position of Mojave National Preserve, that BLM should include as terms and conditions of any right-of-way grant that it issues to MWD and Cadiz sufficient authority for BLM to protect all federal lands and federal resources, including the resources of Mojave National Preserve. The terms and conditions of any right-of-way grant should provide for protection of Mojave National Preserve resources at a level that Mojave National Preserve is required by law to maintain. We urge BLM to work closely with Mojave National Preserve to ensure that decisions made by BLM concerning the project are protective of resources at the Preserve. F4

Mojave National Preserve continues to believe that the exchange of information and ideas among the technical staffs of the various parties involved in this project is essential to fostering sound management decisions protective of federal lands and resources. Mojave National Preserve strongly believes that the technical staff from the National Park Service and the United States Geological Survey should jointly provide technical advice to the BLM, as decision maker, either in the context of the TRT or through a wholly federal technical advisory group. It is essential that BLM require MWD and Cadiz to provide it with copies of all data generated by this project, so that federal technical personnel can make independent evaluations of the data. The type of

changes to the management structure contemplated here will likely require extensive revision of the Supplement to address these changes. F4-2

The Air Quality Issue

The National Park Service Air Resources Division (ARD) acknowledges that "placeholder" language provided to the BLM by Mojave National Preserve on September 29, 2000, has been appropriately incorporated into the document. The inclusion of several placeholder statements regarding air quality protection needs at Mojave National Preserve was necessitated by the apparent rejection (by project proponents and/or the BLM) of Mojave National Preserve recommendations provided in a letter to BLM dated September 12, 2000. F4-3

Mojave National Preserve and Joshua Tree National Park are appropriately identified in the Supplement as Critical Resources to be protected from potential adverse effects due to project operations. The ARD is most concerned about the inadequacy of the Groundwater Monitoring and Management Plan (Section 3.0 of the Supplement) to assure protection of these park units. Air quality comments herein include a restatement of previous Air Resources Division concerns not yet incorporated into the document with respect to protection of National Park Service air resources in these park units. F4-4

A significant aspect of the Supplement's inadequacy relates to the disparate treatment afforded Mojave National Preserve compared to Joshua Tree National Park. Other problems with the document include shortfalls in the technical adequacy of the Groundwater Monitoring and Management Plan (M/M Plan) to provide the necessary monitoring data and assessment criteria on which to base project management decisions, including implementation of mitigation or other corrective measures. F4-5

The National Park Service is alarmed by the Supplement's disparate treatment regarding resource concerns at Mojave National Preserve compared to Joshua Tree National Park. The air quality sections contain a substantially incomplete and inaccurate discussion of the Prevention of Significant Deterioration program and its classification scheme under the Federal Clean Air Act. It would be sufficient to state that Joshua Tree National Park is a PSD Class I area and that Mojave National Preserve is a PSD Class II area, without belaboring details of a program that has little or no applicability to either the project or NPS resource protection needs in this case. Given the apparent current uncertainty about the air quality status of the project area (i.e., attainment, unclassifiable or nonattainment for particulate matter), it is not clear if nonattainment area rules would potentially apply to air pollution sources in the area or if clean air rules under PSD might apply. In any event, a brief mention of the PSD classification of the park areas and short discussion on the NPS Organic Act resource protection mandate would be appropriate. As previously provided to the BLM by the Mojave National Preserve in a September 29, 2000, letter, the NPS has strong direction and an obligation to prevent impairment and protect resource values in all park units, notwithstanding any Clean Air Act considerations. The Organic Act, in part, charges the NPS to **"conserve the scenery and natural and historic objects and the wild life therein... in such manner and by such means as will leave them unimpaired for the enjoyment of future generations"**, 16 U.S.C. §1. This conservation mandate applies equally to both Joshua Tree National Park and Mojave National Preserve with respect to the Cadiz project's potential to adversely impact visibility, an important air quality related resource in these park units. In 1978 Congress, through the General Authorities Act, mandated that the National Park F4-6

Service manage, protect and administer all areas of the National Park System "in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established...", 16 U.S.C. §1a-1. F4

Mojave National Preserve was established because of its outstanding natural, cultural, historical and recreational values and afforded full legislative recognition and statutory protection. It is imperative that we continue to ensure this protection and non-derogation standard mandated by Congress. F4

There are numerous places in the Supplement that need revisions to satisfy NPS concerns regarding air quality as detailed below by subsection, but the issues are relatively few as discussed above. To address our monitoring concerns, project proponents need to **commit** to conducting all meteorological and air quality monitoring needed to document current conditions in the project area and at units of the National Park System that might be affected (Mojave National Preserve as well as Joshua Tree National Park). This monitoring would provide a necessary foundation for assessing compliance with air quality standards and resource protection objectives, including predicting and detecting changes related to operation of the Cadiz project. F4

Monitoring needs for both park units include: (1) meteorological data to determine wind speed and direction; (2) air quality monitoring -- both optical (cameras and/or other devices for measuring extinction) and particle (PM-10 and PM 2.5) to assess compliance with federal and state air quality standards and visibility protection objectives (including state visibility standard as well as NPS non-impairment policy objectives -- i.e., no perceptible impact greater than 5% change in extinction) at either Mojave National Preserve or Joshua Tree National Park; and (3) appropriate sampling and analysis of the composition of the particles in the lakebed to "characterize" the material so that it can be determined whether potential future changes in air quality are being caused by the operation of the project. In addition to the monitoring commitment, there must also be a commitment to implement mitigation measures if monitoring data (or analyses/calculations based on monitoring data) show: (1) violations of any state or federal ambient air quality standard, increment, or regulation; or (2) a perceptible impact on visibility (>5% change in extinction from baseline conditions) at either Mojave National Preserve or Joshua Tree National Park. F4

The specific changes to the Supplement's text recommended below would address many of the outstanding issues NPS has with the document. Additional integration of the above discussion on baseline monitoring data, assessment criteria, and mitigation "triggers" is needed, especially in the M/M Plan, to assure NPS needs are met. F4

SPECIFIC COMMENTS

Abstract: (No page number), paragraph 2: In the second sentence, it is stated: "The Management Plan would govern the water storage and extraction operations in the affected groundwater basins, including the amount of indigenous groundwater that may be extracted...". NPS recommends that this statement be revised, to clarify the role of the Management Plan. The role of the Management Plan is to ensure that project operations would not cause adverse impacts to "critical resources" in or adjacent to the project area. The Management Plan does not F4

govern all operational aspects of the proposed project; only those that may cause adverse impacts. For example, the Management Plan does not specify the relative proportions of Colorado River water and indigenous groundwater that Metropolitan may use. Furthermore, it does not directly specify the amount of indigenous groundwater that may be extracted, but only establishes protective measures in the event project activities trigger identified potentially adverse impacts. F4-12

NPS recommends that this paragraph be amended to read: "The Management Plan would **constrain** the water storage and extraction operations in the affected groundwater basins **to the extent necessary to ensure that there would be no adverse impacts to critical resources in or adjacent to the project area"** (recommended revisions in bold type). [**Note**: This same recommendation also applies to: (1) page 1-4, Section 1.2.2, right column, last paragraph; (2) page 1-10, first paragraph, last sentence; and (3) page 3-1, Section 3.1, first paragraph, second sentence.]

Page 1-1, Section1.1, first paragraph: The introduction does not explain that the project would draw out indigenous groundwater in quantities exceeding the amount of groundwater stored by MWD in the basin. The statement: "When needed, as in dry years, the stored water and indigenous groundwater would be extracted with wells and returned to the CRA for use within Metropolitan's service area" is vague. F4-13

NPS recommends that the end of the first sentence be changed from: "...a cost-effective groundwater storage and transfer program" to "...a cost-effective groundwater storage, **indigenous and stored water extraction,** and transfer program" (recommended revisions in bold type). This is a more accurate representation of the true nature of the proposed project, and is consistent with how it is referred to in other sections of this document (e.g. page 1-3, Section 1.2.1, first paragraph).

Throughout the document, either the term "extraction" **or** the term "withdrawal" should be used **consistently**, to avoid reader confusion. F4-15

The statement made in the last sentence is incorrect. The Management Plan is designed to ensure there are no "adverse impacts" as defined in Section 3.0 (the Management Plan); not "significant adverse impacts" as stated here and defined in Section 4.0 (CEQA Thresholds of Significance). These two terms have very different meanings. NPS recommends that the word "significant" be deleted. (Note: See correct wording in Section 3.1, pg. 3-1, first paragraph, where the term "adverse impacts" is used in similar context.) F4-16

Page 1-3, Section1.1 The terms, "potential adverse impacts," "adverse impacts," and "significant adverse impacts" have all been used in Section 1.1. However their use in this section does not seem to be internally consistent. Implementation of the Management Plan should prevent adverse impacts, not just significant adverse impacts. F4-17

Page 1-3, Section1.1, Last paragraph: Text suggests that the TRT/BMG will implement the Management Plan separate and apart from anything that BLM does with respect to the terms and conditions of the right-of-way. Although the details regarding the TRT/BMG need to be worked F4-18

out, it is likely that BLM will have a significant role in overseeing implementation of the Management Plan by virtue of the terms and conditions of the right-of-way grant. F4-

Page 1-3, Section1.2.1 (2nd sentence) & Page 1-4; Section1.2.2 (last paragraph). Inconsistent use of the terms: "potential effects," "potential impacts" and "potential adverse impacts" on pages 1-3 and 1-4. They all appear to refer to the same thing. The term used in Section 3 is "potential adverse impacts" and should be used throughout the text. F4-

Page 1-4, Section1.2.1, left column, first full paragraph, first sentence: NPS recommends that the phrase "conceptually located" in the first sentence be replaced with "specified the general location of." F4-

Page 1-4, Subsection 1.2.2: The Supplement states that the Groundwater Monitoring and Management Plan "...is designed to ensure there would be no adverse impacts to Critical Resources resulting from Cadiz Project operations." The NPS agrees with this stated goal in the Supplement as to the intent of developing an M/M Plan, but the Supplement as it is written is internally inconsistent with that goal with respect to Mojave National Preserve. While many of the monitoring elements are in place to address resource concerns at Mojave National Preserve, the M/M Plan stops short of providing air quality monitoring at the park needed to ensure protection of the park unit's air resources from potential adverse impacts due to project operations. The monitoring plans for Mojave National Preserve and Joshua Tree National Park should incorporate the same protocols and assessment criteria, and revisions to the Supplement will be necessary to adequately address this issue. F4-

Page 1-5, Section1.3.1, last sentence: NPS suggests that the sentence be revised as follows: "A comprehensive Mitigation Monitoring Plan that addresses all Cadiz Project mitigation measures **for all affected environment media** will also be prepared..." (recommended revisions in bold type). The suggested revision is intended to improve the reader's understanding of how the Management Plan and the Mitigation Monitoring Plan are related. F4-

Throughout Section1.0, and indeed, the entire document: NPS suggests that, when discussing ground-water pumping, consistent language be used. Either the term "withdrawal" or the term "extraction" should be used consistently, to facilitate the reader's understanding. F4-

Page 1-6, Section1.3.1.2: NPS requests that BLM include our bureau in the development of the "Mitigation Monitoring Plan" and allow NPS the opportunity to review the document prior to its completion. F4-

Page 1-9, Section1.4.3: As stated in earlier letters from NPS to BLM (see letter dated July 31, 2000), a reasonable range of alternatives was never analyzed for the Cadiz project, nor has it been done in this SDEIS. The NEPA document is not complete without this evaluation. F4-

Page 2-1, Section2.1, Last paragraph: Until the MOU is executed between San Bernardino County, Metropolitan and Cadiz, the EIS/EIR should not be finalized. NPS would like to review the MOU prior to its adoption to ensure that it is consistent with the Management Plan. The MOU should be an attachment to the final EIS/EIR. F4-

Page 2-5, Figure 2-3, Geologic Map. The explanation for Figure 2-3 needs to be corrected as follows:

1. gr Pre-Cenozoic granitic rock needs a color code
2. pCgr Precambrian granite needs a color code
3. pCg Precambrian gneiss needs a color code
4. The vertical word "PRECAMBRIAN" needs to be fixed so that the "N" is on the same line with "PRECAMBRIA."
5. The symbol for Pennsylvanian/Permian rocks should be added to the explanation since units of these rocks are shown in the southeast portion of the Marble Mountains.

F4-27

Page 2-7, Section2.4: The statement referring to "low annual precipitation, ..." should be quantified, or at least further qualified by "**very** low..." (recommended revisions in bold type).

F4-28

Page 2-8, Section2.4.3, 2nd paragraph: The statement that "snow accumulates at elevations above 5000 ft" needs to be quantified. How deep, in a typical year?

F4-29

Page 2-12 to 2-13; Section2.4.7: It is the position of NPS that it is premature to make any conclusions about wind speed and direction. The data is too incomplete at this time because MWD wind data was only collected for 1-1/2 months during March and the first half of April, and the wind data from Jacobs engineering is unclear as to the number of days that the wind was measured at the Amboy weather station in 1991. Also, data from just one weather station in this large of an area may not be reliable in predicting wind speed and direction.

F4-30

Page 2-8, Section2.4.3, paragraph 2, last sentence: NPS recommends that "...and produce very little precipitation" be added at the end of the sentence.

F4-31

There should be a chart (or series of charts) showing frequency of rainfall events which result in surface flow in the washes. Many misleading statements are made (i.e. several mentions of "major precipitation events", "winter rainfall occurs in events lasting several hours to a day or more") which encourage the reader to believe that surface runoff and aquifer recharge is a frequent and substantial occurrence.

F4-32

Page 2-20, first paragraph: The statement: "Under the guidance of the TRT, the characteristics of the carbonate rock aquifer would be further evaluated as part of the Management Plan" is misleading. The Management Plan does not provide for data collection or analysis that would characterize the carbonate-rock aquifer. The NPS recommends that this statement be deleted or the Management Plan be amended to provide specific provisions for evaluation of the carbonate-rock aquifer.

F4-33

Page 2-23, paragraph 2, Last sentence: The suggestion of "alternative methods for estimating average annual recharge" came primarily from USGS, not the NPS and San Bernardino County.

F4-35

Page 2-24, Section2.6.9: This section must be completely revised to include water quality standards and concerns regarding hexavalent chromium. Who will pay to remove this constituent from the Cadiz water?

F4-36

Page 2-26, Section2.7: It is recognized that most, if not all, springs in these mountains have been degraded by historical use. The current conditions are such that assessment of flow is very difficult and any assessment would probably result in an underestimate of flow if a restored condition existed. NPS has begun the process of restoring these springs and hopes to see an increase in flow at these locations. F4-

Page 2-27, Figure 2-14: Please add the boundary of Joshua Tree National Park and change title to "Location of Neighboring National Park Units and...". F4-

Page 2-28, Subsection 2.8: The words "Class I area designated by the Clean Air Act (currently applies to Joshua Tree National Park)" in the last paragraph should be deleted and replaced with "Critical Resource area." Accordingly, this subsection of the Supplement would then be consistent with the goal of protecting all identified "Critical Resources" (i.e., Air Quality in Joshua Tree National Park, Mojave National Preserve, and BLM-Managed Lands – see subsection 3.1), not just a subset of those Critical Resources as it is now written. F4-

Page 3-1, last paragraph: This paragraph states that the "structure and function" of the TRT and BMG will be developed at a later date. This is not acceptable. The public must have a chance to review and comment on the details of these groups. While the structure and function of the TRT and BMG may be elucidated in the Final EIS, the Final EIS does not provide an adequate forum for public review and comment. F4-

Page 3-2, Section3.1: NPS strongly disagrees with the characterization of the TRT/BMG in the first paragraph on this page. As written, BLM would not have any say in implementation of the Management Plan if the TRT and BMG reach "consensus." As currently contemplated, neither NPS, USGS, nor BLM would have a voting role in the BMG or TRT. Therefore, the BMG may reach consensus every time and effectively preclude BLM from any decision making. Regardless of whether the BMG reaches a consensus, the BLM must have control through its right-of-way grant terms and conditions to regulate project operation and management to the extent necessary to prevent adverse impacts to federally managed resources, including but not limited to the defined "Critical Resources." F4-

Page 3-2, Section3.1, 2nd paragraph: "Natural feature" needs to be defined. NPS is concerned that decreased flows from degraded springs could be used to assess "natural flows" from springs, when flow would otherwise have been higher if the spring had not been degraded. F4-

Pages 3-1 and 3-2, regarding "...the structure and function of the TRT and BMG...": NPS recommends that a consensus-building step be considered for the TRT, because of the statement on page 3-2, first paragraph, third sentence, which reads: "In the event that there was not a consensus recommendation by the TRT, the BMG would attempt to resolve issues." With all due respect to the technical abilities of the members of the BMG, it is the TRT that should be attempting to resolve technical disagreements, not the BMG. F4-

Page 3-2, last sentence, first column: A facet of the Management Plan is set forth that includes the phrase: "...as recommended by the TRT...". Given the statement cited above, does this now mean that such technical recommendations will be made by the BMG if consensus amongst the TRT is not reached? F4

Furthermore, similar language concerning recommendations and advice provided by the TRT is given in 122 other places throughout the Management Plan (Section 3.0). Additionally, it is stated that recommendations concerning technical issues would be made by the TRT *and the BMG* (italics added for emphasis) 19 of these 122 times. NPS recommends that the TRT, not the BMG, make technical recommendations. F4-45

Additionally, for monitoring features #10, 11, 12, and 23 (Section 3.5, pg. 3-30 to 3-32 and pg. 3-35), it is stated "If recommended by the TRT and the BMG...", certain monitoring would be implemented. Does this mean that some parts of the monitoring plan are optional, and may not be implemented? If so, when would such a decision be made? Would consensus of the TRT/BMG be required? F4-46

Page 3-2, first paragraph, last sentence: The reference to Section 3.4 should be to Section 3.5. F4-47

Pages 3-3 to 3-6, Table 3-1, "Proposed Monitoring Features and Frequencies": NPS recommends the following revisions to this table: F4-48

- Footnote No. 3, regarding S-Series Observation Wells location information, should be consistent with discussion in the text, page 3-19, right column, first full sentence.
- Feature No. 3, Pre-Operational Monitoring Frequency, Water Level: There should be a superscript "6" after information in box (to explain, as Footnote No. 6 does, the plan to measure water levels in shallow piezometers near the springs).
- Feature No. 3, Pre-Operational Monitoring Frequency, Water Quality: This should read "Semi-annually" instead of "One Time", pursuant to discussion in the text, page 3-39, last paragraph, first sentence.

Page 3-7, Figure 3-1: Mojave National Preserve boundary should be better marked. Include Joshua Tree National Park boundary. F4-49

Page 3-9, Section3.1.3: Until the MOU is executed between San Bernardino County, Metropolitan and Cadiz, the EIS/EIR should not be finalized. NPS would like to review the MOU prior to its adoption to ensure that it is consistent with the Management Plan. The MOU should be an attachment to the final EIS/EIR and incorporated by reference into the EIS/EIR. F4-50

Subsection 3.1.4, page 3-9: The first sentence needs to be revised to read "...protection of Critical Resources in or near the Fenner, Bristol, and Cadiz Valleys." This addition will make it clear that adverse "off-site" impacts related to project operations are also addressed by the M/M Plan, not just those which could occur in the immediate vicinity of the project. This change would be consistent with the above stated goal of the M/M Plan. F4-51

Page 3-11, Subsection 3.2: As referenced above, NPS air quality Critical Resources at Joshua Tree National Park and Mojave National Preserve are appropriately identified for protection under the M/M Plan. F4-52

Page 3-13, Subsection 3.2.4: The subsection contains a substantially incomplete and inaccurate discussion of the Prevention of Significant Deterioration program and its classification scheme under the Federal Clean Air Act. It would be sufficient to state that Joshua Tree National Park is F4-53

a PSD Class I area and that Mojave National Preserve is a PSD Class II area, without belaboring details of a program that has little or no applicability to either the project or NPS resource protection needs in this case. Given the apparent, current uncertainty about the air quality status of the project area (i.e., attainment, unclassifiable or nonattainment for particulate matter), it is not clear if nonattainment area rules would potentially apply to air pollution sources in the area or if clean air rules under PSD might apply. In any event, a brief mention of the PSD classification of the park areas and short discussion on the NPS Organic Act resource protection mandate would be appropriate. As previously provided to the BLM by the NPS in a September 29, 2000, letter, the NPS has strong direction and an obligation to prevent impairment and protect resource values in all park units, notwithstanding any Clean Air Act considerations. The Organic Act, 16 U.S.C. §1, in part charges the NPS to **"conserve the scenery and natural and historic objects and the wild life therein... in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."** This conservation mandate applies to both Joshua Tree National Park and Mojave National Preserve with respect to the Cadiz project's potential to adversely impact visibility, an important air quality related resource in these park units. F4-

Page 3-13, Section3.3: It is the federal government's view that the BMG should not be involved in the "resolution of issues" as a decision making body. That role properly rests with the BLM. However, the terms and conditions of the BLM right-of-way grant have yet to be worked out. F4-

One goal of the monitoring and modeling is to arrive at an actual recharge rate. Once an accurate recharge rate is determined, the modeling performed by the TRT will be able to predict with some certainty long term affects this project would have on the hydrological system of the basin. This goal of the computer modeling efforts should be stated. F4-

Page 3-14, Section 3.3.1.2, "Unsaturated Zone Flow and Transport Model", second paragraph: NPS recommends that reference to recommendations by the TRT and BMG be changed to recommendation by the TRT only. The BMG is not the best group to be making recommendations regarding unsaturated zone instrumentation. F4-

Pages 3-15 & 3-16; Secs. 3.3.2 & 3.3.2.1: The goal of the monitoring and modeling should not be to evaluate impacts based on a range of recharge rates, but to arrive at an empirically derived number for the recharge rate that is capable of being modified as new data and modeling requires. Without an accurate recharge rate, it will never be possible to adequately evaluate the potential for adverse impacts. If a range of recharge rates is used to evaluate impacts, corrective measures and modifications to the project may never be required depending on which end of the recharge rate spectrum is used. F4-

Page 3-16, Sections 3.3.2.1, "Evaluation of Variable Recharge Estimates and Long-Term Impacts" and 3.3.2.2, Model Refinement and Multi-Year Predictions: NPS recommends that reference to evaluations and recommendations by the TRT and BMG be changed to evaluations and recommendation by the TRT only. The BMG is not the best group to be making recommendations regarding water-resources model refinement or other highly technical issues. F4-

Page 3-16, Section3.4.1: Air quality impacts will not be accurately predicted if a range of groundwater recharge rates is used. F4-

Page 3-17, Section3.4.1: It is the position of the NPS that it is premature to make any conclusions about locating open-air nephelometers on the western and eastern edges of Bristol Dry Lake only, based on what appears to be incomplete wind direction and speed data. MWD's own wind rose diagrams for Cadiz weather station (see fig. 2-8) suggest that there is a strong wind velocity component blowing from the south-southeast. If this is true, dust from the lake beds is more likely to blow into Mojave National Preserve than if the prevailing high wind directions are from only the west (and NW, SW). The placement of the nephelometers is critical because they will determine whether the second stage of monitoring is necessary. During the second stage of monitoring, as currently stated in the M/M Plan, additional nephelometers will be placed on borders of Class 1 areas (and Mojave National Preserve) if the lake bed nephelometers indicate that dust is blowing toward these areas. If the lake bed nephelometers are placed to detect only winds originating from the west, they may not be placed correctly to detect dust from the lakebeds originating from southerly winds. An additional nephelometer may need to be placed on the north edge of Bristol lakebed. The data are too incomplete at this time because MWD wind data was only collected for 1-1/2 months during March and the first half of April, and the wind data from Jacobs engineering is unclear as to the number of days that the wind was measured at the Amboy weather station in 1991. Also, data from just one weather station in this large of an area may not be reliable in predicting wind speed and direction. F4-60

Page 3-18, paragraph 2: This paragraph implies that some degradation of the air quality of Mojave National Preserve (Mojave) would be allowed during the Cadiz project. This is not acceptable to NPS. It is Mojave National Preserve's statutory duty under the 1916 Organic Act not to allow impairment of its resources. F4-61

Page 3-18, Section3.4.2: This subsection is unacceptable and too restrictive in scope, as it currently disregards air quality monitoring at Critical Resources other than Joshua Tree National Park. To ensure the M/M Plan adequately addresses air quality impacts to other important receptors, the title of the subsection should be revised to read "Air Quality Monitoring at Critical Resource Areas." This change is necessary to assure the M/M Plan can meet its intended goal to protect Critical Resources. F4-62

Subsection 3.4.2, page 3-18: The last sentence of the first paragraph states that the Technical Review Team (TRT) may recommend discontinuing meteorological monitoring if data show there is a potential for transport of emissions from the project area to a Class I area. The NPS strongly disagrees with the intent of this statement. First, referring to the previous comment above, "Class I area" should be deleted and replaced with "Critical Resource area." Secondly, and very importantly, in order to ensure that the relationship between project area emissions and impacts on Critical Resource areas is documented, meteorological monitoring should continue for the life of the project if it is demonstrated through baseline monitoring that there is a potential for transport from the project to important receptors. If baseline meteorological monitoring demonstrates no transport occurs from the project area to Critical Resources, then it may be appropriate for the TRT to recommend discontinuance of that monitoring. F4-63

Page 3-18, Section 3.4.2, first paragraph: The reference to Section 3.5.4 should be changed to Section 3.6.4. F4-64

Page 3-19, right column, second paragraph (Feature 1): The reference to Section 3.4 should be changed to Section 3.5, and the location within Section 3.5 where this information is contained should be specified. If it is Feature 20 on page 3-35, then the text on page 3-35 should be amended to include reference to dual-induction logging in S-Series wells. Currently, it is only included therein for some of the cluster wells at the dry lakes.

Pages 3-20 to 3-25, Table 3-2, "Summary of Monitoring Features and Protocols": NPS recommends the following revisions to this table:

- Footnote b, regarding S-Series Observation Wells location information, should be consistent with discussion in the text, page 3-19, right column, first full sentence.
- Feature No. 1, Monitoring Protocol, Water Quality, Reference to Appendix D, "Water Quality Analytical Protocol", page D-1-1, Table D-1, proposed analytical suite for groundwater sampling: Table 3-2 cites Appendix D for water-quality sampling information, but the discussion in the text, Section 3.6.1, pages 3-39 and 3-40, includes no groundwater-quality sampling schedule for the S-Series wells. NPS recommends that semi-annual water-quality sampling during the pre-Operational period, including isotopic sampling, be considered for the S-Series wells, to help determine the age and source of the groundwater (as is proposed for sampling from springs). Note: If this recommendation is accepted, the associated information would need to be added to Table 3-1, in addition to the text on page 3-39.
- Features No. 2 and 3, Monitoring Protocol, Water Quality, Reference to Appendix D, "Water Quality Analytical Protocol", page D-2-1, Table D-2, proposed analytical suite for sampling from springs: Water quality sampling should be for feature no. 3 and not feature no. 2, and should include He^3 and stable isotopes of oxygen and hydrogen, pursuant to discussion in the text, Section 3.6.1.1, page 3-39, last paragraph, first sentence.
- Feature No. 4, third observation well listed, State Well Number: State Well Number should be 6N/15E-29Q1 (instead of ...P1), in accordance with Figure 3-5 and discussion in the text on page 3-42.

Page 3-26, Figure 3-4, "Monitoring Features (Regional)": NPS recommends the following revisions to this figure:

- The spelling of Schuyler Wash should be consistent between the text (page 3-19, right column, first paragraph) and Figure 3-4.
- The S-Series Monitoring Wells should be denoted by a unique color or pattern, and this color or pattern should be consistent with the legend for the figure.
- The legend in the figure is incomplete, and should include all the symbols and colors shown on the figure.

Page 3-26, Figure 3-4: Many symbols are unmarked on the explanation. Please correct this and make sure they are all in place on the figure.

Page 3-29, Section3.5 (Springs, Features 2 & 3): There is insufficient discussion as to who picks the 8 springs that will operate as long-term monitoring sites. NPS should make that determination in conjunction with its water experts and the USGS.

Section 3.5 (general): Decisions regarding additional measurements and monitoring described in the various features can not be delegated to the TRT/BMG. BLM has been given the responsibility for making these decisions by Congress.

Page 3-30, Section 3.5, Feature 8: Water quality samples should be taken on site, and should not be based on results from Lake Havasu. F4-71

Page 3-32, Section 3.5, Feature 10: Is the land surface elevation currently stable, decreasing, or increasing? F4-72

Page 3-32 and 3-33, "Proposed Observation Well Clusters..." (Feature 14): NPS suggests that some sort of depth specification be considered for the well clusters on and at the margins of the dry lakes. The reason for this suggestion is the complex nature of potential perched water tables in this area, due to ephemeral ponding of surface waters on the lakes from short duration, high intensity precipitation events in the watershed (and surface runoff to the lake beds), and the potential presence of a deeper regional water table beneath. F4-73

Pages 3-33 & 3-34, Subsection 3.5, Air Quality Monitoring (Feature 18): The second paragraph should be re-titled to read "Monitoring at the Boundary of Critical Resource Areas." Accordingly, the reference in the first paragraph to "Class I areas designated by the Clean Air Act" should be deleted and replaced with "Critical Resource areas." In the second paragraph, delete "...a Class I area (currently applies...as a Class I area.)" and replace with "Critical Resource area." In the third to last sentence of paragraph two, delete "Class I" and replace with "Critical Resource." The last sentence of the second paragraph should either be deleted or revised to indicate that meteorological monitoring would continue for the life of the project if such monitoring indicates there is a potential for project-mobilized dust to be transported to a Critical Resource area. [Note: See related comment re: Subsection 3.4.2, page 3-18.] In the first sentence of the third paragraph, delete "Class I" and replace with "Critical Resource." F4-74

Page 3-37, Subsection 3.5, Meteorological Towers (Feature 24): In the third sentence, delete "Clean Air Act ...National Park)" and replace with "Critical Resource area." The last sentence of this subsection should either be deleted or revised to indicate that meteorological monitoring would continue for the life of the project if such monitoring indicates there is a potential for project-mobilized dust to be transported to a Critical Resource area. [Note: See related comment re: Page 3-18, Subsection 3.4.2.] F4-75

Page 3-37, Section3.6: The TRT needs to make recommendations to BLM as it will be the final decision maker. F4-76

Page 3-37, Section3.6.1.1: There is insufficient discussion as to who picks the 8 springs that will operate as long-term monitoring sites. NPS should make that determination in conjunction with its water experts and the U.S.G.S. Also, who conducts field reconnaissance of the 28 known springs? NPS should assert a role in this process. F4-77

Page 3-39, right column, last paragraph: NPS recommends that the word "deuterium" be deleted, because deuterium is the stable isotope of hydrogen. As written, it is redundant. F4-78

Pages 3-39 and 3-40, Table 3-3: There is no reference in the text to Table 3-3 on page 3-40. NPS recommends that such a reference be added on page 3-39, left column, Features 2 and 3, first paragraph, last sentence. It should read: "Each of these springs would be classified based F4-79

on discharge rate in accordance with the criteria specified by Meinzer (1942), **and shown in Table 3-3"** (recommended revisions in bold type). F4-

Page 3-40, Section3.6.1.3, "Post-Operational Monitoring of Springs: NPS recommends that wording in this section be consistent with information in Table 3-1, page 3-3. Specifically, post-operational monitoring frequency of springs should include continuous monitoring at 2 springs. F4

Page 3-42, Section3.6.2.2: BLM, not TRT/BMG is responsible for making final operational monitoring and survey decisions. F4

Pages 3-44 and 3-45, Subsection 3.6.4.1: The discussion in the first paragraph about open-air nephelometers should include the use of cameras. This will ensure consistency with the discussion of the Air Quality Monitoring (Feature 18) at Bristol and Cadiz Dry Lakes (see Subsection 3.5) and with Table 3-2. Figure 3-9 on page 3-38 should also include cameras within Feature 18. Similar to related comments above (see comments on subsections 3.4.2 and 3.5), the last sentence of the second paragraph should indicate that meteorological monitoring will operate for a minimum of five years for baseline data collection and possibly for the life of the project if transport from the project area to a Critical Resource area is confirmed by baseline monitoring. Also, either a separate subparagraph discussing use of digital cameras is needed in this subsection or the use of digital cameras (e.g., frequency, duration, and use of photographic monitoring data) needs to be incorporated into the separate subparagraph entitled "Open-Air Nephelometers." It appears from Table 3-1 on page 3-5 that digital photographs will be taken hourly, but there is no discussion in the text to verify that is the case. F4

Pages 3-46 & 3-47, Subsection 3.6.4.3: The use of digital cameras needs to be included in the discussion. F4

Page 3-48, Subsection 3.6.5.2: The subsection needs to be revised consistent with comments provided above regarding the topic of climatological monitoring (see Subsections 3.4.2, 3.5, and 3.6.4.1). There needs to be a commitment to continue to operate meteorological monitoring for the life of the project if baseline monitoring establishes a transport relationship between the project area and either of the two NPS Critical Resource areas (i.e., Mojave National Preserve or Joshua Tree National Park). F4-

Page 3-48, Section3.6.6: Groundwater samples must be submitted to the lab for analysis within 24 hours, not "24 to 48" hours after collection, according to Appendix C protocols. F4-

Page 3-49, Section3.6.8: There should be a pre-operational baseline report in addition to annual reports. In addition, any baseline data collected during the early operation phase should be summarized in a report. F4

Regional wind data should not be used exclusively to determine whether project mobilized dust could be transported to only Class 1 areas. As described above, protection of air quality is necessary at both Joshua Tree National Park and Mojave National Preserve regardless of Class 1/Class2 designations. Therefore, use of the regional wind data as it pertains to only Class 1 areas is too narrow. F4

Page 3-49, Subsection 3.6.8.1: The subsection discusses the provision for annual reports under the Plan, but it does not address protection of the air quality Critical Resource at Mojave National Preserve. In order to assure consideration of project-related impacts on Mojave National Preserve and other Critical Resources that are identified in the M/M Plan, delete "Class I area...National Park)" and replace with "Critical Resource area" at the end of the second paragraph. F4-88

Page 3-50, Subsection 3.6.8: The sixth bullet in this subsection falls short of providing information necessary to assure protection of air quality Critical Resources under the M/M Plan (Section 3). The same bullet statement is deficient as well with respect to the duration of monitoring necessary to assure continued protection of Critical Resources (e.g., Mojave National Preserve and Joshua Tree National Park). The NPS recommends deletion of the parenthetical phrase "(in first five-year report only)" in order to accommodate the possibility that meteorological monitoring may need to continue for the life of the project (see comments above regarding this topic in subsections 3.4.2, 3.5, 3.6.4.1, and 3.6.5.2). Also, delete "...Class I area...National Park)" and replace with "Critical Resource area" to assure consideration and reporting of impacts on all Critical Resources, not just one of the Critical Resources intended for protection under the M/M Plan. F4-89

Pages 3-52 and 3-53, Table 3-4, "Summary of Action Criteria, Impacts and Corrective Measures": NPS recommends the following revisions to this table: F4-90

Page 3-52, Table 3-4: One of the identified Critical Resources, the "Aquifer System", includes impacts resulting from the "potential for long-term drawdown of groundwater." See page 3-12. However, Table 3-4 does not address this impact, nor provide for corrective measures to address this issue.

Page 3-52, Table 3-4, 4th column: The heading of the fourth column should be changed from "Close Watch Measures" to "TRT Analysis." The term "close watch" is no longer used in the document text. F4-91

Page 3-52, Table 3-4, First row of 4th column: For "Adverse Impacts to Springs", the 4th column should read, "TRT to Determine if Groundwater Level Changes are Attributable to Project Operations and, if so, Will the Changes Result in Adverse Impact." This recommended wording would make the information in this table consistent with the wording in the text on pages 3-54 and 3-55. F4-92

Page 3-52, Table 3-4, Second row; 3rd column: The trigger for action criteria for TDS levels in storage water is too high. MWD has set the trigger for action criteria for elevated TDS levels in water being stored in the aquifer at 1,000 mg/L using a 4-week moving average. In other words, Colorado River water being spread into the basin could exceed 1000 mg/L TDS or nearly double the TDS level that MWD used in its assessment of impacts of Colorado River water TDS levels (600 mg/L) on the water quality of the basin in Section 6. See page 6-3. F4-93

Page 3-53, Table 3-4, Last row, second column: The use of tramissometers in only Class I Areas is too limited. They should be used in Joshua Tree National Park and Mojave National Preserve, if warranted, regardless of any Class1/Class 2 designation. F4-94

Page 3-54, Section3.7.1.1: Who selects which 8 springs will be monitored for long term? F4-

Page 3-54, Section 3.7.1.1, *"Action Criteria"*: The statement requiring a consensus of the TRT to determine when the TRT will meet to evaluate a groundwater level change in excess of the action criteria for S-Series observation wells is contradicted by information in the text on page 3-70, Section 3.9.2, "Responsibilities", which states that TRT meetings will be: "...on an annual basis, or more frequently as requested by any two members of the TRT...". NPS recommends that the standard stated on page 3-70 should apply uniformly throughout Section 3.7, and thus that the phrase "...a consensus of..." be deleted from the text on page 3-54. Note: This same issue also occurs on page 3-63, first paragraph. F4-

Page 3-55, Figure 3-10: This flow diagram is unacceptable to the NPS. According to this flow chart, all issue resolution goes through the BMG, and the BLM has no decision-making authority unless the BMG cannot reach consensus. BLM is the responsible organization with the final decision making authority for all issues considered by the BMG which will have or may have an impact on federally managed resources. F4-

Pages 3-56 to 3-64, Section3.7.2: This section fails to address impacts resulting from long term drawdown of groundwater in the basin. This potential impact to the groundwater basin is by far the most significant impact of the project and has not been adequately addressed in this document. Although a Closure Plan is proposed in Section 3.8 that would in theory address long term drawdown impacts, no such closure plan is currently in place. At very least, the trigger for preparing a closure plan discussed in Section 3.8 should be included in this section and added to Table 3-4. F4-

Page 3-57, Section3.7.2.1: This section states that: "The Basin Plan also indicates that Colorado Regional Board's goal is to maintain the existing water quality of all nondegraded groundwater basins" and that SWRCB Resolution No. 68-16 states that "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies." F4-

Based on these provisions, it would appear that adding Colorado River having TDS levels twice to four times the current TDS levels of the basin groundwater will violate the objectives of both the Colorado Regional Board's Basin Water Quality Control Plan and SWRCB Resolution 68-16.

Additionally, there are no triggers set forth in this section for implementing corrective action, although Table 3-4 establishes a trigger of TDS concentrations in Colorado River Water exceeding 1,000 mg/L using a four week moving average. Instead, this section relies on conclusory statements made by MWD in Section 6 that adding Colorado River water at 600 mg/L to existing basin groundwater at 300 mg/L will have less than significant impacts. In other words, no triggers or corrective action are being proposed in Section 3.7.2.1 because MWD has predetermined that potential adverse impacts will not occur to existing basin groundwater F4-

quality. This argument is circular because the stated goal of this document is the implementation of the Management Plan (see Section3.1) to prevent potential adverse impacts from becoming adverse impacts or significant adverse impacts. MWD has short-circuited this process by concluding up front that corrective measures will never be needed because it has determined that adding higher TDS Colorado River water will not degrade water quality of indigenous groundwater in the basin. MWD has no proof that this determination is or will be correct. Moreover, its conclusion that adding Colorado River Water to the basin will have "less than significant" impacts is based on the presumption that MWD will add Colorado River Water at 600 mg/L TDS to the basin, when in fact the TDS levels could be much higher based on the 1,000 mg/L TDS moving average trigger level in Table 3-4. Therefore, triggers and corrective measures should be included in this section. F4-100

Additionally, the definition of "significant" impact in this section is too narrow as will be discussed in comments to Section 4. F4-101

Page 3-58, Section3.7.2.2: There is no process described in which landowners can submit written complaints concerning their wells. There needs to be an education program informing landowners of the need for them to prepare written complaints if they experience drops in well water production. More importantly, the landowners must know to whom they send their complaints. F4-102

Page 3-58, Section3.7.2.2: The statement: "It is the intent of the project to operate without impacts to wells owned by neighboring landowners in the vicinity of the project area", suggests that the plan would not necessarily prevent adverse impacts resulting from the project. This is inconsistent with the stated purpose in Section 3.1. Furthermore, MWD's definition of "significant adverse impacts" is too narrow (see comments on Section 4.0). F4-103

Page 3-59, Section3.7.2.3, Action Criteria: It is the NPS position that the 0.5 ft trigger level must be from the baseline level, not some other reference level. F4-104

Page 3-61, Section3.7.2.4, Corrective Measures: It is the NPS position that there should be a trigger for operations to cease due to model-predicted impacts. F4-105

Page 3-65, Section3.7.4.1, first sentence: This statement is incorrect. In accordance with Section 3.5, Features 14 and 15, pages 3-32 and 3-33, two well clusters would be located on the margins of each lake, and one well cluster would be located on each dry lake playa. NPS recommends that the statement be changed in accordance with text on pages 3-32 and 3-33. F4-106

Page 3-65, Section3.7.4.1, *"Action Criteria"*: NPS recommends that the action criterion should be a groundwater level change of "6 inches in **any of** the cluster wells on the dry lake beds" (recommended revision in bold type). F4-107

Pages 3-65 and 3-66, Section3.7.4.1, *"Decision-Making Process"*: The term "potential adverse impact" is not defined well enough. Specifically, two aspects of the definition are important, as follows:
(1) the standard that the TRT will use to decide when a change becomes a "potential adverse impact"; and F4-108

(2) the location of the "potential adverse impact": (e.g. the lakebed, BLM Wilderness, or the boundary of Mojave National Preserve).

It is not clear what criteria the TRT would use to make an assessment that changes in groundwater levels constitute a potential adverse impact to air quality. Ultimate determinations concerning adverse impacts on air quality should be made by the BLM in consultation with NPS when impacts are to NPS resources. To be able to assess the potential for impact, the NPS must have a better understanding of the limit to the effects that the project proponents will ensure. Then an appropriate monitoring system and decision-making process can be devised.

Pages 3-66, 3-67, and 3-68 Subsection 3.7.4.2: This subsection embodies many of the major issues and shortcomings of the Plan as it relates to protection of air quality at Critical Resource areas managed by the NPS. Due to exclusion of changes to the document recommended in NPS comments on previous administrative drafts of this Supplement, it was necessary for the lead agency to insert "placeholder" language that provides consideration for Mojave National Preserve in right-of-way conditions administered by the BLM (see second paragraph of this subsection and last paragraph under "*Action Criteria*" for placeholder language). However, the M/M Plan itself does not commit to taking actions necessary to document potential impacts on Mojave National Preserve, nor does it require implementation of corrective measures at either park unit.

- A primary NPS concern is the major disconnect between the Critical Resource protection goal of the M/M Plan and the actual design of the M/M Plan, which largely ignores the need to monitor or consider impacts on Mojave National Preserve. The subsection overly restricts park unit monitoring to those areas designated Class I areas under the Clean Air Act. The subsection heading should delete reference to "Class I Areas" and replace it with "Critical Resource Areas" to read "Potential Visibility Impacts to Critical Resource Areas due to ...Wind Patterns." Similarly, all references to Class I areas (and related language) in this subsection should be changed to Critical Resource areas. It is the NPS' position that the air resources (air quality and air quality related values, like visibility) of Mojave National Preserve mandate protection in their own right under the NPS Organic Act and that the goal of the M/M Plan to protect these resources is appropriate.

- Another major concern is the prospect that the technical and management decision-making bodies (i.e., a Technical Review Team (TRT) and a Basin Management Group (BMG)) envisioned in the document would essentially usurp the NPS's Federal land manager's responsibilities to determine whether there are any future adverse impacts on air quality (i.e., visibility) in a park unit due to the project. Monitoring details, action criteria, and recommendations for corrective measures are dependent on these project decision-making bodies that would be staffed by the project proponents (Cadiz and Metropolitan Water District of Southern California), a Department of the Interior representative (unspecified) and the County of San Bernardino. If this adaptive management scheme becomes viable, there should be a formal representation on the TRT and BMG by the NPS or required consultation on issues related to park unit air quality impacts due to project operations.

- The "*Action Criteria*" for visibility measurements (subpart b) in NPS park units is not sufficient to ensure adequate visibility protection. The current criteria appearing in the document

could allow significant episodes to occur before any statistically significant change in seasonal average values are indicated. Additional criteria are needed to protect against episodic impacts. We suggest inserting the following language after "visibility measurements" at the beginning of subpart b "...indicate significant episodic events (measurements that exceed the 90 percentile value or 10% worst days that occurred prior to withdrawal of groundwater) or..." F4-113

- There currently is no mechanism to invoke "corrective measures" in this subsection. There are also no direct control methods (i.e., "add-on" mitigation or control measures) included in the "corrective measures" subparagraph. Other than modifying project operations related to water use, which potentially may be sufficient, the Supplement does not contemplate the use of any other possible methods to stabilize and maintain stabilization of dry lake surface material. With regard to invoking corrective measures, a "trigger" statement must be added under the "Decision-Making Process" to the effect that: F4-114

"If it is concluded that visibility changes at Mojave National Preserve or Joshua Tree National Park were due to project operations and that those impacts are potentially adverse, then the TRT will recommend implementation of corrective measures."

Page 3-68 to 3-69 Section3.8: The closure plan apparently addresses long term drops in basin groundwater levels. However, the criteria for triggering the closure plan are not set out specifically. Although a drop in static groundwater levels by 10 feet from Pre-Operational levels F4-115 is the trigger for preparing a closure plan, there is no indication where in the basin these measurements would be taken, how often they would be taken, whether it would be an average drop or a drop in just one well, or what pre-operational level would be chosen if there is significant fluctuation in pre-operational groundwater levels. Also, without knowing the recharge rate for the basin, it would be impossible to ensure that at the end of the project, there would be no more than a 100 foot decline from pre-operational groundwater levels, particularly if groundwater levels drop more than 100 feet below pre-operational levels during the operational life of the project. If the recharge rate has been overestimated, groundwater levels may never rise to the 100 ft. level below the pre-operational level by the end of the project. By that time, it would be too late to institute corrective measures to avoid long term draw down below the 100 foot level.

Page 3-70, Subsection 3.9.1: In discussing the Department of the Interior's (DOI) role on the TRT, the M/M Plan states that it is likely that this representative would be no more than an observer to the TRT process. Project proponents and the BLM need to address how this status will ensure due consideration of monitoring data, synthesis and modeling of collected information, and decision-making that would be protective of potentially affected NPS Critical Resources. F4-116

NPS has already stated in writing (see NPS letter to BLM dated July 31, 2000) that it is not appropriate for Cadiz Inc. to be a member of the TRT or BMG. Also, if the TRT is retained, DOI should be more than just an observer in the group. Any technical review team should include participation by technical members from the USGS and NPS in addition to members from the BLM. F4-117

Page 3-70, Subsection 3.9.2: The TRT is assigned the responsibility to "review potential adverse impacts to Critical Resources." If the M/M Plan is not revised in accordance with NPS recommendations, how can the TRT meet this responsibility for Mojave National Preserve if, as the M/M Plan is currently written, no monitoring is planned for Mojave National Preserve to account for any potential adverse impacts? F4-

Page 3-71 to 3-72; Section3.10: The BLM's decision making role is not contingent on the BMG's inability to reach consensus. BLM should have the ability to make final decisions on matters which may or will impact federally managed resources regardless of whether the BMG has reached consensus on that matter. The BLM's decision-making authority should be clearly defined in both the SEIS/SEIR and in the terms and conditions of the right-of-way grant. F4-

Page 3-71, Subsection 3.10.1: Similar to the comment above on subsection 3.9.1, DOI representation on the BMG would be relegated to the role of observer. Project proponents and the BLM need to address how this status will ensure due consideration of the appropriateness of recommendations from the TRT or some other technical review group with respect to monitoring data, synthesis of collected information, and decision-making that would be protective of potentially affected NPS Critical Resources. F4-

Page 3-71, Section3.10.2, "Responsibilities", second sentence: This statement is incorrect. In accordance with the Management Plan, as stated, the proposed project must not adversely impact Critical Resources. NPS recommends that the word "significantly" be replaced with "adversely" in this statement, in order to make it a correct statement about the Management Plan. F4-

Page 3-71, Subsection 3.10.2: The BMG is currently assigned the responsibility to "modify project operations to protect Critical Resources and to prevent potential and actual adverse impacts from Project operations." If the M/M Plan is not revised in accordance with NPS recommendations, how can the BMG meet this responsibility for Mojave National Preserve if, as the M/M Plan is currently written, no monitoring is planned for Mojave National Preserve to account for any potential adverse impacts? NPS recommends that the BMG not be given blanket authority to reject recommendations of the TRT without good reason, provided to all member agencies in writing. F4-

Page 3-72, Subsection 3.10.3: If project proponents are the majority of members on the TRT and BMG, then consensus on resource protection issues could potentially not be reached. Protection of resources often does not lend itself to a consensus process. BLM as mandated by Congress retains the ultimate control of the Right of Way regardless of whether the TRT or BMG are able to reach consensus. F4-

Page 4-1, Section4.0: The use of the term "significant adverse impact" has been used in the SEIS/SEIR as early as in Section 1.1. It has been used in MWD's explanation for why storing Colorado River water in the groundwater basin will not trigger corrective measures to avoid degradation of the quality of the indigenous groundwater. *See* Section3.7.2.1. However, the definitions of what constitute "significant adverse impacts" are much too limited and vague in the CEQA Thresholds of Significance section. F4-

The second bullet-pointed threshold of significance concerning depletion of groundwater supplies has been modified from the original CEQA guideline checklist for significant impacts which states: "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?" The threshold adopted by MWD in Section 4 incorporates the parenthetical example as part of the threshold. In so doing, MWD is unduly limiting significance of long term basin groundwater drawdowns to drops in production rates of nearby wells to levels not supporting current or planned permitted land uses, when in fact the guideline is much broader than that. Under this narrow threshold, impacts to springs and wells on federal lands from lowering of groundwater levels would never constitute a "potentially significant impact under the MWD-modified CEQA threshold. Although MWD has attempted to rectify this problem in the second to last bullet-point, it has merely formulated a circular argument in which a potentially significant impact could result from drawdown of groundwater that results in "substantial adverse impacts to springs." This is tantamount to saying that an impact to a spring on federal land is significant if it is significant. This bullet point should be deleted as it is meaningless and the second bullet point should be rewritten to accurately reflect the language in the CEQA guideline checklist without the use of the parenthetical example: "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table?" This threshold would then address both drops in well production as well as the springs. F4-125

Page 6-2 & 6-3, Section6.2.1: This section concludes that adding Colorado River water to the groundwater basin will not result in significant adverse impacts to water quality of the basin. As explained above, this conclusion is not supported in the text. The first bullet-pointed threshold of significance in Section 4.0 states: "The violation of any drinking water quality standards or waste discharge requirements, including those in the California Regional Water Quality Control Board's Colorado River Basin Region." As explained in Section 3.7.2.1, both the Colorado River basin RWQCB's basin plan and SWRCB Resolution No. 68-16 call for nondegradation of existing nondegraded groundwater basins. Adding Colorado River water with TDS and perchlorate levels in excess of current groundwater basin standards would violate these provisions and would constitute a potential "significant adverse impact." F4-126

Pages 6-8 and 6-9, "Potential for Long-Term Drawdown of Groundwater": Contrary to what is stated in this section, Section 3.7 does not provide for any corrective measures to prevent significant adverse impacts to long-term groundwater levels throughout the aquifer system due to project operations. Although a closure plan is contemplated for this project, it has not yet been formulated. Moreover, the proposed closure plan has not been subject to the same rigorous protocol requirements developed in Section 3.7 for other potentially adverse impacts from the project. It is the position of the NPS that the closure plan be subject to the same "action criteria, decision-making process, and corrective measures" protocol as is used in Section 3.7. As discussed above in comments to pages 3-68 to 3-69, Section3.8, knowledge of a reliable figure for recharge rate is essential to formulating an effective closure plan. F4-127

Page 6-9, paragraph 1, lines 6-8: This paragraph states that static groundwater drawdown of 100 feet would be acceptable and be considered less than significant. Nevertheless, a groundwater F4-128

drawdown of this magnitude is significant by almost any standard except those employed here. The document must be revised to show that this is an environmentally significant impact and is also one that may be irreversible. F4-

Page 6-9, Section6.2.7: Neither the closure plan nor the MOU discussed in this section have been finalized. Therefore the protections from significant impacts from drawdown of the aquifer offered by these documents is speculative at this point. Both a closure plan and the finalized MOU should be made part of this document and incorporated by reference. Implementation of the closure plan can be made contingent on verifiable triggers. As explained in the comments to Section 3.8, there are problems with the current triggers for implementing the closure plan. F4-

Page 6-11, Section6.3.2: The air quality at both Joshua Tree National Park and Mojave National Preserve could be significantly adversely impacted if the project causes mobilization of dust from Bristol and Cadiz dry lakes. See comments regarding Subsection 3.7.4.2. F4-

Page 7-4, Section7.2: As explained in the NPS comments to Sections 4 and 6, the definition of "significant adverse impacts" has been too limited and/or vague. Thus, the conclusory statements in this section concerning impacts being "less than significant" are not correct absent additional protective measures being added to the Management Plan: 1) appropriate triggers and corrective measures dealing with long-term drawdown of the aquifer; 2) appropriate triggers and corrective measures addressing degradation of groundwater basin water quality; 3) broadening of air quality monitoring and corrective measure to cover both Joshua Tree National Park and Mojave National Preserve regardless of any Class 1/Class 2 distinction; 4) completion of a closure plan now with appropriate triggers and contingencies for future implementation; 5) finalization of the MOU concerning Cadiz Agricultural operations and their relationship to the Management Plan; 6) broadening and clarifying of the CEQA thresholds of significance to more accurately encompass the potential significant adverse impacts from this project. F4-

The National Park Service will continue to act in good faith as a cooperating agency under NEPA in the effort to reach consensus on the issue of protection of Critical Resources in our National Park units. We thank you for the opportunity to review the SDEIS. You may contact Annie Kearns of my staff (760) 255-8815 or myself at (760) 255-8801 with any questions. F4-1

Sincerely,

Mary G. Martin
Superintendent, Mojave National Preserve

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Steve Nissen
ACTING DIRECTOR

ACKNOWLEDGEMENT OF RECEIPT

DATE: October 25, 2000

TO: Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

S7

RE: Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California
SCH#: 1999021039

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: October 20, 2000
Review End Date: December 4, 2000

We have distributed your document to the following agencies and departments:

S7-1

Caltrans, District 8
Department of Fish and Game, Region 6
Department of Parks and Recreation
Native American Heritage Commission
Regional Water Quality Control Board, Region 4
Resources Agency
State Lands Commission

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
916-445-0613 FAX 916-323-3018 WWW.OPR.CA.GOV/CLEARINGHOUSE.HTML

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Steve Nisse
ACTING DIRECT

December 5, 2000

S8

Jack Safely .
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Subject: Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California
SCH#: 1999021039

Dear Jack Safely:

The State Clearinghouse submitted the above named Supplemental EIR to selected state agencies for review. The review period closed on December 4, 2000, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

S8-

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
916-445-0613 FAX 916-323-3018 WWW.OPR.CA.GOV/CLEARINGHOUSE.HTML

Document Details Report
State Clearinghouse Data Base

Refer to comment SB-1.

SCH# 1999021039
Project Title Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California
Lead Agency Metropolitan Water District of Southern California

---

Type SIR Supplemental EIR

Description The project proposes facilities to convey, store, and recover Colorado River water from the Cadiz/Fenner groundwater basin. It would also transfer indigenour groundwater to Metropolitan's service area. This Supplement to the Draft EIR/EIS provides additional information regarding management of groundwater resources and related air quality issues.

Lead Agency Contact

Name Jack Safely
Agency Metropolitan Water District of Southern California
Phone 213/217-6981 **Fax**
email
Address P.O. Box 54153
City Los Angeles **State** CA **Zip** 90054-0153

Project Location

County San Bernardino
City Cadiz
Region
Cross Streets Route 66 and Cadiz Road
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways Route 66
Airports
Railways BNSF AND ARZC
Waterways Schuler Washington
Schools
Land Use Agriculture and Resource Conservation

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Geologic/Seismic; Minerals; Soil Erosion/Compaction/Grading; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual

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Reviewing Agencies Resources Agency; Department of Fish and Game, Region 6; Department of Parks and Recreation; Caltrans, District 8; Regional Water Quality Control Board, Region 4; Native American Heritage Commission; State Lands Commission

---

Date Received 10/20/2000 **Start of Review** 10/20/2000 **End of Review** 12/04/2000

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Steve Niss
ACTING DIRE

December 7, 2000

59

Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Subject: Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California
SCH#: 1999021039

Dear Jack Safely:

The enclosed comment (s) on your Supplemental EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on December 4, 2000. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project. 59-

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (1999021039) when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 • FAX (760) 341-6820

Gray Davis
Governor

Refer to comment 39-1

Clear
12/4/00
Letter

DEC - 6 2000

December 4, 2000

Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

SCH# 1999021039

RE: RESONSE TO "SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM, SAN BERNARDINO COUNTY, CALIFORNIA"

The Supplement to the Environmental Impact Report/Environmental Impact Statement, Cadiz Groundwater Storage and Dry-Year Supply Program, San Bernardino County, California, prepared jointly by the Metropolitan Water District of Southern California (Metropolitan) and the U.S. Department of Interior, Bureau of Land Management (BLM), was received on October 20, 2000, and was reviewed by Regional Water Quality Control Board (Regional Board) staff.

The proposed action will use and store approximately 15,000 acre-feet of imported Colorado River water per year. It will also provide a total storage of approximately 1 million acre-feet of water. Storage water would be conveyed from Metropolitan's Colorado River Aqueduct (CRA) to the basins during surplus years (or seasons) and will be used during dry years. The project proposes to transfer the stored indigenous groundwater to the CRA through extraction and delivery.

Regional Board reiterates the comments on the draft EIR/EIS contained in a letter dated February 22, 2000. (copy is enclosed)
If you have any questions regarding this matter, please call me at (760) 776-8986.

KOLA OLATUNBOSUN
Sanitary Engineering Associate

KO/gr

cc: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95814-3044

File: ER SB ED

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/~rwqcb7
73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 · FAX (760) 341-6820

Refer to comment 59-1

February 22, 2000

ATTN: Mr. Dirk Reed
Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054

ATTN: Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Messrs. Reed and Williams:

SUBJECT: SCH NO. 99021039 CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT

Thank you for the opportunity to comment on the subject document.

Regarding the proposed project, we are primarily concerned about the overall water quality impact that may result from recharging an aquifer of high water quality with water of lesser quality. This includes maintaining the drinking water standards for all constituents. Also, we are concerned about salts and perchlorate that are present in the source water, as addressed in the EIS/EIR. The presence of MTBE would be an additional concern since it does not readily degrade when introduced to groundwater.

Our first comment is in regards to the following statement (page 5-95),

> "No Colorado River water is anticipated to migrate to the Bristol or Cadiz dry lakes during the Cadiz project. As a hypothetical scenario, however, because Colorado River water contains more sodium and calcium than the indigenous groundwater, any Colorado River water that migrated to the dry lakes and evaporated would contribute even more sodium and calcium to these dry lakes for the production of calcium chloride and sodium chloride. The availability of chloride in the brine underlying the dry lakes would facilitate production of these compounds, and be beneficial."

It is unclear why increased production of calcium chloride and sodium chloride would be beneficial to the Bristol or Cadiz dry lake systems.

Further, we believe the EIS/EIR should address the likelihood that the proposed project has for increasing the hydraulic continuity/connectivity between the Cadiz aquifer and the saline aquifers underlying the Bristol and Fenner dry lakes; and the potential for an increase in salinity in the Cadiz Aquifer should hydraulic continuity be an issue.

Refer to comment 59-1.

Please contact Summer Bundy at (760) 776-8937 should you have any questions regarding these comments.

Sincerely,

JOSE L. ANGEL, P.E.
Chief of Basin Planning

JLA:sb

CC: State Clearinghouse

File: ER WDA

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
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510

December 4, 2000

Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

RE: RESONSE TO "SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM, SAN BERNARDINO COUNTY, CALIFORNIA"

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If you have any questions regarding this matter, please call me at (760) 776-8986.

KOLA OLATUNBOSUN
Sanitary Engineering Associate

KO/gr

cc: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95814-3044

File: ER SB ED

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
Secretary for
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73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 · FAX (760) 341-6820

Gray Davis
Governor

February 22, 2000

ATTN: Mr. Dirk Reed
Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054

ATTN: Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Messrs. Reed and Williams:

SUBJECT: SCH NO. 99021039 CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT

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Our first comment is in regards to the following statement (page 5-95),

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Please contact Summer Bundy at (760) 776-8937 should you have any questions regarding these comments.

S10

Sincerely,

JOSE L. ANGEL, P.E.
Chief of Basin Planning

JLA:sb

CC: State Clearinghouse

File: ER WDA

California Regional Water Quality Control Board
Colorado River Basin Region

inston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

December 5, 2000

S11

Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

RE: RESPONSE TO "SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM, SAN BERNARDINO COUNTY, CALIFORNIA"

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Regional Board reiterates the comments on the draft EIR/EIS contained in a letter dated February 22, 2000 (copy is enclosed).

If you have any questions regarding this matter, please call me at (760) 776-8986.

KOLA OLATUNBOSUN
Sanitary Engineering Associate

KO/gr

Enc.: As stated above

cc: State Clearinghouse, Sacramento

File: ER SB ED

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
Secretary for
Environmental
Protection

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73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 · FAX (760) 341-6820

Gray
Gove

February 22, 2000

ATTN: Mr. Dirk Reed
Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054

ATTN: Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Messrs. Reed and Williams:

SUBJECT: SCH NO. 99021039 CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT

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51

Our first comment is in regards to the following statement (page 5-95),

> "No Colorado River water is anticipated to migrate to the Bristol or Cadiz dry lakes during the Cadiz project. As a hypothetical scenario, however, because Colorado River water contains more sodium and calcium than the indigenous groundwater, any Colorado River water that migrated to the dry lakes and evaporated would contribute even more sodium and calcium to these dry lakes for the production of calcium chloride and sodium chloride. The availability of chloride in the brine underlying the dry lakes would facilitate production of these compounds, and be beneficial."

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Please contact Summer Bundy at (760) 776-8937 should you have any questions regarding these comments. S11-1

Sincerely,

JOSE L. ANGEL, P.E.
Chief of Basin Planning

JLA:sb

CC: State Clearinghouse

File: ER WDA

California Regional Water Quality Control Board
Colorado River Basin Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/~rwqcb7
73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 · FAX (760) 341-6820

512

January 8, 2001

Received 1/10/01

Jack Safely, Project Manager
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

RE: CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT / DRAFT ENVIRONMENTAL IMPACT STATEMENT

On October 19, 2000, the Colorado River Basin Regional Water Quality Control Board (Region 7) received the document entitled Cadiz Groundwater Storage and Dry-Year Supply Program Supplement to the Draft Environmental Impact Report / Draft Environmental Impact Statement, Report No. 1169, State Clearing House Number 99021039, and dated October 12, 2000. The Cadiz Program is designed to assist Southern California residents with their current and future water supply needs through storage of available Colorado River water in a groundwater aquifer system during wet-years, and the extraction and supply of stored Colorado River water and indigenous groundwater during dry-years. S1

In accordance with the Porter-Cologne Water Quality Control Act, it is the responsibility of the nine Regional Water Quality Control Boards to protect, restore, and enhance the quality of surface and ground waters of the State to ensure the attainment and maintenance of all designated beneficial uses. The subject project is located within the boundaries of the Route Sixty Six Hydrologic Unit (# 710.00), Bristol (# 710.10) and Fenner (# 710.20) Hydrologic Areas of Region 7. The designated groundwater beneficial uses within the Bristol Hydrologic Area are identified within the Region 7 Water Quality Control Plan as municipal and domestic (MUN), industrial service (IND), and agricultural (AGR) supplies. Historical and recent groundwater analytical data from the subject groundwater aquifers indicates the presence of detectable concentrations of several inorganic constituents, which in some instances approach or exceed the drinking water standards established by the California Department of Health Services (Primary Maximum Contaminant Levels (MCLs)). Presently, the source of the constituents, particularly Arsenic and Chromium, is unclear and may be resolved through further investigation. S1

If you have any questions regarding this matter, please contact Liann Chavez at (760) 776-8945.

Beatrice Griffey

BEATRICE GRIFFEY
Associate Engineering Geologist

BG/kt

cc: State Clearinghouse, Sacramento
Bureau of Land Management, Riverside
San Bernardino County Planning Department, San Bernardino

File: ER WDA

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Steve Nissen
ACTING DIRECTOR

January 10, 2001

S13

Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Subject: Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California
SCH#: 1999021039

Dear Jack Safely:

The enclosed comment (s) on your Supplemental EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on December 4, 2000. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document. S13-1

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project. S13-2

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (1999021039) when contacting this office. S13-3

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

California Regional Water Quality Control Board

Colorado River Basin Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/~rwqcb7
73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
Phone (760) 346-7491 · FAX (760) 341-6820

Gray D
Govern

Prefer to Comment 513-1.

RECEIVED
JAN 1 0 2001
STATE CLEARINGHOUSE

Clear 12/04/00 Late nc

January 8, 2001

Jack Safely, Project Manager
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

RE: CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT / DRAFT ENVIRONMENTAL IMPACT STATEMENT

On October 19, 2000, the Colorado River Basin Regional Water Quality Control Board (Region 7) received the document entitled Cadiz Groundwater Storage and Dry-Year Supply Program Supplement to the Draft Environmental Impact Report / Draft Environmental Impact Statement, Report No. 1169, State Clearing House Number 99021039, and dated October 12, 2000. The Cadiz Program is designed to assist Southern California residents with their current and future water supply needs through storage of available Colorado River water in a groundwater aquifer system during wet-years, and the extraction and supply of stored Colorado River water and indigenous groundwater during dry-years.

In accordance with the Porter-Cologne Water Quality Control Act, it is the responsibility of the nine Regional Water Quality Control Boards to protect, restore, and enhance the quality of surface and ground waters of the State to ensure the attainment and maintenance of all designated beneficial uses. The subject project is located within the boundaries of the Route Sixty Six Hydrologic Unit (# 710.00), Bristol (# 710.10) and Fenner (# 710.20) Hydrologic Areas of Region 7. The designated groundwater beneficial uses within the Bristol Hydrologic Area are identified within the Region 7 Water Quality Control Plan as municipal and domestic (MUN), industrial service (IND), and agricultural (AGR) supplies. Historical and recent groundwater analytical data from the subject groundwater aquifers indicates the presence of detectable concentrations of several inorganic constituents, which in some instances approach or exceed the drinking water standards established by the California Department of Health Services (Primary Maximum Contaminant Levels (MCLs)). Presently, the source of the constituents, particularly Arsenic and Chromium, is unclear and may be resolved through further investigation.

If you have any questions regarding this matter, please contact Liann Chavez at (760) 776-8945.

Beatrice Griffey

BEATRICE GRIFFEY
Associate Engineering Geologist

BG/kt

cc: State Clearinghouse, Sacramento
Bureau of Land Management, Riverside
San Bernardino County Planning Department, San Bernardino

File: ER WDA

THE CITY OF SAN DIEGO

October 23, 2000

R5

Mr. Jack Safely
Metropolitan Water District of Los Angeles
P.O. Box 54153
Los Angeles, CA 90054

Dear Mr. Safely:

Subject: Supplement to the draft EIR/EIS and the EIR/EIS for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program

It is my understanding that the supplement to the draft environmental impact report/statement (EIR/EIS) and the complete EIR/EIS for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program located in eastern San Bernardino County is now available for public review and comment. I would like to obtain a copy of the EIR/EIS and the supplement.

R5-1

The requested documents can be mailed to my office located at the following address:

City of San Diego
Water Department
Water Policy, C.I.P Finance and Planning
600 B Street, MS 907
San Diego, CA 92101-4506

If you have any questions or need additional information, please call me at (619) 533-6612. Thank you.

Sincerely,

Rick R. Carpenter
Principal Water Resources Specialist

RRC/da

Water Department
202 C Street, MS 9B • San Diego, CA 92101-3869
Tel (619) 236-6750 Fax (619) 236-6751

RIVERSIDE COUNTY
LARRY D. SMITH, SHERIFF

Sheriff

P.O. BOX 512 • RIVERSIDE, CALIFORNIA 92502 • (909) 955-2400 • FAX (909) 955-

November 1, 2000

R6

Metropolitan Water District of Southern California
Ms. Grace Chan, Section Manager
700 N. Alameda Street
Los Angeles, California 90012

Dear Ms. Chan:

Thank you for your letter of October 18, 2000 regarding the Cadiz project. Sheriff Smith will take a neutral position on the project. R6-1

Sincerely,

LARRY D. SMITH, SHERIFF

Thomas L. Freeman,
Executive Officer

LDS:TLF:rc

11/16/2000

James Williams
U.S.Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

RECEIVED
NOV 20 2000
METROPOLITAN WATER DISTRICT
OFFICE OF THE GENERAL MANAGER

R7

Dear Mr. Williams:

Please accept the following comments regarding the Draft EIR/EIS and Supplement for the proposed Cadiz Groundwater Storage and Dry-year Supply Program.

Under no circumstances (and especially given the recent developments regarding the possibility of toxic chromium pollutants contaminating groundwater at the project site) can this project be justified. It is unfortunate that - especially in California - environmental impact documentation is simply used as a legal maneuver in preparation for the inevitable culmination of ambitious engineering projects of this type, rather than playing the role they should in assessing the true environmental costs of such projects.

The most important client for the Bureau of Land Management should be "Posterity", the future generations who will be denied simpler ways of living as a result of the seemingly unending desire of certain components of contemporary society to industrialize and develop the continent's remote and rural areas. Similarly, the Metropolitan Water District should begin to behave like a responsible agency, and cease its efforts to "guarantee" water supplies to such endless development. R7-1

Cancellation of the Cadiz Project would be an ideal opportunity for the Bureau and the MWD to stand together and begin to communicate to the State's agencies and residents that California's access to fresh water has final limits, that the supply of potable water for the California population is finite, and that the State and all water agencies should prepare for the sorts of water conservation efforts and development restriction measures that should be the proper foci of their respective energies.

Sincerely,

James M. Bryant
Curator of Natural History
Riverside Municipal Museum
3580 Mission Inn Avenue
Riverside, CA 92501

cc: MWD

CITY OFFICES:
6136 ADOBE ROAD
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TWENTYNINE PALMS, CA 92277
(760) 367-6799
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web site: 29palms.com

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M.J. "Mac" Dube, Mayor Pro Te
Kevin Cole
D. J. Masker
Elizabeth H. "Liz" Meyer

CITY MANAGER
Jim Hart

Jack Safely
Metropolitan Water District
P.O. box 54153
Los Angeles, CA 90054

R8

Jim Williams
Bureau of Land Management
6221 Box Springs Road
Riverside, CA 92507

Dear Sirs:

The impressive efforts put forth by Cadiz Inc. in conjunction with Metropolitan Water District of Southern California (MWD) in planning for storage for future dry years shows depth of both planning and foresight for the benefit of generations of Californians in the new millennium.

Cadiz and MWD have been before the public in a variety of forums and answered all manners of questions concerning the contemplated project both conceptually as well as definition of technical candor and thoroughness in attempts to educate all interested parties. In my own particular case, during both of the Twentynine Palms meetings, I covered a multitude of topics and asked several dozen questions on both technical as well as general subjects. I have been impressed with the overall knowledge, the professionalism of the Cadiz and MWD Staff and their follow-up to provide responses to our inquiries.

This groundwater storage project, when combined with the closely monitored native groundwater extraction, which is spelled out in the Supplement, can plainly be defined as a win/win system where today's plans become the salvation of tomorrow's growing population. The Groundwater Monitoring and Management Plan has placed an emphasis on safeguards to ensure that the desert aquifer is not over drafted and that there will be no impacts to critical resources. This kind of planning should have commenced years ago and had it been so accomplished, a system would now be in place to alleviate present shortages and needs across the State.

R8-

I see the conservation of vital Colorado water supplies in the Cadiz aquifers as one of the most important concepts that the State of California can participate in for the welfare of future generations of our California families. The potential of storing millions of acre feet of water for years awaiting distribution during critical times is one of the best guarantors of survival of our society as we know it today and makes it one of the most important decisions of this generation.

We need to start getting it accomplished and quit merely paying lip service to the concept... while ensuring, of course, that the necessary safeguards are in place to prevent the denudement of our Hi-Desert aquifers.

I say hearty "well done" is due to all concerned for the efforts to date! Keep up the good work!

Sincerely,

Mr. "Mac" Dube
Mayor Pro Tem, City of Twentynine Palms, California

cc: Lesley Thornburg, Cadiz Inc.

OUTHERN CALIFORNIA

ASSOCIATION of
GOVERNMENTS

Main Office
318 West Seventh Street
12th Floor
Los Angeles, California
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lde County Transportation Commission: Lowe, Hemet

a County Transportation Commission: vis, Simi Valley

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November 29, 2000

Mr. Jack Safely
Project Manager
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054

R9

RE: **Comments on the Supplement to the Draft Environmental Impact Report / Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-Year Supply Program - SCAG No. I 20000509**

Dear Mr. Safely:

Thank you for submitting the **Supplement to the Draft Environmental Impact Report / Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-Year Supply Program** to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG assists cities, counties and other agencies in reviewing projects and plans for consistency with regional plans.

R9-1

The attached detailed comments are meant to provide guidance for considering the proposed project within the context of our regional goals and policies. If you have any questions regarding the attached comments, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Planner
Intergovernmental Review

**COMMENTS ON THE
SUPPLEMENT
TO THE
DRAFT
ENVIRONMENTAL IMPACT REPORT
ENVIRONMENTAL IMPACT STATEMENT
FOR THE
CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM
SCAG NO. I 20000509**

PROJECT DESCRIPTION

The Draft EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program, published in November 1999, evaluates a range of alternatives for conveying water between the Colorado River Aqueduct and the aquifer underlying the Cadiz and Fenner valleys. The Supplement to the Draft EIR/EIS provides additional information regarding management of groundwater resources and related air quality issues in response to comments on the Draft EIR/EIS.

The proposed Project is located in the eastern Mojave Desert region of San Bernardino County in the Cadiz and Fenner valleys and crosses federal land administered by the Bureau of Land Management.

INTRODUCTION TO SCAG REVIEW PROCESS

The document that provides the primary reference for SCAG's project review activity is the Regional Comprehensive Plan and Guide (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The Growth Management (adopted June 1994), Regional Transportation (adopted April 1998), Air Quality (adopted October 1995), Hazardous Waste Management (adopted November 1994), and Water Quality (adopted January 1995) chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter. The Regional Transportation Plan (RTP) constitutes the region's Transportation Plan. The RTP policies are incorporated into the RCPG.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and

may reflect other regional plans. Ancillary chapters, however, do not contain actions or policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project are identified by number and reproduced below in italics followed by SCAG staff comments regarding the consistency of the Project with those policies. R9-2

General SCAG Staff Comments

The Supplement to the Draft EIR/EIS addresses the relationship of the proposed project to **applicable regional plans** as required by Section 15125 [d] *of Guidelines for the Implementation of the California Environmental Quality Act.* R9-3

CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES

AIR QUALITY CHAPTER CORE ACTIONS

The **Air Quality Chapter (AQC)** core actions that are generally applicable to the Project are as follows:

5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts. R9-4

SCAG staff comments. The Supplement to the Draft EIR/EIS addresses impacts to Critical Resources, including air quality, related to Project operations. The Groundwater Monitoring and Management Plan, in Section 3.0, is "designed to ensure there would be no adverse impacts by providing "early warning" of potential impacts to Critical Resources that could result from Project operations." The identified impacts would be prevented by the implementation of corrective actions. The Management Plan proposes a series of monitoring features, which include among others, the installation of meteorological towers and the placement of additional instrumentation to provide analysis and avoidance of potential dust mobilization. The Project is consistent with this core RCPG policy.

WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS

The Water Quality Chapter core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters. The core recommendations and policy options that are particularly applicable to Project include the following:

11.06 Clean up the contamination in the region's major groundwater aquifers since its water supply is critical to the long-term economic and environmental health of the region. The financing of such clean-ups should leverage state and federal resources and minimize significant impacts on the local economy.

SCAG staff comments. The Draft EIR/EIS (November 1999), in Section 5.5 (Water Resources) includes a discussion on groundwater. Mitigation measures in this section calls for the establishment and implementation of a Monitoring and Management Plan to, "...monitor, maintain and regulate all groundwater extraction and storage operations within the Project area..." (page 5-105). The Supplement to the Draft EIR/EIS, in Section 3.0, includes the Groundwater Monitoring and Management Plan addressed in the Draft EIR/EIS. The Management Plan establishes a defined process for review, monitoring and the implementation of corrective measures to address groundwater resources. The Project is consistent with this core RCPG policy.

CONCLUSIONS AND RECOMMENDATIONS:

1. As noted in the staff comments, the Supplement to the Draft EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program is consistent with or supports many of the core and ancillary policies, actions and goals in the Regional Comprehensive Plan and Guide (RCPG).

2. The Final Supplement to the Draft EIR/EIS should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide and discuss any inconsistencies between the proposed project and applicable regional plans. The response should also discuss any inconsistencies between the proposed project and applicable regional plans. We suggest that you identify the specific policies, by policy number, with a discussion of consistency or support with each policy.

3. All mitigation measures associated with the project should be monitored in accordance with CEQA requirements.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS is a ***Joint Powers Agency*** established under California Government Code Section 6502 et seq. Under federal and state law, the Association is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). Among its other mandated roles and responsibilities, the Association is:

Designated by the federal government as the Region's ***Metropolitan Planning Organization*** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. 134(g)-(h), 49 U.S.C. 1607(f)-(g) et seq., 23 C.F.R. 450, and 49 C.F.R. 613. The Association is also the designated ***Regional Transportation Planning Agency***, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080.

Responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the ***South Coast Air Quality Management Plan***, pursuant to California Health and Safety Code Section 40460(b)-(c). The Association is also designated under 42 U.S.C. 7504(a) as a ***Co-Lead Agency*** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

R9-9

Responsible under the Federal Clean Air Act for determining ***Conformity*** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. 7506.

Responsible, pursuant to California Government Code Section 65089.2, for ***reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans*** required by Section 65080 of the Government Code. The Association must also evaluate the consistency and compatibility of such programs within the region.

The authorized regional agency for ***Inter-Governmental Review*** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

Responsible for reviewing, pursuant to Sections 15125(b) and 15206 of the CEQA Guidelines, ***Environmental Impact Reports*** of projects of regional significance for consistency with regional plans.

The authorized ***Areawide Waste Treatment Management Planning Agency***, pursuant to 33 U.S.C. 1288(a)(2) (Section 208 of the Federal Water Pollution Control Act)

Responsible for preparation of the ***Regional Housing Needs Assessment***, pursuant to California Government Code Section 65584(a).

Responsible (along with the San Diego Association of Governments and the Santa Barbara County/Cities Area Planning Council) for preparing the ***Southern California Hazardous Waste Management Plan*** pursuant to California Health and Safety Code Section 25135.3.

Baldy Mesa Water District

R10

January 1, 2001

Jack Safely
Metropolitan Water District of Southern California
PO Box 54153
Los Angeles, CA 90054

Re: Cadiz Groundwater Storage & Dry-Year Supply Program

Dear Mr. Safely:

On behalf of the Board of Directors, I would like to offer Baldy Mesa Water District's support of the Cadiz Groundwater Storage & Dry-Year Supply Program. This innovative program will help ease Southern California's reliance on Northern California water and make better use of existing Colorado River supplies. That, in turn, will provide added water security for all of San Bernardino County. This unprecedented public-private partnership is a dramatic step forward in developing regional solutions for Southern California's future water needs.

R1

Baldy Mesa Water District, in coordination with other purveyors in the area, believes that the implementation of local partnerships is the most effective way to meet the state's future water supply needs. To that end, we are in the process of undertaking a pilot recharge study to determine the feasibility of this type of project in our area. We will continue to look, with interest, at the implementation of the Cadiz Groundwater Storage & Dry-Year Supply Program in the hopes that it will assist us with ours.

Sincerely,

Don Bartz

DON BARTZ
General Manager

DB/KMB

10313 DUNCAN ROAD, VICTORVILLE, CA 92392-0832
PHONE: (760) 949-0332 FAX: (760) 949-7563

Cucamonga County Water District

10440 Ashford Street
Rancho Cucamonga, CA 91729-0638
P.O. BOX 638 • (909) 987-2591 • Fax (909) 476-8032

Robert A. DeLoach
General Manager

January 4, 2001

R11

Mr. Jack Safely
METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
P.O. Box 54153
Los Angeles, CA 90054

Mr. James Williams
U.S. BUREAU OF LAND MANAGEMENT
6221 Box Springs Blvd.
Riverside, CA 92507

Re: Cadiz Groundwater Storage Project – Supplement to the Draft EIR/EIS

Dear Sirs:

On behalf of the Board of Directors for the Cucamonga County Water District, we are pleased to have had an opportunity to review the Supplement for the proposed Cadiz Groundwater Storage Project. To reiterate comments provided previously, the storage of surplus Colorado River Water within the Cadiz groundwater area will greatly assist Metropolitan Water District in managing its Colorado River aqueduct system. The potential benefit to the Southern California economy is tremendous.

I have reviewed the sections specifically dealing with the potential impacts to existing resources and the management plan in detail to analyze the potential effects of the proposed project on existing groundwater basins, surface water resources and the existing dry-lake beds. Additionally, Section 3.0 presents the proposed monitoring plan and an integrated system to warn of impending impacts which would then be followed up with a series of corrective measures to prevent the impact. We are encouraged to see that the management plan deals with the *prevention* of potential problems and it is our opinion that the measures described adequately provide the levels of protection needed. Of particular concern to agencies relying on the Colorado River system will be water quality issues as well as the price to the end user once the water is extracted and returned to the aqueduct.

R11-1

R11-2

EROME M. WILSON President | *DONALD J. KURTH* Vice President | *ROBERT NEUFELD* Director | *HENRY L. STOY* Director | *JAMES V. CURATALO,JR* Director

While the supplemental document does not address the issue of cost impacts through the CEQA process, the issue of water quality concerns is. R1

Again, thank you for the opportunity to provide these comments.

Respectfully,

Robert A. DeLoach
General Manager and
Chief Executive Officer

cc: Board of Directors
Assistant General Manager/COO

C NOMIC DEVELOPMENT AND
BLIC SERVICES GROUP

COUNTY OF SAN BERNARDINO

North Arrowhead Avenue, Fifth Floor • San Bernardino, CA 92415-0122
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JOHN D. GOSS
Assistant County Administrator

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RIVERSIDE, CA.

January 5, 2001

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Mr. Jack Safely
Project Manager
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Mr. James Williams
U.S. Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

R12

Re: County of San Bernardino's Comments on the Supplement to the DEIR/DEIS for Cadiz Groundwater Storage and Dry-Year Supply Program (SCH No. 99021039)

Dear Mr. Safely and Mr. Williams:

This letter is submitted on behalf of the County of San Bernardino ("County"), and provides comments regarding the Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-Year Supply Program ("DEIR/DEIS") (hereinafter, the "Supplement"). These comments supplement the County's previous formal written comments on the DEIR/DEIS, as submitted on March 7, 2000. Those previous comments are incorporated herein by reference to the extent that the Supplement does not specifically address them. The County understands that in the Final EIR/EIS, the Metropolitan Water District of Southern California ("MWD") and the Bureau of Land Management ("BLM") will be providing complete and adequate responses to the County's previous comments and these comments, as required under the California Environmental Quality Act ("CEQA") and the National Environmental Policy Act ("NEPA"). These comments primarily address the County's remaining comments and concerns with the Groundwater Monitoring and Management Plan ("Management Plan") that is described in the Supplement. The County's primary concerns regarding the Supplement are as follows: R12-1

1. The Supplement fails to adequately address and disclose the water quality impacts of the project. In particular, the Supplement does not include an adequate analysis of the potential degradation of the groundwater quality caused by high levels of Total Dissolved Solids ("TDS") in the Colorado River, and does not adequately address applicability of the State's Anti-Degradation Policy. Further, the Supplement fails to adequately define the roles of the Technical Review Team ("TRT") and the Basin Management Group ("BMG"), as well as the role of the Bureau of Land Management ("BLM"). R12-2

2. Given the recent testing indicating high levels of chromium 6 in the relevant aquifers, the County questions whether the Supplement and the DEIR/DEIS adequately address and disclose the potential health impacts associated with extracting and using the native, indigenous groundwater.

More detailed comments on these and other concerns are provided below. These comments are based, in part, upon a thorough review and analysis of the Supplement performed by hydrology and hydrogeology experts previously retained by the County to review the DEIR/DEIS. (Copies of the resumes for these experts were submitted with the County's prior comments on the DEIR/DEIS.)

SPECIFIC COMMENTS ON SECTION 1: BACKGROUND

Section 1.1: As part of the reference to the 1993 Cadiz EIR and the required Groundwater Monitoring Plan required by the County for the agricultural operations on page 1-3, the document makes a statement that is misleading indicating that this Groundwater Monitoring Plan "would be superseded by this Management Plan". This statement fails to disclose the fact that this is a "proposal" that has been made to the County that is still under consideration and must be approved by the Board of Supervisors. This issue is more correctly reflected in the discussion at page 3-9 indicating that a "Memorandum of Understanding still in draft form ("MOU")" would be "subject to the provisions of the Management Plan." The statement on page 1-3 should be changed to be consistent with that on page 3-9. Both statements should reflect the fact that this proposal must be approved by the Board of Supervisors.

GENERAL COMMENTS ON SECTION 3: GROUNDWATER MONITORING AND MANAGEMENT PLAN

Consultants to the project proponents maintain that the natural recharge is larger than estimated by the U. S. Geological Survey and by County consultants, by at least a factor of ten. Rather than resolve this controversy, the Supplement describes an environmental monitoring program that will be used to adaptively adjust the project operation to prevent unacceptable environmental impacts. The monitoring program has been developed with the objective of identifying incipient adverse impacts so as to allow modifications to project operations before the impacts become unacceptable. The degree to which critical environmental elements can be protected by this approach depends on how the project operators will respond to ambiguous monitoring results.

The monitoring program involves the development and use of a set of water-resource models. Those models will be critical tools for the interpretation of the monitoring data. Accordingly, all of the members of the TRT should have equal and immediate access to the models. While MWD will be responsible for the development of the models, each member at any time should be provided the models, including model source codes, input files, and output files. Furthermore, all of the members of the BMG should similarly have equal and immediate access to monitoring data.

For the monitoring program to be successful, the TRT must work collaboratively. This will require that the TRT meet frequently during the pre-operation phase of the project. During these meetings, the TRT members can share their technical insights with the consultants developing the water-resource models. R12-8

SPECIFIC COMMENTS ON SECTION 3: GROUNDWATER MONITORING AND MANAGEMENT PLAN

Section 3.1: As the County has previously stated to both MWD and BLM, and contrary to the last sentence on page 3-1 of the Supplement, BLM would not "retain ultimate control over compliance with the Management Plan," since the County and other parties would be able to enforce compliance with the Management Plan under CEQA and NEPA. In addition, under the proposed BMG Operating Agreement and the proposed MOU, the County would have additional contractual assurances to enforce compliance with the Management Plan. As a result, the last sentence on page 3-1 should be revised to be consistent with the other statements in the Supplement explaining BLM's ultimate control over the enforcement of the "terms and conditions of any right-of-way grant(s) it issues." (See pp. 1-3; 3-72.) R12-9

Section 3.1.3: Section 3.1.3 of the document references the 1993 approval of the expansion of Cadiz's agricultural operations up to 9,600 acres and indicates, pending a written agreement with the County, that both the proposed project and the Cadiz agricultural project will comply with the requirements of the Management Plan. Section 3.8.1 indicates that there may be basin overdraft at the termination of the project due to the combination of the two projects. It is unclear whether or not basin overdraft will still occur if agricultural expansion is limited or fails to occur. R12-10

Section 3.3: The monitoring program includes the installation and operation of precipitation and streamflow gages in Cadiz and Fenner Valleys in order to improve the estimate of natural groundwater recharge. The data derived from these stations should be analyzed as part of the precipitation and streamflow data for the entire Mojave Desert region. As described in the Supplement, groundwater recharge is the result mostly of precipitation and corresponding water yield within high mountain areas. Such data is lacking in the Cadiz and Fenner valley areas, but the regional data can be extrapolated to these areas. Accordingly, the Mojave Desert regional precipitation and streamflow data should be used in the development and parameterization of water-resources models described in the Supplement. R12-11

The monitoring program indicates that the saturated-flow groundwater model will be used to simulate the project operation with different natural recharge values. Separate simulations will be made with the model using different assumptions about the actual natural groundwater recharge. Each simulation result will produce a separate realization of the possible project impacts, and the collective simulations should be designed to produce the range of possible impacts. However, for this approach to be valid, each simulation must be based on a groundwater model that is calibrated for that R12-12

simulation using the particular assumed natural groundwater recharge. In particular, the transmissivity values used in the model must correspond to the natural recharge value used in the model.

Section 3.7: The document is inconsistent regarding when unscheduled meetings of the TRT will take place. If an Action Criteria is exceeded, then the TRT should convene at the earliest practical time to evaluate the data and make recommendations to the BMG. In some instances, Section 3.7.2.6 for example, the document states that when the Action Criteria is exceeded, the decision-making process would not start until "the next scheduled TRT meeting or as otherwise determined by a consensus of the TRT." For other Action Criteria, the document does not specify when the data would be evaluated by the TRT.

Section 3.7.2.1: The original, albeit informal, consensus of the technical team preparing the Management Plan was to limit degradation of groundwater quality to a TDS concentration of 500 mg/l upon termination of the project. The current water quality of the native groundwater in the immediate vicinity of the project wellfield is approximately 300 mg/l. The anticipated average water quality of the Colorado River water is 600 mg/l. (See p. 6-3.) Since it is expected that most of the stored Colorado River water will be recovered, the goal of 500 mg/l should easily be met, and should be a goal set forth in the Supplement.

Section 3.7.2.1 indicates that water quality will meet the Colorado Regional Water Quality Control Board's basin objectives. However, those objectives essentially could allow degradation of water quality to a TDS concentration of 2000 mg/l or more and still meet the Board's "beneficial use" definition. This potential impact should be fully disclosed.

Section 3.7.2.1 further indicates that "State Board policy states that when existing water quality is better than the quality established in policies, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with the maximum benefit to the people of the State." It is unclear exactly when and how this will be "demonstrated to the State."

Finally, as the County emphasized in its discussions with MWD, the County reserves its rights to fully participate in any state or federal proceeding to set water quality standards for the aquifers potentially affected by the project, including any update or amendment to the Basin Plan governing the affected aquifers.

Section 3.8.1: The Closure Plan (Section 3.8.1) as well as the entire Management Plan, is subject to future revision. The Closure Plan includes parameters that have been negotiated with the County. Specifically, the Closure Plan would be prepared when static groundwater levels have declined by 10 feet but no later than 25 years into the project. Additionally, static groundwater levels could not decline more than 100 feet upon termination of the project and post-operational monitoring would continue for a minimum of 10 years after project termination. The County understands, based upon its

extensive discussions with MWD and BLM, that these parameters (10 feet, 25 years, 100 feet and 10 years) will not be subject to revision unless agreed to by unanimous consent of the TRT and BMG. R12-18

Section 3.9.1: Section 3.9.1 indicates that "the Interior Department's role on the TRT has not yet been determined, but would likely not be more than an observer." The document cites possible "conflict of interest" as the reason for this limited role since the BLM will retain ultimate control over the enforcement of the terms and conditions of any right-of-way grant(s) it issues. However, the US Geological Survey and the National Park Service may not have such a conflict, and should be considered for membership on the TRT. R12-19

If the Interior Department withdraws as a potential member of the TRT without provision for additional representatives, the TRT would be comprised of representatives from only three entities: the Metropolitan Water District of Southern California; Cadiz, Inc.; and the County of San Bernardino. Consideration should be given to balancing the TRT between those with proprietary and nonproprietary interests. R12-20

Section 3.9.2: The document is not clear regarding the timing of unscheduled TRT meetings. If Action Criteria is exceeded, the TRT should convene at the earliest practical time to evaluate the data, attempt to reach consensus and make recommendations to the BMG. R12-21

All members of the TRT should be provided immediate access to the set of water-resource models utilized for the interpretation of monitoring data. Similarly, each member of the TRT should be provided equal and immediate access to monitoring data. R12-22

Sections 3.9: The original intent in developing the document was to have very distinct responsibilities for the TRT and the BMG. The TRT was to review monitoring data and make specific recommendations to the BMG. The BMG was to consider the recommendations of the TRT and make decisions regarding project operations. Section 3.0 of the Supplement remains unclear and tends to blur these responsibilities. The phrase "if recommended by the TRT and BMG"is repeated throughout the Supplement. Technical recommendations should only come from the TRT as there will be no technical expertise on the BMG. Throughout Section 3.0 this phrase should be modified to "if recommended by the TRT." R12-23

Additionally, Section 3.6.4.2 states that "the BMG would recommend revisions to the Action Criteria" and Section 3.10.2 states that one of the responsibilities of the BMG would be to "review and revise the Closure Plan." Revisions to the Closure Plan, Action Criteria and the overall Management Plan should only be made in accordance with TRT recommendations. The BMG should either accept or reject recommendations for technical revisions, but should not make its own. R12-24

Section 3.10: Section 3.10 states that the BLM would retain ultimate control over the enforcement of the terms and conditions of any right-of-way grant(s) it issues. Under R12-25

the proposed BMG Operating Agreement and the proposed MOU, the County should be provided assurances that it will have contractual rights to enforce compliance with the Management Plan. In addition, recognition that the County and other parties are to enforce compliance with the Management Plan under CEQA and NEPA should be acknowledge in the Supplemental.

Section 3.10.1: Section 3.10.1 indicates, "The Interior Department's role on the BMG has not yet been determined, but would likely not be more than an observer." If the Interior Department withdraws as a potential member of the BMG, the BMG would be comprised of representatives from only three entities: the Metropolitan Water District of Southern California, Cadiz, Inc., and the County of San Bernardino. Consideration should be given to balancing the BMG among those with proprietary and nonproprietary interests.

Section 3.10.2: The document is not clear regarding the timing of the BMG meetings. If Action Criteria is exceeded, the TRT should convene at the earliest practical time to evaluate the data, attempt to reach consensus and make recommendations to the BMG. Following receipt of the TRT recommendations or individual TRT member recommendations (if consensus is not reached), the BMG should convene at the earliest practical time to consider and act on the recommendation(s).

All members of the BMG should be provided immediate access to the set of water-resource models utilized for the interpretation of monitoring data. Each member of the BMG should be provided equal and immediate access to monitoring data.

Section 3.10.3: The document does not specify when decisions should be made by the BMG. As a delay in the decision making process can impact the ability to appropriately respond when Action Criteria is exceeded, the BMG agreement should mandate timely decisions.

Although the BLM will retain ultimate control over the enforcement of the terms and conditions of any right-of-way grant(s) it issues, the MOU and the BMG Operating Agreement should provide the County with contractual assurances that the County can enforce compliance with Management Plan in a court of competent jurisdiction.

SPECIFIC COMMENTS ON SECTION 7.0:
CUMULATIVE IMPACTS TO WATER RESOURCES

Section 7.1.4: This section recounts the 1993 approval of the expansion of the Cadiz agricultural operations. A statement is made at the end of the discussion in this section that expansion could occur without any further discretionary approvals subject to the provisions of the Groundwater Management Plan required as mitigation in the 1993 EIR prepared for the expansion. The information is incomplete with regards to the implications of the corrective actions that were included in Mitigation Measure WR6. Provision (h) of WR-6 includes several corrective actions to prevent "significant groundwater decline". One of the possible corrective actions is the reduction of land

area designated for agricultural uses. Such an action, should it be invoked, would require approval by the Board of Supervisors. This corrective action is not included in the Management Plan proposed by MWD and Cadiz. This change in mitigation, to be replaced by the comprehensive Management Plan for the Cadiz project, should be disclosed in the Supplement. R12-31

Conclusion: The County appreciates this opportunity to comment on the Supplement, and looks forward to reviewing complete and adequate responses to all of the County's comments in the Final EIR/EIS. R12-32

Sincerely,

JOHN D. GOSS, Assistant County Administrator
Economic Development and Public Services Group

JDG:ldu

cc: Jon D. Mikels, Chairman, Board of Supervisors
Bill Postmus, First District Supervisor, Board of Supervisors
Dennis Hansberger, Third District Supervisor, Board of Supervisors
Fred Aguiar, Fourth District Supervisor, Board of Supervisors
Jerry Eaves, Fifth District Supervisor, Board of Supervisors
William Randolph, County Administrative Officer
Alan K. Marks, County Counsel
Michael E. Hays, Director, Land Use Services
Ken Miller, Director, Department of Public Works
Emil Marzullo, Director, Special Districts Department

VICTOR VALLEY WATER DISTRICT

December 19, 2000

R13

Mr. Jack Safely
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054

Re: Comment Letter to Supplemental EIR/EIS Cadiz Groundwater Storage and Dry-Year Supply Program

Dear Mr. Safely:

In Southern California the regional issues of imported water supply affect us all. That is why we support the CADIZ Groundwater Storage Program. Pre-storage of Colorado River water will reduce supply demands from the California Aqueduct which is the imported water source for the High Desert. R13

Our staff and some Directors have visited the CADIZ property to examine the pilot project. We have spoken with CADIZ's technical staff as we are undertaking a pilot groundwater recharge project in our own area. We find the work performed to be thorough and extensive and it seems significant efforts have been made to do the project in the right manner. R13

This is an important project to Southern California and we hope you will also look upon it favorably. R1

Sincerely,

Lawrence E. Huber
President – Board of Directors

LH:lcs

CLAYPOOL & CO.
725 Broadway · Needles, California 92363 · Phone (760) 326-2131 · Fax (760) 326-2084

B7

November 29, 2000

Jack Safely
Metropolitan Water District
P.O. box 54153
Los Angeles, CA 90054

Jim Williams
Bureau of Land Management
6221 Box Springs Road
Riverside, CA 92507

Dear Sirs:

I am writing in support of the Supplement to the Cadiz Groundwater Storage and Dry-Year Supply Program EIR/EIS, but more importantly, to comment on the Groundwater Monitoring and Management Plan.

I am an amateur water expert for the southwest corner of California, and the Colorado River basin. I have served over 25 years as a member of the City of Needles Utility Board. I have lived in the area for over 70 years.

I am aware that the reason for the proposed project is to help California to lower their yearly use of the Colorado River to the 4.2 million acre-feet allowed in the California/Arizona Supreme Court case of 1983. B7-1

The project enables MWD to take surplus water from the Colorado River, when available, and to take this water via the Colorado River Aqueduct to Cadiz Dry Lake and to store water in their underground until needed. When needed by MWD, Cadiz will pump the stored water out and place back into the aqueduct for use in Southern California.

The second part of the Plan is to supply MWD with additional ground water via the same aqueduct.

I can see no problem with the storage of surplus MWD water in the underground. This proven system is being used often today, including Arizona storing water for Nevada in their underground.

Of more controversy is the sale of native water to MWD. I see nothing wrong with this because:

1. I have reviewed the Supplement document, focusing specifically on the Monitoring and Management Plan. I feel they have identified all the critical resources and have set more than sufficient "trigger levels" to prevent any adverse environmental impacts.

2. Cadiz Dry Lake is at the end of the line of a huge drainage area and all other landowners have the ability to take their water from this drainage area before it arrives in Cadiz, which is the end of the line.

3. Immediately adjacent to Cadiz Dry Lake is the Amboy (Bristol) Dry Lake, which is extremely salty and unusable for any other purpose than salt mining. The Cadiz Land Company is farming over 1600 acres of fruit and vegetables, and this huge investment will force them to not overpump the water from beneath Cadiz Dry Lake. It is still unknown the actual inflow into the Cadiz Dry Lake, but the danger of inflow of salty water will keep them from over pumping.

Both Cadiz Land Company and the MWD are first class operations and responsible water managers.

It is important that California lower its use of Colorado Rive water to their legal maximum of 4.2 million-acre feet per year. The proposed Plan truly is a responsiole and sensible project.

Very truly yours,

William M Claypool III

William M. Claypool III

The Gas Company®

October 26, 2000 Gas Co. Ref. No. 00-638 OG

Metropolitan Water District of Southern California
Box 54153
Los Angeles, CA 90054-0153

B8

Southern California
Gas Company
1981 Lugonia Avenue
Redlands, CA
Mailing Address:
Box 3003
Redlands, CA
92373-0306

Attention: Grace L. Chan

Re: Draft EIR – Cadiz Groundwater Storage and Dry-Year Supply Program.

Thank you for the opportunity to respond to the above-referenced project. Please note that Southern California Gas Company has facilities in the area where the above named project is proposed. Gas service to the project could be provided without any significant impact on the environment. The service would be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made.

You should be aware that this letter is not to be interpreted as a contractual commitment to serve the proposed project, but only as an informational service. The availability of natural gas service, as set forth in this letter, is based upon present conditions of gas supply and regulatory policies. As a public utility, The Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. We can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affects gas supply, or the conditions under which service is available, gas service will be provided in accordance with revised conditions.

B8-1

Typical demand use for:

a. Residential (System Area Average/Use Per Meter) Yearly

Single Family	799 therms/year dwelling unit
Multi-Family 4 or less units	482 therms/year dwelling unit
Multi-Family 5 or more units	483 therms/year dwelling unit

These averages are based on total gas consumption in residential units served by Southern California Gas Company, and it should not be implied that any particular home, apartment or tract of homes will use these amounts of energy.

b. Commercial

Due to the fact that construction varies so widely (a glass building vs. a heavily insulated building) and there is such a wide variation in types of materials and equipment used, a typical demand figure is not available for this type of construction. Calculations would need to be made after the building has been designed.

B8-1

We have Demand Side Management programs available to commercial/industrial customers to provide assistance in selecting the most effective applications of energy conservation techniques for a particular project. If you desire further information on any of our energy conservation programs, please contact our Commercial/Industrial Support Center at 1-800-GAS-2000.

Sincerely,

John DeWitt
Technical Supervisor

520 MISSION ST.
SOUTH PASADENA
CALIFORNIA 91030

GSi /water

(323) 255-4511
(626) 441-0039

January 3, 2001

RECEIVED
01 JAN -4 PM 1:30
BUREAU OF LAND MANAGEMENT
LAKE HAVASU FIELD AREA

Mr. Ken Downing
Bureau of Land Management
101 W. Spikes Road
Needles, CA 92363

B9

Dear Mr. Downing:

On behalf of our Client, TETRA Technologies, Inc., our company Geothermal Surveys, Inc. (dba GSi/water) is pleased to comment regarding the CADIZ GROUNDWATER STORAGE and DRY-YEAR SUPPLY PROGRAM in re REPORT NO. 1169.

OUR COMMENTS

Our comments relate only to our Client's concerns regarding the Bristol and Cadiz Dry Lakes (Playas). There are no implications as to our being either in favor of or against the Cadiz Project.

We are pleased that the Cadiz Project recognizes the need for monitoring the ground water conditions before, during, and after the Project in order to identify processes that impact or may potentially impact present operations and planned changes in future operations on the Playas. The Cadiz Project specifies certain numbers, types, and locations of monitoring wells in order to accomplish that purpose. The Cadiz Project also proposes corrective actions if indicated by the monitoring. B9-1

That being said, we prefer not to comment at this time on the Cadiz Project's monitoring plans vis-a-vis the Bristol and Cadiz Playas as stated in the Draft EIR/EIS and Supplement. However, at a later time we will further review the proposed monitoring, and we will make recommendations that we consider appropriate. B9-2

The Question of Recharge to the Bristol Playas

There are critical processes that we must comment on that relate to the Cadiz Project and the question of its potential for impact on the Playas. These processes stem from whether or not B9-3

there is recharge to the Playas by ground water moving from the Cadiz Project area; and if there is recharge, how much.

From our own work, we concur with the Cadiz Project that a continuous, irregular potentiometric gradient occurs, sloping downward from the Cadiz Project area to the Playas. If this is true, there is recharge from the Project area to the Playas. If this is not true, there is no recharge from the Project area to the Playas.

In closed, arid-region basins a playa represents, by evaporation, the exit for at least some of the ground water — leaving salts and concentrated fluids behind as evaporation takes place. This is a simplistic statement about a very complex series of phenomena that provide a delicate balance between the fluid levels in the playa and the surrounding hydrological processes.

It is this delicate balance that we are concerned about, and about which our Client would want to be sure that the operations on the Playas are not negatively impacted if the balance is modified. Each of the two alternatives — recharge or no recharge — carries with it a different set of processes that help determine the occurrence, the nature, and the movement of the fluid within the Playas.

At this time, we think that there will be little or no impact on the fluid levels in the Playas by the Cadiz Project. However, we will continue to examine the Project's design of the monitoring systems, and we will make our own recommendations should we think it necessary based on our experience especially with the Bristol Playa and its surroundings.

Air Quality

Given the nature and settings of the Bristol and Cadiz Playas and the occurrence of the fluids within them, it is difficult to see how the Cadiz Project could cause an increase in whatever dust conditions may already be ongoing. We note, however, that the Cadiz Project will be monitoring for dust mobilization should that occur if water levels decline because of the Cadiz Project.

Requests for Continuing Information

TETRA Technologies, Inc. would like to be kept on the distribution list of whatever new studies are being done by any parties regarding the Cadiz Project and its potential short-term and long-term effects on the surroundings especially as related to the hydrology of the two Playas.

TETRA Technologies, Inc. would also like to know if on-file reports of such studies, including the Public Comments, are available to be read, but which may not be available for outside distribution. B9-b

GSi/water

J. H. Birman, Ph.D.
RG #994, HG #125
President

cc: Mr. Kim Harden, TETRA Technologies, Inc.

ADDENDUM

The following is presented in order to explain our experience in the Bristol Basin and our relationship to TETRA Technologies, Inc.

WHO WE ARE

Geothermal Surveys, Inc. (dba GSi/water) is a geological/geophysical company specializing for forty years in the exploration and development of ground water resources in the arid regions of southern California, Nevada, and elsewhere. The company name refers to the use of earth temperatures as one of our techniques in tracing the movement of ground water.

BACKGROUND

Our company began working in the Bristol Basin in 1962 for the Southern California Edison Company. The work has been as follows:

(1) For Southern California Edison Company in 1962,63

For Southern California Edison Company, the objective was to investigate whether there was a large amount of ground water flow out of Fenner Valley and entering the eastern part of the Bristol Basin via Fenner Gap. We interpreted that a large amount of water was indicated. After some test hole drilling, the Edison Company did not continue the project for which the investigation had been done.

(1a) For Olenellus, Inc. and AridTech, the predecessors of Cadiz Land Company, Inc

After a hiatus of approximately 20 years, a new entity was formed in order to re-investigate the ground water potential of the area. The owner of Geothermal Surveys, Inc. was one of the founders of and a participant in the new entity . The original investigations were repeated and expanded. Our company remained with the Project through the drilling of the first few wells, when it became evident that a large amount of ground water did indeed underlie the eastern Bristol Basin, and that significant recharge appeared to be entering through Fenner Gap.

(2) For Leslie Salt Company, Cargill Corporation, and currently TETRA Technologies, Inc.

Our company was retained by the Leslie Salt Company to help them locate, design, and construct brine wells and to make other investigations on and near the Bristol Dry Lake (Bristol Playa). Our company's work on Bristol Dry Lake began in the early 1960s and has continued on an as-needed basis to the present time.

During Cargill Corporations's ownership, one of our tasks was to assess potential effects of Waste Management's RailCycle's proposed mega-landfill operations on the hydrology of the Dry Lake.

Our work on the Bristol Playa continues for TETRA Technologies, Inc. Some of our work is to investigate the fresh, brackish, and brine processes that go on around, upon, and beneath the surface of the Playa.

B9-7

OUR RELATIONSHIP TO CADIZ LAND COMPANY, INC. AND OTHERS

Our company has done no work for the predecessors of Cadiz Land Company, Inc. or for Cadiz Land Company, Inc. since 1984.

The president of GSi/water, as one of the original founders of the organization that became Cadiz Land Company, held financial participation in the original company, subsequently transferred to shares in Cadiz Land Company, Inc. He has divested his ownership of all but a tiny fraction of his original holdings.

Our company has no contractual relationship with any person or organization anywhere in or doing work in the Bristol Basin other than with our present client TETRA Technologies, Inc.

Our position with respect to the Cadiz Land Project is: Neutral.

J. H. Birman

PALECEK & SKAJA
ATTORNEYS
GRAND PROFESSIONAL BUILDING
220 W. GRAND AVENUE
ESCONDIDO, CALIFORNIA 92025

JAMES F. PALECEK
CARL J. SKAJA

(760)
FAX (760)

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -8 PM 3:14
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

January 2, 2001

Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attn: Mr. Jack Safely and Mr. Dirk Reed

B 10

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attn: Mr. James Williams

Re: Supplemental EIR/EIS
Cadiz Groundwater Storage and Dry-Year Supply Program, San Bernardino County, California

I. Introduction

Mr. Gus Lizalde ("Mr. Lizalde") has owned Chambless Station, a historical gas and service station, market and diner, since 1990 and has spent substantial time and resources in preparing [executing] a plan to restore the historic landmark. He possesses water rights to the subterraneous aquifer from which his two wells supply water to Chambless Station and the adjacent mobile home estate park, eight cabins, and five homes. The aquifer that Mr. Lizalde draws water from and has rights to is the same aquifer in which MWD proposes to store water and from which it will later extract water.

Cadiz, Inc. ("Cadiz") has entered into an agreement with Metropolitan Water District ("MWD") as part of the Colorado River 4.4 Plan. As a supplemental water source, MWD would store Colorado River water in the basin underneath Cadiz' land, then extract it, along with indigenous groundwater, in dry years. MWD purports to compensate Cadiz for the use of the aquifer and for the later extraction of water. However, MWD does not propose to compensate any of the other owners of the aquifer, including Mr. Lizalde, for storage and extraction. There is also expert testimony and grave concern that the plan will create dust pollution and exhaust the natural supplies of underground water as well as infect the natural water with inferior quality water from the Colorado River. MWD proposes a monitoring team composed largely of those who have the most to gain from seeing that the plan is implemented without interruption.

B10-

II. The Mitigation and Monitoring Plan is woefully inadequate.

The Mitigation and Monitoring plan would monitor water levels and impose safe yield requirements. Two groups would be charged with enforcement responsibilities: the Technical Review Team (TRT) and the Bureau Management Group (BMG). The TRT would help develop "Action Criteria," used to trigger mitigation measures. Once Action Criteria levels are prompted, the TRT would be the first line of defense for those who complain that their water levels have dropped or that the water quality has been compromised. The TRT would decide the cause of the complaint, perhaps concluding that the Project was not at fault for a change in water quantity or quality. The BMG would act as an appellate board, and assist should the TRT fail to reach a consensus or make a controversial evaluation.

The problem with these review boards is that, as currently proposed, Metropolitan and Cadiz would be included among their limited memberships. Inclusion of Metropolitan and Cadiz on the TRT and/or BMG groups poses a blatant conflict of interest. A decision to curtail water storage or pumping would be precisely contrary to Metropolitan's and Cadiz's pecuniary interests and therefore their membership on either of these boards is entirely unacceptable. That Metropolitan or Cadiz would ever decide to mitigate or halt the pumping project because of adverse impacts to neighboring landowners, after having spent millions of dollars to develop the infrastructure necessary to facilitate the project, is unfathomable.

Should Metropolitan and Cadiz be allowed to sit on either or both the TRT and/or BMG boards, Chambless Station would almost assuredly be ruined. Without its already limited water source, the service station and surrounding real property would be uninhabitable. The property would be rendered economically useless. The boards must include representatives from all parties affected, and from all parties who own water rights to the aquifer.

B10-2

The TRT and BMG have been charged with managing the Project and preserving the region's Critical Resources. The landowners possess rights to many of the region's critical resources, and stand to be directly and economically affected by decisions that the TRT and BMG make. Hence, the TRT and BMG owe a fiduciary duty to the adjacent landowners. They must act as a prudent person would with respect to his or her own business affairs. All interested parties are entitled to full disclosure with regards to decisions made by the TRT and BMG. Metropolitan and Cadiz have a vested fiscal interest in the Project. They will find it very difficult to act in the landowners' best interest when it conflicts with their pecuniary interest. In order to avoid a conflict of interest, the TRT and BMG have two acceptable alternatives: either Cadiz and Metropolitan should be precluded from voting, or the concerned landowners should be allowed to veto on any decision adversely affecting their water rights. Thus, Mr. Lizalde and other affected landowners should be included on the TRT and/or the BMG.

III. Mr. Lizalde has preexisting rights to the aquifers from which Cadiz intends to extract, appropriate, and use groundwater.

Cadiz and MWD should be prevented from continuing with their plan to provide as much as 2 million acre-feet of water to MWD over the next fifty years.

a. Cadiz should be precluded from exceeding surplus water usage in the Cadiz Valley Aquifer.

Groundwater rights are analogous to riparian rights, which are the right to take water from the ground underneath the land for use on that land. The right is appurtenant to the land itself. Between overlying owners, the rights are correlative, or mutual and reciprocal. Each overlying owner has a common right to take all that can be beneficially used on the land if the water source is sufficient. If the quantity is insufficient, each owner is limited to his proportionate fair share of the total amount available based upon his reasonable need. (See Tehachapi-Cummings County Water District v. Armstrong (1975) 49 Cal.App.3d 992, 1001.)

BIO-

The plan proposes to pay Cadiz for storage and extraction of water in the aquifer. Unless it can be shown that Mr. Lizalde's water rights to the aquifer will not be affected, Mr. Lizalde is entitled to compensation in the same was Cadiz is being compensated. The assumption that Cadiz alone has the right to control the aquifer is false. Each landowner has an equal right to be heard and be fairly compensated. The plan is defective and subject to judicial review because it does not take into account these correlative water rights.

b. Cadiz's anticipated agricultural use should be curtailed.

BIO-

The Project proposal aside, Mr. Lizalde's pecuniary interests are further endangered by the amount of water Cadiz may use in its agricultural endeavors over the next fifty to one hundred years.

According to a report prepared by Mr. Timothy Durbin of the U.S. Geological Society, Cadiz and MWD have not considered the cumulative impacts of projected groundwater development in estimating the safe yield requirement. Groundwater currently is pumped for agricultural irrigation within Cadiz Valley. In recent years, the annual pumpage has been about 5,000 acre-feet (GeoScience, 1999). However, the annual pumpage may be expanded to 30,000 acre-feet (URS Consultants, 1993a and 1993b), if additional lands are irrigated. This is pumping in addition to that associated with the Cadiz Valley Groundwater Storage Project. The Project may extract and export as much as 2 million acre-feet of groundwater over a 50-year period. If the agricultural operation were to expand concurrently to the maximum acreage, the agricultural pumping would extract and consume as much as an additional 1.5 million acre-feet of groundwater over a 50-year period. These combined operations would dramatically diminish the basin's groundwater supply, limiting and perhaps excluding Mr. Lizalde and other landowners from making beneficial use of their correlative water rights. This completely ignores the well-settled doctrines of groundwater rights and is legally wrong.

IV. The Project will result in an unconstitutional taking of Mr. Lizalde's water rights.

Should the project proceed in the direction it is headed, such action would adversely affect Chambless' water source, and constitute an illegal taking. Chambless and the surrounding property owners must be compensated. Without provision for fair and reasonable compensation in the plan it is defective and subject to judicial scrutiny.

Article I, section 19 of the California Constitution provides: "Private property may be taken or damaged for public use only when just compensation, ascertained by a jury unless waived, has first been paid to, or into court for, the owner." Under this provision, if private property is wrongfully damaged or destroyed by government action, then an inverse condemnation action may lie to establish the owner's damages. (Holtz v. Superior Court, 3 Cal.3d 296, 301-3 (1970).) The inverse condemnation action is based upon the constitutional provision and is independent of any right to sue under traditional tort theories. (Albers v. County of Los Angeles, 62 Cal.2d 250, 260 (1965).)

B10-5

The inadequacies of the TRT and BMG boards, as currently composed, hasten the demise of Chambless' water supply. Chambless is only three to four miles from the Project site and the Cadiz wells are 1,000 feet deep. The Cadiz wells will immediately affect the Chambless area wells. Robbing Chambless of its water is tantamount to robbing it of any economically beneficial use and would be a constructive taking, as it would completely destroy the property's value as a historic service station and mobile home estate park.

In the United States v. Kansas City Ins. Co. (1949) 339 U.S. 799, the United States Supreme Court held that a "taking" within the contemplation of the federal Constitution occurred under circumstances similar to those here presented. There, the Corps of Engineers maintained the Mississippi River at a high flood level. (Id., at 800.) The groundwater table level was raised because of the increased pressure and water percolated from the river to respondent's land preventing the land from draining, which resulted in destruction of its value as farmland. (Id., at 802.) The Supreme Court held that a compensable taking had occurred. (Id., at 809.)

The quality of water in Chambless' wells is also threatened. In F & L Farm Co. v. City of Lindsay, F016555, three farm owners recovered judgments against the city of Lindsay on an inverse condemnation theory for their losses caused by the city's pollution of the groundwater. The farm company's injury consisted primarily of lost profits from crops and permanent reduction of the value of the land comprising the farms. Should Chambless' water quality be compromised, it will incur the same type of economic injury as the Plaintiffs in this matter. Cadiz and Metropolitan should be enjoined from this Project that threatens the continued operation of Chambless.

B10-6

The implementation of the plan as it now stands without compensation directed to all landowners whose water rights are affected will occasion litigation to insure court supervision of the plan.

B10-6

V. Chambless Station is protected under Public Law No: 106-45.

The highway formerly known as Route 66, extending from Chicago to Los Angeles, is a nationally significant part of American history, foremost among the early highways that helped change and shape America as it entered the twentieth century. Beginning with the Dust Bowl migration to California, Route 66 enabled American businesses to move commerce, individuals to seek better lives, and the government to move troops and war supplies. It also opened up the Southwestern landscape to tourism and post-war migration of families to the booming job market of California. Through books, television, songs, and movies, Route 66 has become an enduring part of American culture.

Unfortunately, as Americans became more mobile, this two-lane roadway could not handle the increasing volume of truck and vehicle traffic. Route 66 became so fragmented and confusing that in 1979 it lost its official U.S. Highway 'Route 66' designation. The remaining portions of the former Route 66 have been incorporated into state and local highway systems.

B10-7

In August of 1999, Congress passed and the President signed a public law that would preserve the cultural resources of the Route 66 corridor and authorize the Secretary of the Interior to provide assistance. As a historic landmark along Route 66, Chambless Station is protected under this law.

The law requires that the Secretary of the Interior " . . . guide efforts to protect the most important or representative resources of the corridor." Mr. Lizalde fully intends to avail himself of the protection the Department of the Interior is required to provide, in seeing that Chambless Station is preserved as an important Route 66 historic structure. The Project threatens Chambless Station's critical resources, and thus violates Public Law 106-45.

VI. Chambless Station is protected by § 106 of the National Historic Preservation Act of 1966.

B10-8

The National Historic Preservation Act of 1966 establishes programs for the preservation of historic properties throughout the nation and establishes a system to classify properties on or eligible for inclusion on the National Register of Historic Places. This act establishes that prior to approval of an undertaking that will adversely affect resources eligible for or listed in the National Register, the approving federal agency must evaluate the effects of the undertaking and afford the State Historic Preservation Officers and the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. The act also provides for reviews at the state and federal level. National Historic Preservation Act of 1966 (as amended) (PL 89-665; 16 U.S.C. 470a, et seq.) (PL 89-665; 80 Stat. 915, amended 1980, 1992) (PL 96-515; 94 Stat. 2997). The act furthermore created the President's Advisory Council on Historic Preservation (Advisory Council). Federal agencies are required to consider the effects of their

undertakings on historic resources and to give the Advisory Council a reasonable opportunity to comment on those undertakings.

The State Historic Preservation Officers and the National Park Service are currently considering Chambless Station for National Registry status. It was built more than seventy-five years ago, and played a significant role in American history. Chambless Station acted as a rest stop to weary travelers in the early days of Route 66 travel. This site embodies the distinctive characteristics of the Southwestern expansion during the first half of this century, and possesses integrity of location, setting, feeling, and association, with that era. B10-8

Upon receiving National Registry status, Chambless Station will enjoy further protection from Section 106 of the National Historic Preservation Act of 1966, and Metropolitan must show that there is no effective Project alternative that would prevent an adverse impact to Chambless' water source.

VIII. Mr. Lizalde and other landowners in the Cadiz Valley have been deprived of due process and equal protection of law.

Original language in the Water Bond Bill AB 1584, Section 79181(b)(2) required that groundwater projects "limit the extraction of the groundwater to not more than the water that is stored or recharged by the project participants." This language is generally essential to protect basins that have many users. However, the final draft had language that would protect Cadiz's interests over those of adjacent landowners.

The final draft, Section 79181 requires only that groundwater projects comply "with all laws and contract terms governing the extraction, appropriation and use of groundwater by the project participants." This language, allegedly negotiated behind closed doors, would allow a water project to remove more water than it replaces, provided all project participants agree.

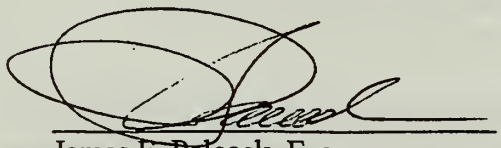
Procedural due process requires that interested parties receive notice and an opportunity to be heard when their financial interests are threatened. Here, the democratic process was, by some accounts, abandoned when Cadiz sympathizers changed draft language to advance the Project. This denied Lizalde and other landowners due process of law, as their interests were not fairly represented in the Water Bond draft negotiations. B10-9

The Fourteenth Amendment prohibits a state action from denying any person within the state's jurisdiction equal protection of laws. Cadiz, Inc. and Mr. Lizalde are similarly situated landowners, as both own land and correlative groundwater rights in the Cadiz Valley. By drafting the Water Bond language in a way that would create Cadiz's right to extract and appropriate water, limited only by the "project participants'" consent, over Mr. Lizalde and other landowners' rights to have their supply of water unaffected by the proposed extraction, legislators have chosen to discriminate against those landowners who have less land, but similar water rights in the aquifer. This is a denial of equal protection of the law and is therefore unconstitutional and void.

IX. Summation.

It is clear that the plan will be attacked in court if it is not changed to provide for an accommodation to Mr. Lizalde's water rights as well as the rights of all the other landowners who overlie the aquifer. It is also clear that the monitoring mechanism is flawed unless all the owners have the right to speak, and vote their interests with respect to the implementation of the plan. Because of the abundance of expert testimony that proves the entire region will be adversely impacted, it is clear that the entire plan is subject to review by the courts should the MWD see fit to attempt to push it through as is. B1

Respectfully submitted



James F. Palecek, Esq.
Attorney for Gustavo Lizalde

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January 4th 2000

B11

Jim Williams
Bureau of Land Management
6221 Box Springs Road
Riverside, California 92507

Dear Mr. Pace,

I am writing in support of the EIR/EIS Supplement for the Cadiz Groundwater Storage and Dry-Year Supply Program.

I feel that the document ensures the long-term protection of the aquifer system and the surrounding environmental resources. The Monitoring and Management Plan sufficiently monitors the critical resources and provides criteria for corrective measures as well as provides independent oversight throughout the project life. B11-1

Water conversation is an issue that should be important to all of us. This project is a positive step in helping California live within its means, and I feel we should be very supportive of projects of this kind.

Sincerely,

Larry W. DeAtley

Larry W. DeAtley
Business Owner
Needles, California

LWD:pd

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January 5, 2001

FILE NO. 027383-0000

B12

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, California 92507-0714
Attention: Mr. James Williams

Metropolitan Water District of Southern California
Water Resources Group
P.O. Box 54153
Los Angeles, California 90054-0153
Attention: Mr. Jack Safely and Ms. Kathleen Kunysz

Re: Comments on Supplement to Draft EIR/EIS for
Cadiz Groundwater Storage and Dry Year Supply Program

Dear Mr. Williams, Mr. Safely and Ms. Kunysz:

As you know, my client Cadiz, Inc., is the owner of the land where the majority of the facilities for the above referenced project would be located. Cadiz also conducts extensive farming operations on this property. Cadiz anticipates entering into an agreement with the Metropolitan Water District should Metropolitan decide to go forward with the above referenced project. Because of the importance of the groundwater resources to its activities on this land, Cadiz has invested substantial time and effort to acquire the best and most comprehensive scientific information available regarding the groundwater resources of the underlying aquifer system.

B1

Cadiz is in full agreement that the "Groundwater Monitoring and Management Plan" presented in the Supplement meets the overriding objective of protecting critical environmental resources and eliminates the need for Metropolitan and BLM to resolve conflicting expert viewpoints regarding the amount of natural recharge to the project area. Nonetheless, we feel certain additional technical information concerning the groundwater resources should be included in the public record for this project. We understand that not all parties may agree with the conclusions reached in this technical information. B12-1

We request that the attached technical information be included with the other comments you receive on the Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement. However, we do not believe that Metropolitan or BLM are required to respond to this technical information nor are we requesting a response to this comment letter .

Sincerely,

Christopher W. Garrett
of LATHAM & WATKINS

Enclosure

Refer to comment
B12-1

Introduction

The following provides additional technical data for the public record relating to the groundwater resources of the aquifer system underlying the site of the spreading basin and wellfield facilities of the proposed ***Cadiz Groundwater Storage and Dry-Year Supply Program*** (Project area).

More than 100 published and unpublished technical references relating to the groundwater hydrology of the Project area are cited in the two-volume groundwater resources technical report prepared for the Draft EIR/EIS (Metropolitan 1999). A summary of previous work in the vicinity of Project area, including previous estimates of groundwater recharge, is presented together with a listing of pertinent references in **Appendix A.**

Recent estimates of average annual recharge to the Project area continue to be subject to uncertainty. Due to this uncertainty, the ***Groundwater Monitoring and Management Plan*** (Management Plan) presented in the Supplement to the Draft EIR/EIS (Supplement) outlines specific provisions designed to ensure that Project operations would not result in any adverse impacts to critical resources in the vicinity of the Project area, regardless of the amount of natural groundwater recharge.

Geologic Setting of Fenner Gap

The geologic setting of the Project area is described in Section 5.4 of the Draft EIR/EIS and in Section 2.3 of the Supplement.

Fenner Gap, located between the Marble and Ship mountains, is the proposed site for the Project spreading basins and many of the Project wells. Fenner Gap is a structural half-graben, formed by a system of northeast trending, northwest dipping normal faults as shown in Figures 1 and 2. Subsurface interpretation of the gap has been assisted by analysis of drill cuttings and borehole geophysical logs, and by a seismic reflection survey conducted by NORCAL Geophysical Consultants, Inc. (1997) along a portion of section A-A' as shown in these figures.

[Figure 1: Generalized Geologic Map of Fenner Gap]

[Figure 2: Simplified Cross-Section of Fenner Gap]

Relationship of Precipitation to Elevation

Questions have been raised regarding the relationship of average annual precipitation to elevation within the watersheds tributary to the Project area. This relationship is important

since estimates of average annual precipitation (both rainfall and snowfall) are employed in a variety of models used for estimating groundwater recharge.

An analysis of regional long-term precipitation data applicable to the Project area has been undertaken by Lawrence Livermore National Laboratory (Davisson 2000). The results of this analysis are presented in **Appendix B.**

Mechanisms of Groundwater Recharge

The primary sources of replenishment to the groundwater system tributary to the Project area include direct infiltration of precipitation (both rainfall and snowfall) in fractured bedrock exposed in mountainous terrain and infiltration of ephemeral stream flow in sandy-bottomed washes, particularly in the higher elevations of the watershed.

Groundwater recharge occurs by several different mechanisms in several different geological environments. Additional technical data regarding certain of these mechanisms are summarized below:

- **Infiltration into Bedrock**

  Infiltration of runoff generated by rainfall and snow melt into the bedrock exposed in the mountainous portions of the regional watershed is believed to be a significant source of groundwater recharge (Freiwald 1984; Davisson 2000). A substantial portion of this infiltration may occur directly into the fractured granitic, metamorphic, carbonate, and volcanic bedrock that is exposed in the mountainous areas of the watersheds. This bedrock terrain is characterized by little, if any, soil development and sparse vegetation cover.

  Springs have been observed and sampled within several different bedrock units exposed within the watersheds tributary to the Project area. Bedrock hosts for these particular springs include granitic rock in the Granite and Old Women mountains, shallow intrusive rock in the Providence Mountains, and volcanic sediments in the Clipper Mountains. At each of these springs, groundwater recharge, storage, and discharge occur along joint, fracture, and fault zones in the host rock. These springs occur several hundred feet to several thousand feet above the alluvial aquifers of the valley floors, and are believed to be independent of water table conditions in the alluvial aquifers.

  A ranger at Mitchell Caverns State Park (personal communication 1999) has stated that it is not unusual for water to infiltrate into the caverns from the overlying fractured carbonate rock within days following a major rainstorm. Similar carbonate

units occur in other portions of the Providence, New York, Marble, and Ship mountains.

- **Infiltration into Sandy Washes**

Another source of groundwater recharge within the watersheds tributary to the Project area is infiltration of runoff into sandy-bottomed washes. Such runoff frequently occurs during major rainstorm events and as a result of melting of winter snowfall in the higher elevations of the watersheds.

Questions have been raised regarding the duration of such runoff events, with the suggestion that stream flow occurs only during short periods of time, lasting no more than a few hours to a few days. It has been suggested that such short periods of runoff limit the depth to which water can infiltrate, leaving it susceptible to evaporation from the ground surface and transpiration by plants.

However, inspection of long-term stream flow data measured at a USGS stream gaging station in Caruthers Canyon, located on the southern flank of the New York Mountains, indicates numerous periods of long-duration stream flow, including measurable flows lasting more than 100 days.[1]

- **Infiltration into Valley Floors**

Direct infiltration of precipitation within vegetated portions of alluvial terrain at the lower elevations of the valley floors is not believed to be a significant mechanism of groundwater recharge. Much of the precipitation within such terrain is evaporated directly from the soil surface or transpired by the desert vegetation, which is highly adapted to capture shallow soil moisture. Surface water that infiltrates into such soil is unlikely to penetrate to depths beyond which it is subject to evaporation. The accumulation of water-soluble salts in the upper portions of the alluvium in such terrain is evidence of this process.

However, major precipitation events of short duration and high intensity frequently result in runoff and sheet flooding, during which surface flow is directed onto nearby sandy-bottomed washes. Within these washes recharge may occur as a result of surface flow as described above.

---

1 This stream gage is located in the SE1/4 of Section 31, T14N-R16E; not in Section 6 of T13N-R16E as reported by the USGS.

Faults as Possible Barriers to Groundwater Flow:

Questions have been raised whether subsurface faults may locally act as barriers to groundwater flow in the Project area. Although no static groundwater level discontinuities (which could indicate such fault barriers) have been recognized in or adjacent to the Project area, such fault barriers, if present, could behave as leaky dams, "ponding" groundwater on the up-gradient side of the faults. It has been suggested that such a stair-step pattern at the water table could lead to misinterpretation of the hydraulic gradient and consequent overestimation of groundwater flow velocities.

No unusual boundary conditions have been recognized during more than 15 years of pumping within the Cadiz Inc. agricultural well field. Such boundary conditions would be expressed as distinctive "drawdown" and "recovery" patterns in wells located near a barrier.

In addition, Figure 3 shows the location of known subsurface faults in Fenner Gap, projected onto the surface of the water table, in relation to production well PW-1, the pilot spreading basin, and newly constructed observation wells. The locations of these faults, which cut the deeper alluvial sediments, are reasonably well known on the basis of seismic reflection data (NORCAL 1997) and intercepts of bedrock in observation wells (see Figures 1 & 2). Water level changes measured in the observation wells during the pumping of PW-1 and the formation of a groundwater mound beneath the pilot spreading basin extended across at least two of these faults. No boundary conditions (which would have been identified as a rapid rise or drop in measured groundwater levels) were detected during the pilot spreading basin test program (Metropolitan 1999).

[Figure 3: Subsurface Faults in Fenner Gap Projected onto Surface of the Water Table]

Age of Groundwater

Isotopic analyses by Lawrence Livermore National Laboratory for groundwater sampled from wells in the Fenner Gap portion of the Project area indicate ages in the range of approximately 1,000 to 3,000 years old. In addition, these data suggest that much of the groundwater recharge to the Project area occurred in the higher elevations of the watershed, with some mixing of groundwater recharged locally at lower elevations (Davisson 2000). This information and the results of additional isotopic sampling conducted in the watersheds tributary to the Project area are presented in **Appendix C.**

Estimates of Average Annual Groundwater Recharge to the Project Area

Over the past 25 years a variety of methods have been used to estimate groundwater recharge in the vicinity of the Project area. These methods range from simplistic estimates involving

recharge as a percentage of average annual precipitation, to complex relationships between daily precipitation, evapotranspiration, soil moisture, and surface water runoff. In general, these methods may be grouped into two categories: 1) Lumped Parameter Methods, and 2) Distributed Parameter Methods. Representative methods and results are described below:

- **Lumped Parameter Methods:**

  Lumped parameter methods include estimates resulting from calculations using large (or entire) areas of a watershed and applying precipitation and evaporation factors. Lumped parameter methods applied to the Fenner Valley watershed include:

  1. Empirical Calculations Assuming Recharge as a Percentage of Average Annual Precipitation: Following the recommendation of W.D. Nichols, formerly of the U.S. Geological Survey (personal communication with GEOSCIENCE 2000), an estimate of recharge in the Fenner Valley watershed was calculated assuming recharge as 3 percent to 5 percent (and as high as 8 percent) of average annual precipitation. Assuming a watershed area of 718,000 acres (Fenner Valley only) and an average annual precipitation of 7.5 inches (Plate 2, Isohyetal Map, Metropolitan 1999), average annual recharge in the Fenner watershed has been estimated to range from approximately 13,500 to 36,000 acre-feet/year, with an average of approximately 22,000 acre-feet/year.

  2. Crippen Method (Crippen 1965; Metropolitan Technical Review Panel 1999): This method is a simple empirical model originally developed for the southern California coastal ranges. It involves estimates of potential evapotranspiration and average annual precipitation as they relate to differences in elevation within a watershed. Estimates of average annual recharge to the Fenner Valley watershed using this method range from approximately 7,000 to 21,000 acre-feet/year.

  3. Bristol Dry Lake Salt Accumulation Estimates (Rosen 1989) (GEOSCIENCE 2000a) (**Appendix D**): This method is based on the assumption that the chloride concentration in groundwater recharge to Bristol Dry Lake is the only source of chloride contributing to the accumulation of salt (sodium chloride) in the lake sediments. The volume of accumulated sodium chloride was estimated by Rosen (1989) from the surface of the lake to the depth of a subsurface ash layer dated at 3.7 million-years. The rate of salt accumulation has been estimated assuming the chloride concentration in groundwater as measured at several different sites tributary to Bristol Dry Lake. Estimates of average annual recharge to Bristol Dry Lake using this method range from approximately 6,800 to 37,000 acre-feet/year during the 3.7 million-year time period.

4. Estimates Based on Evaporation From the Dry Lakes (Czarnecki 1997; GEOSCIENCE 2000b)(**Appendix E**): In a closed hydrologic system evaporation from dry lakes may generally be considered to approximate groundwater recharge if transpiration of groundwater and surface runoff are assumed to be relatively small. Dry lake evaporation rates published in Czarnecki (1997) for a desert playa in eastern California (Franklin Lake Playa) were applied to the areas of Bristol and Cadiz dry lakes where groundwater is less than 10 feet below the surface (Moyle & others 1984). Other provisions recommended by Czarnecki (personal communication with GEOSCIENCE 2000) are that bare soil evaporation is dominant, sediment is silt to clay sized, and that a salt crust is thin or absent. Resulting estimates of the combined evaporation from both dry lakes range from approximately 30,000 to more than 100,000 acre-feet/year.

5. Dry Lake Evaporation Estimates (White 1932; Bassett & Kupfer 1964; Metropolitan 1999; GEOSCIENCE 2000b) (**Appendix E**): Recharge has also been estimated by applying fresh-water evaporation pan data to the areas of Bristol and Cadiz dry lakes after adjusting the evaporation pan data for large surface areas and water salinity. In addition, the evaporation pan data were further adjusted to account for depth to groundwater using the evaporation vs. depth curves presented in White (1932). Depth to groundwater was inferred from published maps of the dry lakes (Moyle & others 1984; Bassett & Kupfer 1964). Estimates of average annual evaporation from the dry lakes using this method range from approximately 12,000 to 53,000 acre-feet/year.

- **Distributed Parameter Methods:**

Distributed parameter methods consist of complex models with a number of quantifiable variables related to groundwater recharge within a watershed. Distributed parameter methods applied to the Fenner Valley watershed include:

1. Watershed Model (Metropolitan 1999): The Fenner Valley watershed model is an application of the equation of hydrologic equilibrium. This method incorporates a variety of parameters specific to both the physical watershed and the hydrologic regime, including daily precipitation, infiltration, runoff, vegetation interception, evapotranspiration, soil moisture, and percolation. The watershed model used was based on published rainfall-runoff models (Dawdy & O'Donnell 1965; Crawford & Linsley 1966) and uses guidelines from the San Bernardino County Hydrology Manual (Williamson & Schmid 1986). Estimates of average annual recharge to the Project area using this method range from approximately 15,000 to 37,000 acre-feet/year.

2. Groundwater Flow Model (Metropolitan 1999): A groundwater flow model for the Project area was developed to provide a numerical approximation of the basic equation of groundwater flow for a three-layer aquifer system. The model network is centered in the Fenner Gap portion of the Project area, and extends onto Bristol and Cadiz dry lakes. A conservative range of geohydrologic input parameters (evaporation from the dry lakes, aquifer thickness, hydraulic conductivity, and boundary conditions) was assumed, and the model was calibrated by minimizing residuals between model-generated groundwater levels and actual historical levels measured in more than 80 wells within the area of the model network. Based on the range of assumed parameters, the groundwater flow model has reasonable calibrations for values of average annual recharge to the Project area ranging from approximately 5,000 acre-feet/year to more than 20,000 acre-feet/year.

Alternative methods for estimating average annual recharge to the Project area were suggested in comment letters submitted by the National Park Service and San Bernardino County, based in part on a memorandum prepared by the USGS-Water Resources Division (WRD 2000). These methods involved modified versions of the Maxey-Eakin method, as described below:

Maxey-Eakin Method (Maxey & Eakin 1949): This method is a lumped parameter model originally developed for estimating recharge to groundwater basins in central Nevada. It provides recharge estimates as a percentage of average annual precipitation within five discrete elevation zones, which are defined on the basis of isohyetal maps for a particular watershed. The Maxey-Eakin method is intended to be "calibrated" for the geologic and climatic characteristics of the specific watershed under study (W.D. Nichols, personal communication with GEOSCIENCE 2000). An un-calibrated Maxey-Eakin model employed by the WRD for the Fenner Valley watershed yielded estimates of average annual recharge in the range of 2,070 acre-feet/year to 10,343 acre-feet/year (WRD 2000). A different un-calibrated Maxey-Eakin model employed by a consultant to San Bernardino County provided an estimate of average annual recharge in the range of 1,700 acre-feet/year to 5,000 acre-feet/year (San Bernardino County 2000).

The relative range of recharge estimates provided by all the above methods is shown in Figure 4.

[Figure 4: Comparison of Estimates of Average Annual Groundwater Recharge to the Project Area]

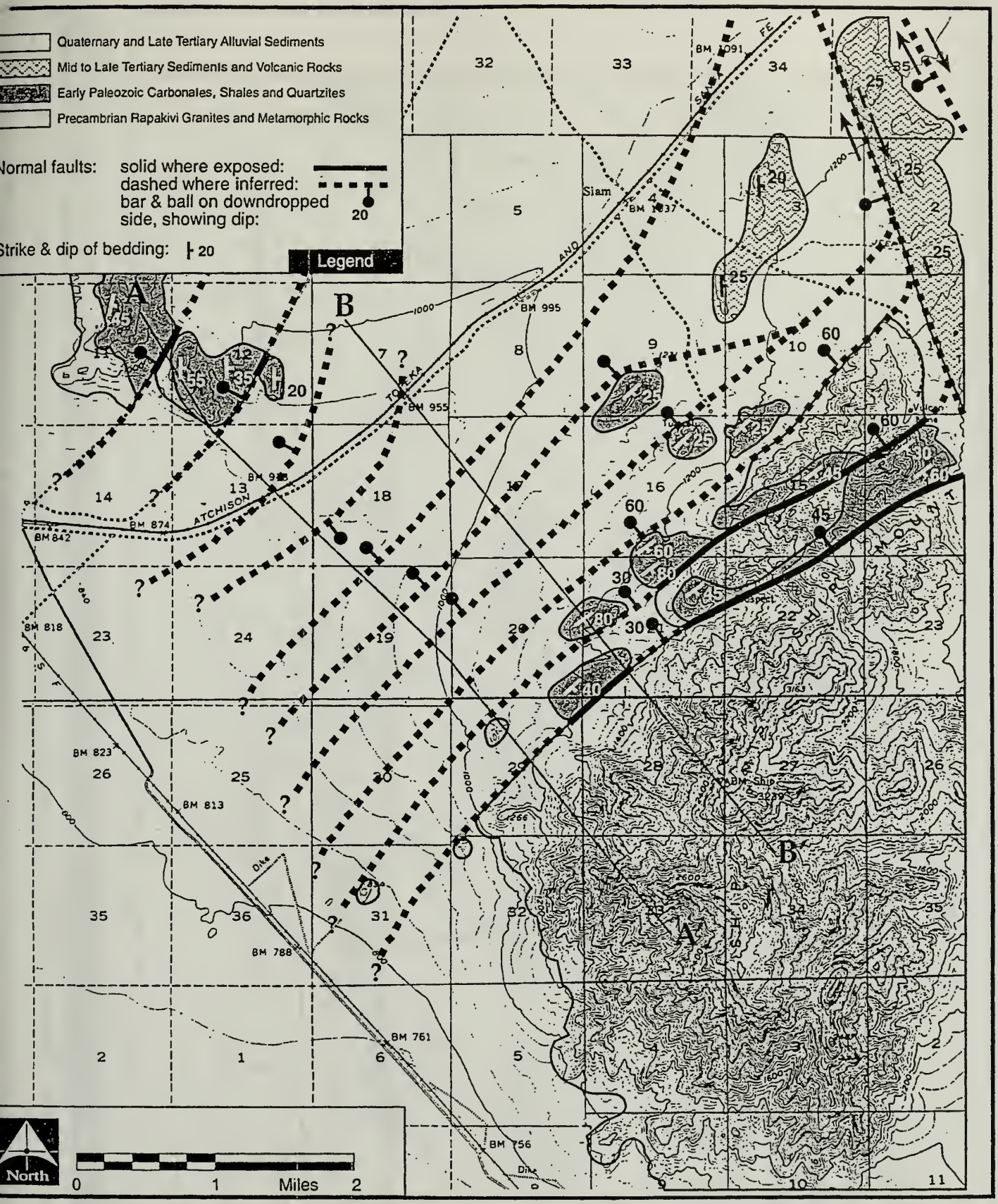


Figure 1

Cadiz Groundwater Storage & Dry-Year Supply Program

Generalized Geologic Map of Fenner Gap

Legend

Quaternary & Late Tertiary Alluvial Sediments:

Mid to Late Tertiary Sediments and Volcanic Rocks:

Early Paleozoic Carbonates, Shales and Quartzites:

Precambrian Rapakivi Granites & Metamorphic Rocks:

Groundwater level in well:

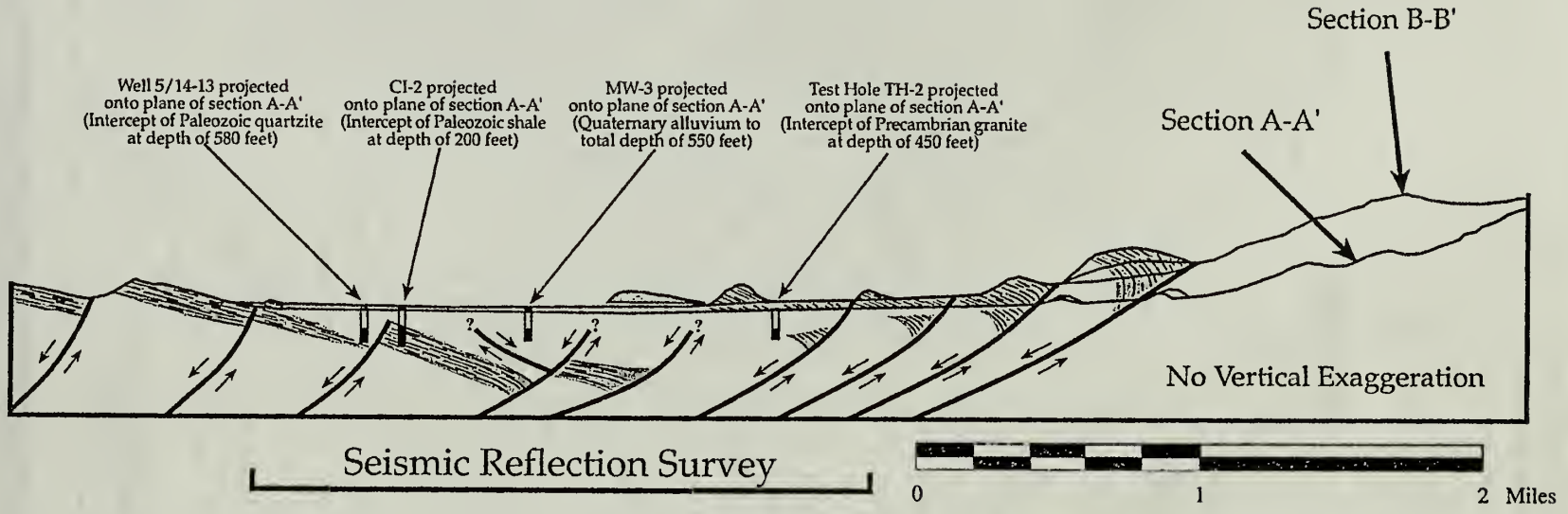


Figure 2

Cadiz Groundwater Storage & Dry-Year Supply Program

Simplified Cross-Section of Fenner Gap

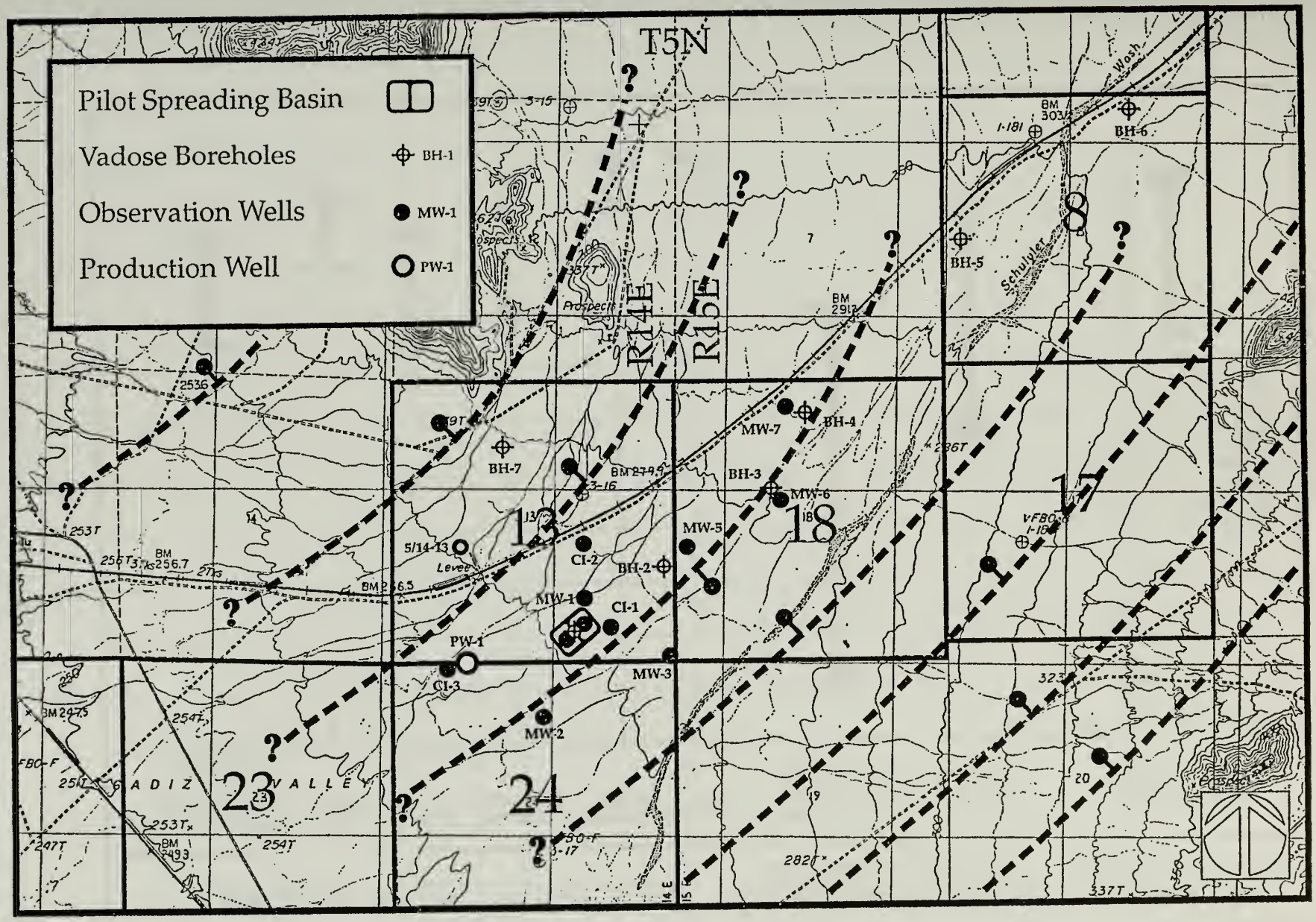


Figure 3: Subsurface Faults in Fenner Gap Projected onto Surface of the Water Table

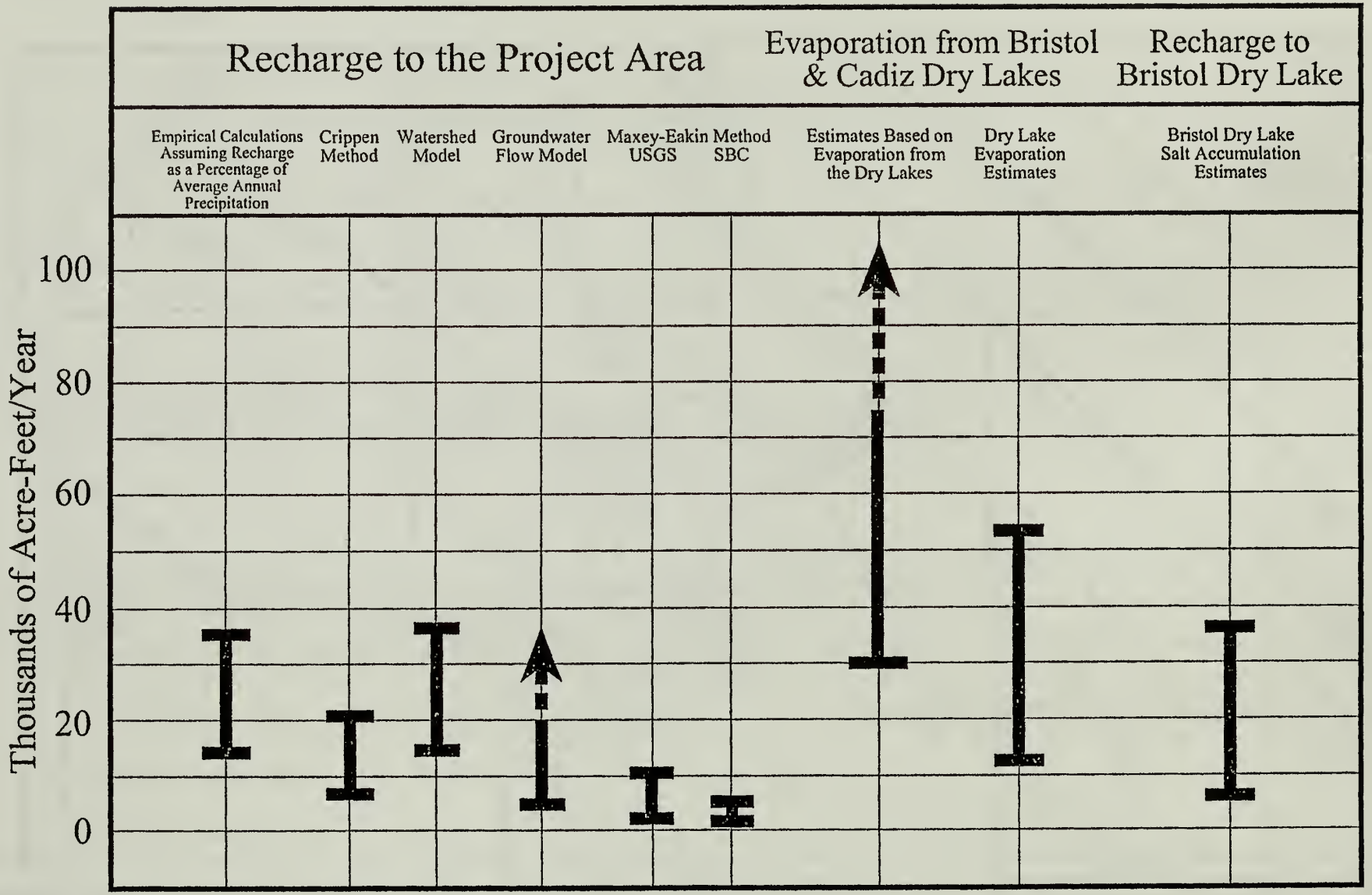


Figure 4: Comparison of Estimates of Average Annual Groundwater Recharge to the Project Area

Appendix A

Previous Work in the Vicinity of the Cadiz Project Area

Previous Work in the Vicinity of the Cadiz Project Area

Published Reports:

More than 100 published and unpublished technical references relating to the groundwater hydrology of the Cadiz Project area are cited in the two-volume "Groundwater Resources" technical report prepared for the Draft EIR/EIS (Report No. 1163; Metropolitan 1999).

One of the first hydrological investigations in the region is a USGS report entitled "The Mohave Desert Region" by David G. Thompson (1929). In addition to regional climatic, soil, and hydrologic data, this report includes tabulations of numerous driller's logs for many early water wells in the region. This report has served as the primary reference for many subsequent studies.

Kupfer and Bassett (1962), Bishop (1963), Bassett and Kupfer (1964), Dibblee (19880 a & b), and Miller, Howard, and John (1982) provide a useful overview of the geological history and principal rock units in the vicinity of the project area. Miller, Miller, Nielson, Wilshire, Howard and Stone (1991) compiled a preliminary geologic map of the Mojave National Preserve. Howard and Miller (1992) describe Quaternary and late-Tertiary faulting in the region. Simpson, Bracken and Stierman (1984) present the results of geophysical surveys covering a portion of the project area.

Gale (1951) presents one of the first investigations of the saline deposits of Bristol Dry Lake. Basset, Kupfer, and Barstow (1959) present core logs for Bristol, Cadiz and Danby dry lakes. Hanford (1982) and Rosen (1989 & 1992) expand on this work with additional data on the depositional history, facies relationships, brine chemistry, and groundwater recharge for Bristol Dry Lake.

California Department of Water Resources Bulletin 118 (1975) presents reconnaissance hydrologic data for all of the major groundwater basins of California. Much of the data presented in this publication was originally compiled by Willets and others (1954 & 1956). Important site-specific data from wells and boreholes in the vicinity of the project area were compiled by Southern California Edison Company (Shafer 1964 & Hunt 1966).

A report by the California Department of Water Resources (Moyle, 1967) presents tables summarizing available water well data and includes a reconnaissance geological map that identifies the major water-bearing formations found in the vicinity of Bristol and Cadiz dry lakes. Moyle and others (1984) present a map showing groundwater levels beneath and surrounding the dry lakes. Freiwald (1984) summarizes additional data on wells and water quality in Lanfair and Fenner valleys and includes a reconnaissance geological map of these areas. The National Park Service (1999) prepared a scoping report for the surface and groundwater resources of the Mojave National Preserve.

Most recently, Lawrence Livermore National Laboratory has conducted investigations on the amounts of precipitation that occur at different elevations within the watersheds

tributary to the project area, and collected isotopic samples for estimating the age of groundwater at various sites within these watersheds (Davisson, 2000 a & b)(**Appendices B & C**).

Proprietary Studies:

The first proprietary report on the hydrology of the project area was prepared by Dr. Joseph H. Birman and his colleagues at Geothermal Surveys Inc. (GSI/Water) (1984). Dr. Birman supervised the drilling and testing of the first exploratory wells and production wells for Cadiz Inc. Additional proprietary hydrological, geotechnical, and engineering studies conducted within the project area include the following:

- David Keith Todd, Consulting Engineers (1984);
- Gutman (1985);
- GEOSCIENCE Support Services (1991, 1995, 1997 & 1999);
- Daniel B. Stephens & Associates (1992);
- URS Consultants, Inc. (1993);
- Ralph M. Parsons Company (1994);
- Psomas & Associates; NBS/Lowry (1994);
- CivilDesign Corporation (1994 & 1997);
- Maas (1994);
- Bookman-Edmonston Engineering (1996 & 1997);
- NORCAL Geophysical Consultants (1997); and
- Psomas & Associates (1997 & 1998).

Other useful data are available from various reports prepared in support of the Rail•Cycle landfill that was proposed in the early 1990 for a site just west of the Cadiz Project area (Environmental Solutions, Inc. 1992 & 1994).

Previous Estimates of Groundwater Recharge to the Project Area:

Numerous estimates of groundwater recharge to the project area have been reported over the past 25 years. All of these estimates have been limited by the data available at the time they were made. The most recent studies have benefited from new data, which include long-term daily precipitation records, satellite and U-2 aircraft imagery, isotopic groundwater chemistry, gravity and seismic reflection surveys, lithologic and geophysical logs for more than 30 new wells and bore holes, aquifer test data for eight full-scale production wells, and an eight-month Pilot Spreading Basin (infiltration) test in the project area (Metropolitan 1999). Figure A-1 presents a timeline showing various estimates of groundwater recharge together with a summary of the data and methodologies employed in the estimates. As summarized in this figure, estimates of recharge vary significantly, reflecting both data limitations and differences in the methodologies employed.

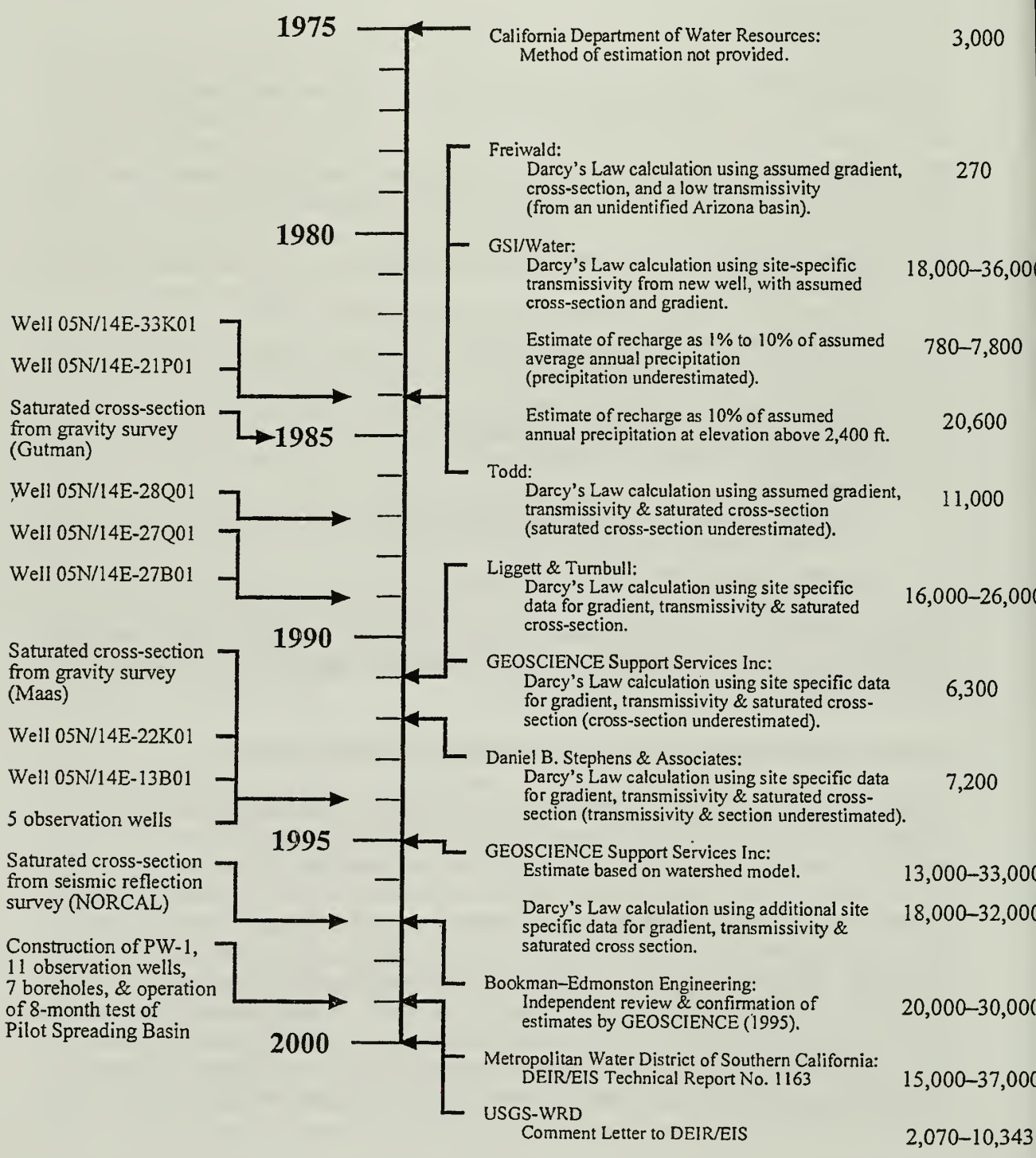


Figure A-1: Timeline Showing Estimates of Groundwater Recharge

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Appendix B

Estimating Average Annual Precipitation in the Fenner Watershed of the Eastern Mojave Desert, California

Lawrence Livermore National Laboratory

June 9, 2000

TO: Geosciences Support Services

FROM: M. Lee Davisson

RE: Estimating Average Annual Precipitation in the Fenner Watershed of the Eastern Mojave Desert, California

Because of the large uncertainty in annual groundwater recharge rates for desert regions of eastern California and southern Nevada, it is important to establish site-specific relationships between average annual precipitation (both rain and snowfall) and elevation within particular watersheds. This issue is particularly important since estimates of average annual precipitation are employed in a variety of models used for estimating groundwater recharge. Such models include the "watershed" model employed by GEOSCIENCE (1999) for estimating groundwater recharge to the Cadiz Project area; the Maxey-Eakin model (1949) developed for use in central Nevada; the Crippen model (1965) developed for use in the southern California coastal ranges; and various other "rule-of-thumb" methods that assume infiltration (groundwater recharge) of specified percentages of average annual precipitation within a watershed.

To help resolve this issue for the Cadiz, Bristol, Fenner and Orange Blossom Wash watersheds (Fenner watershed), tributary to the Cadiz Project area, an analysis of regional long-term precipitation data has been undertaken by the Lawrence Livermore National Laboratory (LLNL) (Davisson & Rose 2000). The results of this analysis are summarized in Figure 1, which shows average annual precipitation versus elevation plots for 69 weather stations located in southern Nevada and eastern California. The locations, elevations, and average annual precipitation for these weather stations are listed in Table 1. The relationship of precipitation to elevation was found to be strongly influenced by the longitude of the weather stations. This relationship is attributed to the following: 1) the Sierra Nevada, San Gabriel, and San Bernardino mountains create a dramatic rain shadow effect the intensity of which is greatest just east of the Sierra Nevada and decreases in an eastward direction; 2) winter storms originating from the Pacific Ocean have different trajectories and can produce locally intense snow and/or rain, but exclude other areas depending on their paths; 3) summer storms originating from the Gulf of California produce more annual precipitation in the eastern Mojave Desert, but much less in the western Mojave. This longitudinal effect has been recognized and documented by previous researchers, including the U.S. Geologic Survey, WRD (Winograd and Thordarson, 1975).

LLNL finds that annual precipitation in the western Mojave Desert is significantly less at higher elevations than in the eastern Mojave Desert, and that recharge processes are neither comparable nor translatable between these two areas. LLNL also finds that mathematical curve fits to precipitation-elevation data east of 116°W longitude delineate a *regional* precipitation versus elevation effect, while a mathematical fit to four points adjacent or within the Fenner watershed delineates a *local* effect. The *regional* effect describes the precipitation/elevation function at a larger scale, whereas the *local* effect represents a function more appropriate for the smaller scale of the Fenner watershed. The *local* effect predicts nearly 50% more annual precipitation than the

regional effect at higher elevations. The *local* effect more accurately reflects local conditions in the Fenner watershed. Applying the *regional* effect to the Fenner watershed is an inappropriate matching of scales. LLNL results are presented in greater detail in a separate report (Davisson and Rose, 2000).

This work was performed under the auspices of the U.S. Department of Energy by University of California Lawrence Livermore National Laboratory under contract No. W-7405-Eng-48.

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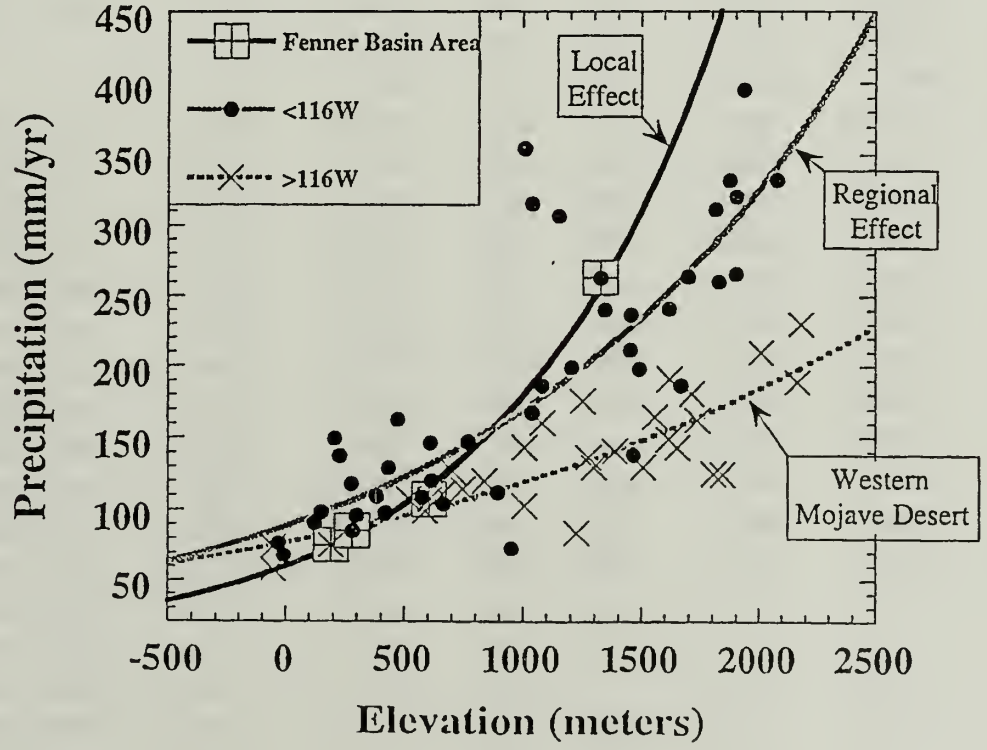


Figure 1: Average annual precipitation versus elevation curves.

Table 1: Locations, elevations, and average annual precipitation for the weather stations shown in Figure 1.

Precipitation Station	Latitude	Longitude	ppt in	ppt mm	Elevation ft	Elevation m	Years
SE California							
Barstow	34.90	117.03	4.40	110.9	2160	658	1961-1998
Barstow Fire Station	34.90	117.02	5.01	126.3	2320	707	1961-1998
Dagget FAA Airp	34.87	116.78	3.93	99.0	1920	585	1961-1998
Trona	35.77	117.38	4.27	107.6	1690	515	1961-1998
Wild Rose Ranger Station	36.27	117.18	6.97	175.6	4100	1250	1961-1998
Mitchell Caverns	34.93	115.53	10.44	263.1	4350	1326	1961-1998
Mt. Pass	35.47	115.53	8.42	212.2	4760	1451	1961-1990
Needles	34.77	114.62	4.67	117.7	910	277	1961-1998
Parker Reservoir	34.28	114.17	5.45	137.3	740	226	1961-1998
Iron Mt.	34.15	115.12	3.38	85.2	920	280	1961-1998
29 Palms	34.13	116.05	4.25	107.1	1980	604	1961-1998
Eagle Mt.	33.80	115.45	3.80	95.8	970	296	1961-1998
Hayfield Reservoir	33.70	115.63	3.90	98.3	1370	418	1961-1998
Mecca 2SE	33.55	116.05	2.94	74.1	-180	-55	1961-1998
Death Valley	36.47	116.87	2.28	57.5	-180	-55	1961-1998
Blythe	33.62	114.72	3.60	90.7	390	119	1961-1998
Gold Rock Ranch	32.88	114.87	3.90	98.3	480	146	1964-1996
Brawley	32.98	115.53	3.05	76.9	-110	-34	1961-1998
El Centro	32.78	115.57	2.71	68.3	-30	-9	1961-1998
Nevada							
Montgomery M NTC st	37.97	118.32	7.50	189.0	7110	2167	1961-1998
Hawthorne Airp	38.55	118.67	5.42	136.6	4180	1274	1961-1998
Mina NV	38.38	118.10	5.59	140.9	4550	1387	1961-1998
Smokey Valley	38.78	117.17	7.17	180.7	5620	1713	1961-1998
Reese R. O'Toole	39.03	117.45	8.33	209.9	6600	2012	1961-1998
Snowball Ranch	39.07	116.20	9.14	230.3	7160	2182	1961-1998
Duckwater	38.90	115.72	7.42	187.0	5470	1667	1961-1998
Currant HWY	38.80	115.35	10.59	266.9	6240	1902	1961-1998
Lund	38.85	115.00	10.48	264.1	5570	1698	1961-1998
Great Basin Nat.Par	39.00	114.22	13.20	332.6	6830	2082	1961-1998
Geyser Ranch	38.67	114.63	10.35	260.8	6000	1829	1961-1998
LAke Valley	38.32	114.65	15.69	395.4	6350	1936	1971-1998
Spr. Valley St. PArk	38.03	114.18	12.39	312.2	5950	1814	1974-1999
Pioche	37.93	114.45	13.19	332.4	6150	1875	1961-1998
Caliente	37.62	114.52	9.57	241.2	4400	1341	1961-1998
Elgin	37.35	114.53	12.52	315.5	3410	1039	1951-1999
Elgin 3SE	37.32	114.50	14.07	354.6	3300	1006	1965-1985
Bunkerville	36.75	114.13	6.48	163.3	1540	469	1979-1999

Table 1: Locations, elevations, and average annual precipitation for the weather stations shown in Figure 1.

Precipitation Station	Latitude	Longitude	ppt in	ppt mm	Elevation ft	Elevation m	Years
Logandale	36.62	114.48	5.14	129.5	1410	430	1968-1992
Overton	36.53	114.43	4.34	109.4	1250	381	1948-1999
Valley of fire sp	36.43	114.52	5.81	146.4	2000	610	1961-1998
Boulder City	35.98	114.85	5.85	147.4	2520	768	1961-1998
Searchlight	35.47	114.92	7.42	187.0	3540	1079	1961-1998
Laughlin	35.17	114.62	5.94	149.7	680	207	1988-1999
Las Vegas WSO Airp	36.08	115.17	4.13	104.1	2170	661	1961-1998
Red Rock Canyn sp'	36.08	115.45	12.19	307.2	3780	1152	1977-1999
LAs Vegas	36.17	115.13	4.77	120.2	2010	613	1914-1956
N. LAs Vegas	36.22	115.13	4.31	108.6	1880	573	1951-1999
Pahrump	36.22	116.00	4.76	120.0	2740	835	1961-1998
Desert Game Range	36.43	115.37	4.46	112.4	2920	890	1961-1998
Indian Sprs	36.58	115.68	2.90	73.1	3120	951	1948-1964
Desert Rock WSMO	36.62	116.02	5.68	143.1	3300	1006	1961-1998
Armagosa FMS	36.57	116.47	4.54	114.4	2450	747	1965-1999
Beatty	36.90	116.75	4.08	102.8	3300	1006	1948-1972
Beatty 8N	37.00	116.72	6.36	160.3	3550	1082	1961-1998
Sarcobatus	37.27	117.02	3.34	84.2	4020	1225	1948-1961
Dyer	37.68	118.07	5.14	129.5	4950	1509	1961-1998
Silverpeak	37.67	117.58	5.15	129.8	4260	1298	1961-1998
Goldfield	37.72	117.23	6.45	162.5	5700	1737	1961-1998
Tonopah	38.07	117.23	4.95	124.7	6050	1844	1928-1954
Tonapah Airp	38.07	117.08	5.69	143.4	5430	1655	1961-1998
Pahrangat WL ref	37.27	115.12	6.66	167.8	3400	1036	1961-1998
Penoyer Valley	37.62	115.78	5.49	138.4	4800	1463	1967-1999
Tempiute 4NW	37.68	115.72	7.87	198.3	4890	1491	1972-1985
Key Pittman WMA	37.62	115.22	7.94	200.1	3950	1204	1964-1989
Diablo	37.92	116.05	6.53	164.6	5110	1558	1959-1979
Adaven	38.12	115.58	12.73	320.8	6250	1905	1928-1982
Twin sprs Fallini	38.20	116.18	5.90	148.7	5300	1615	1985-1999
Blue Jay HWY st	38.38	116.22	7.58	191.0	5320	1622	1963-1984
Rattlesnake	38.45	116.17	4.96	125.0	5920	1804	1948-1966
Blue Eagle Ranch	38.53	115.55	9.41	237.1	4780	1457	1978-1999
Sunnyside	38.42	115.02	9.58	241.4	5310	1619	1961-1998

Appendix C

Age of Groundwater Sampled in the Fenner Watershed of the Eastern Mojave Desert, California

Lawrence Livermore National Laboratory

Lawrence Livermore National Laboratory

June 9, 2000

TO: Geosciences Support Services Inc.

FROM: M. Lee Davisson

RE: Age of Groundwater Sampled in the Fenner Watershed of the Eastern Mojave Desert, California

Stable isotopes of oxygen (oxygen-18) and hydrogen (deuterium) in groundwater were measured to determine recharge sources for groundwater in the Fenner watershed, located in the eastern Mojave Desert of California. The deuterium and oxygen-18 signatures (reported as δD and $\delta^{18}O$ values) ranged from –11.9 to –9.3 per mil (Davisson, 2000). The more negative values were observed in high elevation recharge in the New York Mountains, as well as in groundwater in the northeastern parts of the watershed. Less negative values were observed in the Providence Mountains along the western part of the watershed. Groundwater collected in the Fenner Gap portion of the Cadiz Project area, located between the Marble and Ship mountains, had signatures between –10.6 and –10.9 per mil, suggesting a mixture of recharge from both northern, western, and probably local recharge areas. The annual contribution of groundwater recharge to Fenner Gap from the Clipper, Marble, Ship and Old Woman mountains is still inconclusive due to lack of isotopic data.

Isotopic signatures of mean annual precipitation collected by Friedman and others (1992) at Mitchell Caverns, as well as for recently recharged groundwater in the Providence and New York mountains, are similar to the isotopic values in Fenner Gap groundwater. This indicates that this groundwater has a Holocene age (less than 10,000 years old), since groundwater recharged during the Pleistocene had isotopic signatures significantly more negative than today due to past global cooling (see Stute et al., 1995; Guilderson et al., 1994).

Shallow groundwater sampled in two recharge areas in the Providence and New York mountains were found to have groundwater less than 40 years old. This was concluded based on tritium (16.7 and 18.2 pCi/L) and radiocarbon (104 and 113 pmc) measurements, which were abnormally high in the groundwater. Tritium and radiocarbon are also abnormally high in the atmosphere due to surface testing of nuclear weapons in the early 1960s. Accordingly, the high concentrations in the groundwater are consistent with young recharge.

Two independent and direct measures of groundwater age indicate that groundwater in Fenner Gap is around 1,000 to 3,000 years old. One approach measured the radiocarbon age of dissolved organic carbon (DOC) in groundwater sampled from production well PW-1 in Fenner Gap. The DOC is assumed to have originated from the soil of the recharge area(s) and flowed with the groundwater, largely unaffected by reactions with other carbon sources (Wassenaar et al., 1991). Preliminary measurements indicate the radiocarbon age of the DOC is between 1,000 and 2,800 years, with an estimated mean of 1,500 years.

Another approach measured the accumulated helium-4 isotope dissolved in the groundwater also collected from production well PW-1 in Fenner Gap at the same time as the radiocarbon sample. Crystalline basement rocks beneath groundwater basins produce helium-4 from radioactive decay of uranium and thorium. This helium-4 diffuses slowly upward toward the surface under steady-state conditions. Shallow groundwater above the crust will accumulate the helium-4 in a dissolved state over time. The older the groundwater, the more helium-4 that accumulates. The concentration measured in groundwater from production well PW-1 indicates that the helium-4 is only about 3 times above the concentration expected for water in equilibrium with air. This suggests the age of the groundwater is only between <1,000 and 3,000 years old. Ten-thousand year old water typically has accumulated helium-4 concentrations ≥10 times the concentration expected for water in equilibrium with the atmosphere, but can be much higher depending on the location (see Mazor and Bosch, 1992, Solomon et al., 1999).

The radiocarbon was also measured for dissolved inorganic carbon (DIC) from groundwater collected from production well PW-1. Possible ages estimated from the DIC radiocarbon measurements range from less than 1,000 up to 9,000 years old. The wide range is due to uncertainty in subsurface geochemical reactions occurring between DIC and Paleozoic carbonate sediment in the aquifer system. These Paleozoic sediments are depleted in radiocarbon due to their great age (~500 million years). The geochemical pathways are poorly understood and cannot be predicted based on currently available data (see Davisson et al., 1999; Davisson, 2000).

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Appendix D

Bristol Dry Lake Groundwater Recharge from Salt Accumulation Estimates

GEOSCIENCE Support Services Inc.

TECHNICAL MEMORANDUM

GEOSCIENCE Support Services, Inc.

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To: Jack Safely **From:** Dennis E. Williams

Company: Metropolitan Water District of Southern California **Date:** June 19, 2000

cc: Mark Liggett, Cadiz, Inc.

Subject: **Cadiz Groundwater Storage and Dry-Year Supply Program**
Bristol Dry Lake Groundwater Recharge from Salt Accumulation Estimates

As an additional method of evaluating average annual recharge in the Cadiz Project area, a salt accumulation balance was conducted for Bristol Dry Lake to estimate the amount of average annual groundwater recharge that would be required to account for the volume of salt beneath the dry lake. This methodology is based on halite (salt) accumulation estimates originally conducted by Rosen, 1989.

The parameters required to carry out the calculation are:

1) The volume of halite beneath Bristol Dry Lake,

2) The age of the oldest (deepest) halite beds, and

3) The chloride concentration in the fresh groundwater recharging the dry lake.

Volume of Halite

Estimates of the volume of halite beneath Bristol Dry Lake were obtained from Rosen, 1989. The estimates were based on the areal extent of salt pan on the lake (from Gale, 1951) and the thickness

of pure halite deposits as measured in deep drill cores. Rosen, 1989 reported the areal extent of halite deposits as a range of 9 to 49 square kilometers (approximately 2,200 to 12,100 acres), although he stated that the most probable extent was approximately 15 square km (3,700 acres). Halite thickness was determined from deep drill cores (as deep as approximately 1,700 ft below ground surface) to be approximately 164 meters or 537 ft. The corresponding volume of halite beneath Bristol Dry Lake, from these parameters, ranges from 1.5×10^9 to 8×10^9 m^3 (5.3×10^{10} to 2.8×10^{11} ft^3).

Age of Deepest Halite Deposits

The deepest halite deposits in the soil cores described above (1,700 ft total depth) were determined, via tephra chronology, to be approximately 3.7 million years old, $\pm$ 0.1 million years (Rosen, 1989).

Chloride Concentrations in Recharge Groundwater

Chloride concentrations in groundwater collected from selected wells within the drainage catchment for Bristol Dry Lake (the Bristol watershed) are summarized in Table 1. All wells were selected from areas away from the margins of the dry lake where the groundwater surface is deep (greater than 50 feet below ground surface) and chloride concentrations are not influenced by evaporative concentration.

Three primary sources of groundwater recharge were evaluated (based on available chloride analytical data) with respect to groundwater chloride concentrations: areas west and northwest of Bristol Dry Lake, Orange Blossom Wash, and Fenner Gap. The chloride concentration used for groundwater recharge from the west and northwest side of the lake was 210 mg/L, based on the average of analyses of groundwater from four wells selected from Koehler, 1983. The chloride concentration used for groundwater recharge from Orange Blossom Wash was 83 mg/L, based on the average of analyses of groundwater from three wells located directly downgradient of the wash (data obtained from Cadiz, Inc.). The chloride concentration used for groundwater directly downgradient of Fenner Gap was 35 mg/L based on the average of analyses of groundwater from three representative wells located in this area (GEOSCIENCE, 1999 and data obtained from Cadiz, Inc.).

The chloride concentration used for the groundwater recharge estimate was the weighted average of the chloride concentrations from the three recharge areas. The chloride concentrations were weighted to account for varying recharge contributions from the three areas as determined from the watershed model presented in GEOSCIENCE, 1999 (see Table 2). The watershed model suggests that most of the recharge to Bristol Dry Lake is from underflow through Fenner Gap (approximately 77 percent of the total recharge to the dry lake). Approximately 9 percent of the recharge to Bristol Dry Lake is from Orange Blossom Wash and approximately 13 percent is from the west and northwest sides of the dry lake. Accordingly, the weighted average chloride concentration in groundwater recharge to Bristol Dry Lake was estimated as 63 mg/L (see Table 2).

Assumptions

The following assumptions apply to the Bristol Dry Lake recharge estimates based on chloride accumulation:

1) The chloride concentration in groundwater has been constant during the period of halite deposition (3.7 million years),

2) The only source of chloride to the groundwater is precipitation - no other sources contributed chloride to the groundwater, and

3) The groundwater recharge rate has been constant during the period of halite deposition (3.7 million years).

Halite/Chloride Accumulation Rates

The annual rate of halite accumulation is a function of the volume of halite beneath Bristol Dry Lake (converted to mass of halite) and the age of the oldest halite deposits (see Table 3). Halite accumulation rates for Bristol Dry Lake, based on these input parameters, range from 8.6×10^8 to 4.7×10^9 grams per year. The corresponding rate of chloride deposition is 61 percent of this range (percentage of mass represented by chloride in halite) or 5.2×10^8 to 2.9×10^9 grams per year.

Groundwater Recharge Rate

The annual groundwater recharge rate to Bristol Dry Lake is calculated as the chloride deposition rate divided by the weighted average chloride concentration (63 mg/L) in groundwater recharge (see Tables 2 and 3). The result is a groundwater recharge rate (expressed in acre-ft/yr) that accounts for the depositional rate of chloride beneath the dry lake.

Results

The range of Bristol Dry Lake groundwater recharge rates based on this chloride accumulation method is presented in Table 3. The results range from approximately 6,800 to 37,000 acre-ft/yr. The range is dictated by variability in estimates of the lateral extent of halite deposits (and thus mass of chloride) beneath the dry lake. The most probable halite area (15 km or 3,700 acres, as stated by Rosen, 1989) corresponds to a recharge rate of approximately 11,300 acre-ft/yr to Bristol Dry Lake.

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Summary of Selected Groundwater Chloride Concentrations
Bristol Watershed

Source of Recharge	Well Name	State Well Number	Chloride Concentration (mg/L)[1]	Depth to Groundwater (ft bgs)[2]	Data Source
Vest and	Unknown[3]	7N/8E-5N1	160	300	Koehler, 1983
Iorthwest of	Unknown[4]	6N/9E-34F1	270	193	Koehler, 1983
ristol Dry	Unknown[4]	5N/9E-3B1	140	202	Koehler, 1983
ake	Unknown[5]	4N/10E-21K1	270	125	Koehler, 1983
		Average	**210**		
range	Cadiz Office Well	6N/14E-31	160[6]	137	Cadiz, Inc., 1999
lossom	Cadiz Dorm Well	5N/14E-5F1	43[7]	111	Cadiz, Inc., 1999
ash	SCE-9	5N/13E-14B1	46[7]	77	Cadiz, Inc., 1999
		Average	**83**		
	SCE-17	5N/15E-29B1	38[7]	148	Cadiz, Inc., 1999
nner Gap	Cadiz Labor Camp	5N/14E-16H1	35[7]	192	Cadiz, Inc., 1999
	Cadiz 21N	5N/14E-21H1	33[8]	210	GEOSCIENCE, 1999
		Average	**35**		

Notes:

[1] Milligrams per liter
[2] Feet below ground surface
[3] Well located near Ludlow, California
[4] Wells located in valley between Bullion and Bristol Mountains
[5] Well located in alluvial wash between Bullion and Lead Mountains
[6] Average of three analyses from samples collected in 1999
[7] Average of four analyses from samples collected in 1999
[8] Average of nine analyses from samples collected between 1995 and 1998

Calculation of Weighted Average Chloride Concentration
Bristol Dry Lake Groundwater Recharge

Source of Recharge	[1] Average Chloride Concentration[1] [mg/L][2]	[2] Average Annual Deep Percolation[3]	[3] Percentage Contribution to Bristol Dry Lake[4]	[4] Weighted Average Chloride Concentration[5]
West and Northwest of Bristol Dry Lake	210	1550	13%	28
Orange Blossom Wash	83	1,100	9%	8
Fenner Gap	35	9100	77%	27
			Total	**63**

[1] From Table 1 of this Technical Memorandum
[2] Milligrams per liter
[3] From Table 15 of GEOSCIENCE, 1999. Average annual percolation from watershed model.
[4] [3] divided by total percolation in Bristol watershed
[5] [1] x [3]

Note:

The average annual deep percolation estimate for the areas west and northwest of Bristol Dry Lake was obtained from "The Rest of Drainage Basin" area specified in Table 15 of GEOSCIENCE, 1999 but divided by two to subtract out percolation in the Cadiz watershed, which is included in the Table 15 estimate.

The average annual deep percolation estimate for Fenner Gap was obtained from the "Fenner Basin" area specified in Table 15 of GEOSCIENCE, 1999 but divided by two to subtract out percolation underflow that flows toward Cadiz Dry Lake.

Estimates of Average Annual Recharge to Bristol Dry Lake from Chloride Accumulation Estimates

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Area of Salt Pan (km^2)	Area of Salt Pan (Acres)	Thickness of Halite (m)	Volume of Halite [m^3]	Mass of Halite [g]	Mass Halite acumulated per year [g]	Mass Chloride acumulated per year [g]	Annual Rate of Recharge to Bristol Lake [L/year]	Recharge to Bristol Lake [acre-ft/year]
9	2224	163.8	1.4742E+09	3.18427E+15	8.6061E+08	5.2497E+08	8.3329E+09	6,755
15	3706	163.8	2.4570E+09	5.30712E+15	1.4344E+09	8.7496E+08	1.3888E+10	11,258
25	6177	163.8	4.0950E+09	8.8452E+15	2.3906E+09	1.4583E+09	2.3147E+10	18,763
49	12108	163.8	8.0262E+09	1.73366E+16	4.6856E+09	2.8582E+09	4.5368E+10	36,776

Notes:

[1] = Area of salt pan based on estimates from Rosen, 1989
[2] = [1] x 247
[3] = Halite thickness from deep drill cores as reported in Rosen, 1989
[4] = [1] x [3] x 1,000,000
[5] = [4] x 2,160,000 (density of halite obtained from Klein and Hurlbut, 1977)
[6] = [5] / 3,700,000 yrs (age of salt deposits from Rosen, 1989)
[7] = [6] x 0.61 (0.61 is the percentage of halite mass associated with chloride)
[8] = [7] / 0.062 (0.063 is the weighted average chloride concentration in g/L; Table 2 of this Technical Memorandum)
[9] = [8] x 0.03531 / 43560

Appendix E

Dry Lake Evapotranspiration Estimates

GEOSCIENCE Support Services Inc.

TECHNICAL MEMORANDUM

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To: Jack Safely	From: Dennis E. Williams
Company: Metropolitan Water District of Southern California	Date: June 19, 2000
cc: Mark Liggett, Cadiz, Inc.	

Subject: Cadiz Groundwater Storage and Dry-Year Supply Program
Dry Lake Evapotranspiration Estimates

Additional estimates of evapotranspiration (ET) from Bristol and Cadiz dry lakes have been prepared as a refinement to those presented in the Draft Groundwater Resources Technical Report for the Cadiz Groundwater Storage and Dry-Year Supply Program (Draft report; GEOSCIENCE, 1999). The additional estimates were calculated using three different methods:

METHOD 1

1) Using depth to groundwater reported in Moyle et al., 1984 and a range of ET rates from USGS Water Supply Paper 2377 (see Figure 1 and Attachment A),

METHOD 2

2) Using depth to groundwater reported in Moyle, 1967 and Shafer, 1964 (see Figure 2) and the ET rates published in USGS Water Supply Paper 2377, and

METHOD 3

3) Using the method employed in GEOSCIENCE, 1999 based on Bassett and Kupfer, 1964 and USGS WSP 659-A (see Attachment B) but adjusting the ET surface area of Cadiz Dry Lake and adjusting the ET rate to account for brine evaporation rates.

CRITERIA FOR APPLYING ET RATES

Czarnecki, 1997 (USGS WSP 2377)

Estimation of ET Using Methods 1 and 2

These estimates are based on applying USGS WSP 2377 (see Attachment C) evapotranspiration rates to areas within the dry lakes where:

- The depth to groundwater is less than 3 meters (approximately 10 ft)
- Bare soil evaporation is dominant (no vegetation),
- Sediment type is predominantly silt and clay sized, and
- Salt crust is generally absent.

Criteria No. 1 - Depth to Groundwater is less than 10 ft

Methods 1 and 2 are based on two different depth to groundwater contour maps: one generated from Moyle et al., 1984 (see Figure 1) and the other based on groundwater level data reported in Moyle, 1967 and Shafer, 1964 (see Figure 2). Both contour maps show significant portions of both Bristol and Cadiz dry lakes where groundwater depths are within 10 ft of the ground surface. This satisfies Czarnecki's first criteria. The groundwater levels reported by Moyle et al., 1984 are the most recent known published water levels for the area (personal communication with Linda Woolfenden, USGS Hydrologist, 2000; see Attachment D).

Criteria No. 2 - Bare Soil Evaporation is Dominant

Both Bristol and Cadiz dry lakes are devoid of vegetation, which satisfies the second criteria.

Criteria No. 3 - The Sediment Type is Predominantly Silt and Clay Sized

Although sediment cores were not available from Cadiz Dry Lake, 13 of the 19 test holes previously drilled by the Metropolitan Water District of Southern California on Bristol Dry Lake indicate sediments in the upper 30 feet below ground surface are predominantly silt and clay. Six of the 19 test holes indicated predominantly sandy clay (all of which are on the margins of the dry lake).

Criteria No. 4 - Absence of Salt Crust

Salt crust on Bristol Dry Lake is restricted to an area of approximately 640 acres in the northwest section of the lake (Gale, 1951). The area of salt crust was subtracted from the total area available for ET (based on the groundwater depth criteria). Salt crust was generally absent from the cores sited above. Also, salt crust is completely absent on Cadiz Dry Lake (personal communication with National Chloride, Inc., 2000).

Estimation of ET Using Method 3

Method 3 is based on surface geologic characteristics of the dry lakes as an indication of groundwater depth (Bassett and Kupfer, 1964; GEOSCIENCE, 1999; Attachment B). In place of an average annual ET rate, the method utilizes a percent of pan evaporation (using the Amboy evaporation pan record) applied across the entire area of the dry lakes (41,600 and 18,048 acres for Bristol and Cadiz dry lakes, respectively) but adjusted for depth below ground surface according to subsurface evaporation curves presented in White, 1932 (USGS WSP 659-A)(see Table 2). The percent of pan evaporation decreases exponentially with depth below ground surface (Attachment B). This method was employed to produce the ET estimates reported in the GEOSCIENCE, 1999 Draft report.

Adjustments for Brine Evaporation Rates

To account for the fact that brine evaporates at a lower rate than fresh water (low TDS), ET amounts from all methods are adjusted by a factor ranging from 0.71 to 0.9. The range is based

on a combination of information obtained from verbal communication with salt mining operations personnel and salt water evaporation rates published in Rosen, 1989.

The evaporation rate of water decreases 1 percent for every 1 percent increase in the specific gravity. This proceeds until the point that crusting takes place which is at a specific gravity of approximately 1.3 (Chow, 1964). Assuming that specific gravity and density are correlative, brine densities obtained through verbal communication with National Chloride, Inc. (a salt mining company operating on Bristol and Cadiz dry lakes) were used to evaluate brine evaporation rates.

The density of groundwater beneath Bristol Dry Lake is as high as 33 percent Baume which correlates to a density of 1.29 (personal communication with National Chloride, 1999; see Attachment E for conversion chart). Based on the principles described above, the highest brine densities beneath Bristol Dry Lake (1.29) suggest that any additional concentration would result in the precipitation of salts. Given that fresh water has a specific gravity of approximately 1 and considering the relationship between specific gravity and evaporation rate described above, the most concentrated brines beneath Bristol Dry Lake will evaporate approximately 29 percent slower than fresh water (brine water evaporation is approximately 71 percent of fresh water evaporation which is the low end of the adjustment factor).

Another source of brine evaporation rate is reported in Rosen, 1989 in which he reports the average pan evaporation rate of salt water from Bristol Dry Lake as 3,600 mm/yr or approximately 141.7 inches/yr (see Attachment F). The average salt water pan evaporation rate is approximately 90 percent of the fresh water pan evaporation rate (157.6 inches/yr). Although the location of the salt water pan and the brine concentration of water within the pan are unknown, this percent of fresh water evaporation is considered a valid end member for the range because it is from actual measured data on the dry lake.

FINDINGS

A summary of ET estimates for Methods 1 through 3 are shown in Table 1. Comparison of the ranges suggested by the different methods indicates that Method 1 yields the highest range of estimated ET (approximately 38,000 to 143,000 acre-ft/yr) and Method 3 yields the lowest range of estimated ET from the dry lakes (approximately 12,000 to 53,000 acre-ft/yr). The range of ET reported in the GEOSCIENCE, 1999 Draft report is 20,500 to 71,000 acre-ft/yr which is lower than the ranges for both Methods 1 and 2.

The high ET rates generated from Methods 1 and 2 are based on water levels and ET rates reported in USGS publications. Comparison of the ranges of ET generated from these methods with those reported in the Draft report (GEOSCIENCE, 1999) indicate that the ET range reported in the Draft report is valid and conservative. The GEOSCIENCE, 1999 ET rate adjusted for brine evaporation is even more conservative.

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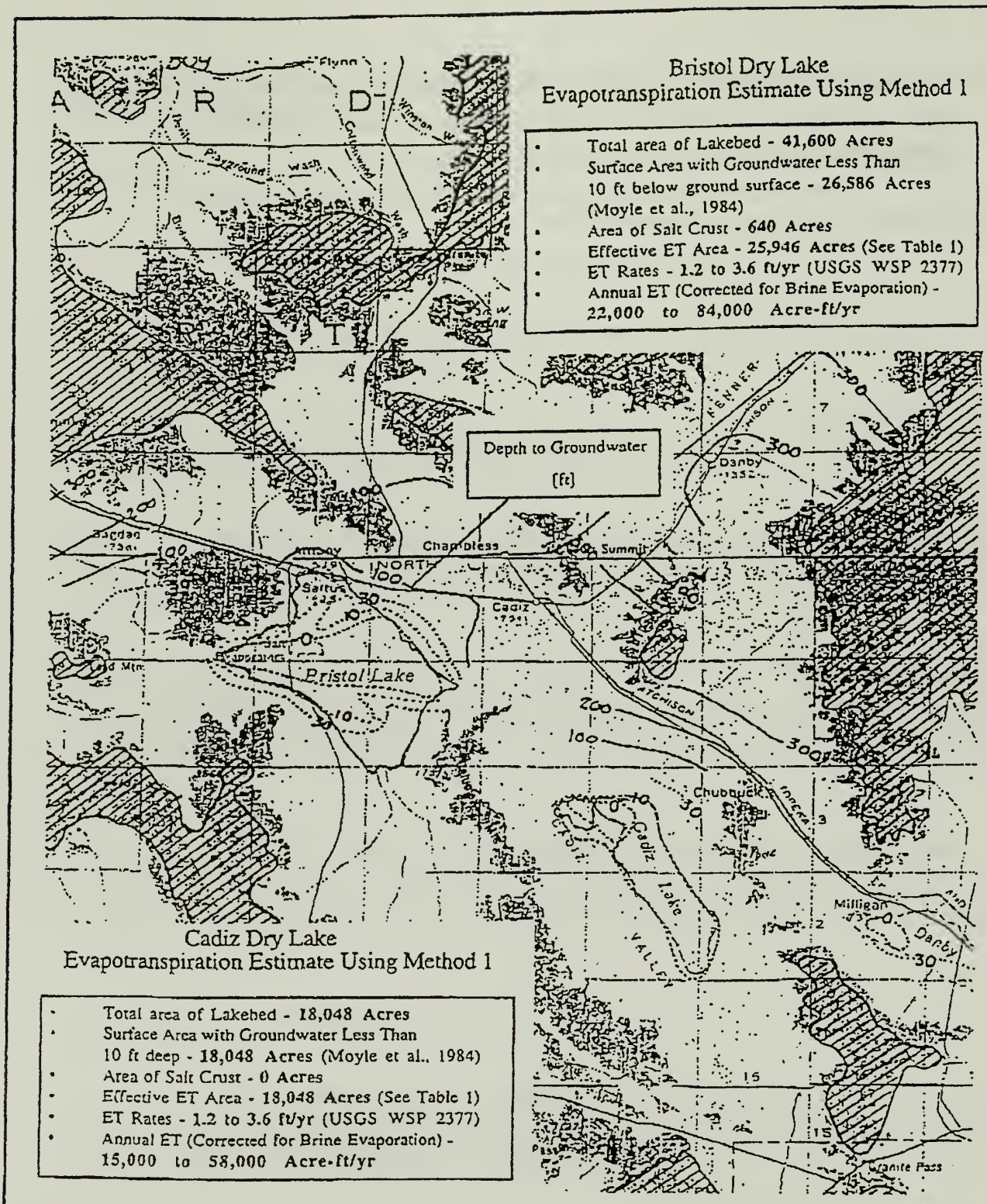
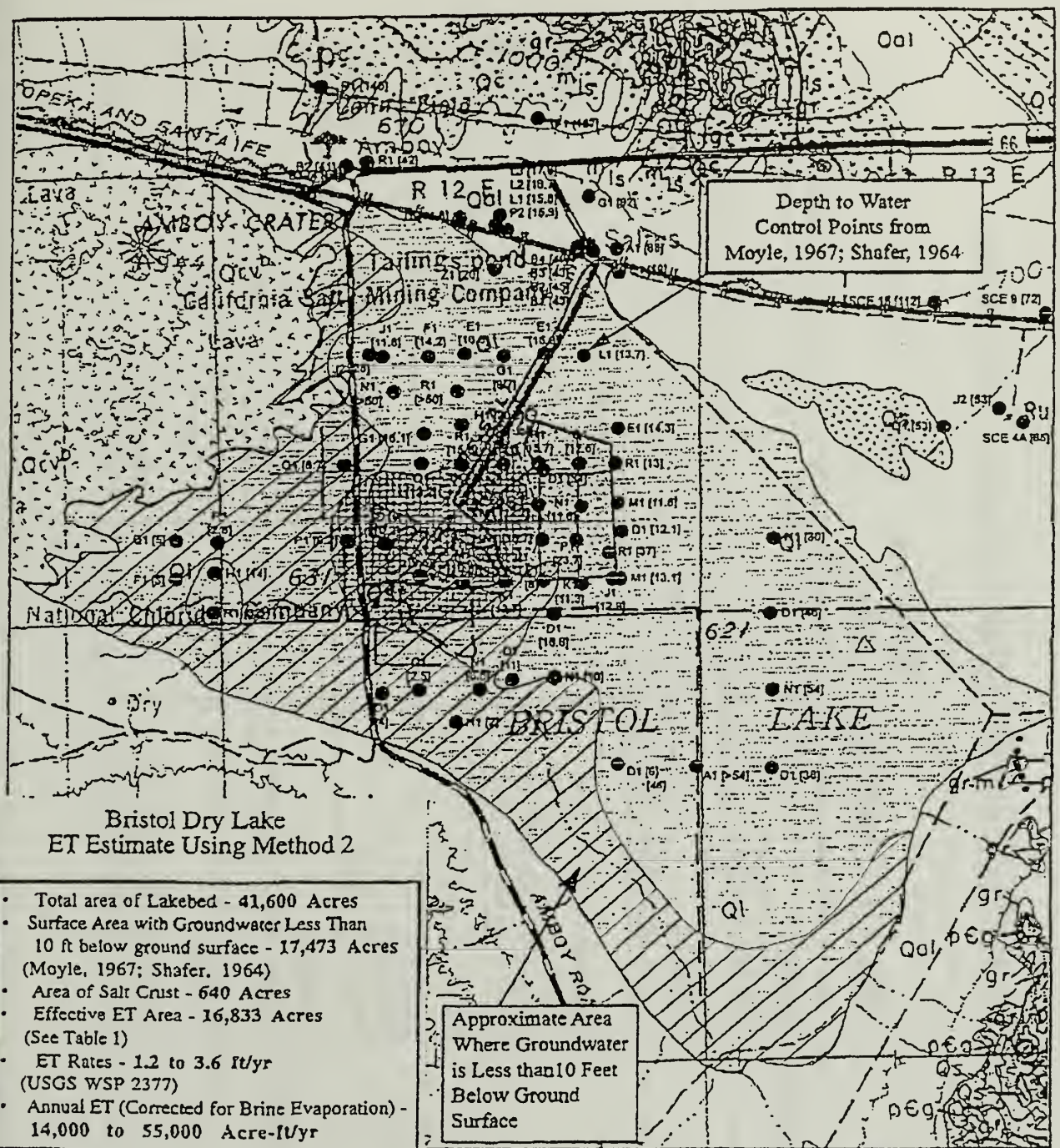


Figure 1	Drawn: TH Checked: Approved: Date: 9-MAR-00	Metropolitan Water District of Southern California / Cadiz, Inc. Evapotranspiration from Bristol and Cadiz Dry Lakes (Method 1 - See Table 1)	GEOSCIENCE Support Services Incorporated



Bristol Dry Lake
ET Estimate Using Method 2

- Total area of Lakebed - 41,600 Acres
- Surface Area with Groundwater Less Than 10 ft below ground surface - 17,473 Acres (Moyle, 1967; Shafer, 1964)
- Area of Salt Crust - 640 Acres
- Effective ET Area - 16,833 Acres (See Table 1)
- ET Rates - 1.2 to 3.6 ft/yr (USGS WSP 2377)
- Annual ET (Corrected for Brine Evaporation) - 14,000 to 55,000 Acre-ft/yr

Source: Moyle, 1967; Shafer, 1964

Figure	Drawn: TH	Metropolitan Water District of Southern California / Cadiz, Inc.	GEOSCIENCE Support Services Incorporated
2	Checked:	Evapotranspiration Estimate for Bristol Dry Lake (Method 2 - See Table 1)	
	Approved:		
	Date: 9-MAR-00		

Comparison of Evapotranspiration Estimates from Bristol and Cadiz Dry Lakes

	Source of Water Level Data	Surface Area (Acres)[1]	ET Rate (ft/yr)[2]	Correction for Brine[3]	Annual ET (Acre ft/yr)
Bristol Dry Lake	Method 1 Moyle et al., 1984	25,946	1.2	0.71	22,106
			3.6	0.9	84,065
	Method 2 Moyle, 1967; Shafer, 1964	16,833	1.2	0.71	14,342
			3.6	0.9	54,539
	Method 3 GEOSCIENCE, 2000 (after Bassett and Kupfer, 1964)	41,600	Deep GW[4] See Table 2	0.71	8,100[6]
			Shallow GW[4] See Table 2	0.9	35,450[7]
Cadiz Dry Lake	Method 1 Moyle et al., 1984	18,048	1.2	0.71	15,377
			3.6	0.9	58,476
	Method 2 Moyle, 1967; Shafer, 1964	na[5]	na	na	na
			na	na	na
	Method 3 GEOSCIENCE, 2000 (after Bassett and Kupfer, 1964)	18,048	Deep GW[4] See Table 2	0.71	3,670[8]
			Shallow GW[4] See Table 2	0.9	17,260[9]

Table 1

Comparison of Evapotranspiration Estimates from Bristol and Cadiz Dry Lakes

Evapotranspiration Totals	**Method 1**	Low	37,483
	Moyle et al., 1984	High	142,541
	Method 2	Low	29,719
	Moyle, 1967; Shafer, 1964	High	113,015
	Method 3	Low	11,770
	GEOSCIENCE, 2000 (after Bassett and Kupfer, 1964)	High	52,710

[1] Area of dry lake beneath which groundwater occurs less than 10 ft below land surface

[2] Evapotranspiration rates based on USGS WSP 2377 (Czarnecki, 1997) and confirmed by email correspondence with John Czarnecki (1-Mar-00)

[3] The 0.71 brine correction is based on brine densities for Bristol Dry Lake obtained through personal communication with National Chloride Inc. and the relationship between brine density and evaporation rate described in Chow, 1964. The 0.9 brine correction is based on salt pan evaporation rates for Bristol Dry Lake as published in Rosen, 1989.

[4] GEOSCIENCE ET estimates were based on geologic indications of depth to groundwater (Bassett and Kupfer, 1964) and percent of pan evaporation as a function of depth to groundwater (USGS WSP 659-A). The ET range is based on different assumptions of depth to groundwater, not a range of average ET rates (see Table 2 for Calculations).

[5] na = water level data not available

[6] 71 percent of low end of ET range for Bristol Dry Lake as shown on Table 2

[7] 90 percent of high end of ET range for Bristol Dry Lake as shown on Table 2

[8] 71 percent of low end of ET range for Cadiz Dry Lake as shown on Table 2

[9] 90 percent of high end of ET range for Cadiz Dry Lake as shown on Table 2

Table 1

Metropolitan Water District of Southern California / Cadiz, Inc.
Cadiz Groundwater Storage and Dry-Year Supply Program
Calculation of Evapotranspiration Losses from Bristol and Cadiz Dry Lakes

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Dry Lake	Soil Type	Range of Depth to Water [ft]	Average Depth to Water [ft]	Area [acres]	Pan Evaporation [in/year]	Percent of Pan Evaporation [%]	Evapotranspiration [acre-ft/yr]
Bristol	Puffy, Self-Rising Ground	2-8	5.0	25,011	157.6	2 - 8	6,570 - 26,280
	Brine-Soaked Clays	0-5	2.5	4,777	157.6	4 - 11	2,510 - 6,900
	Hard Sandy Clays	8-12	10.0	11,812	157.6	1.5 - 4	2,330 - 6,210
	Subtotal	-	-	-	-	-	**11,410 - 39,390**
Cadiz	Puffy, Self-Rising Ground	2-8	5.0	16,406	157.6	2 - 8	4,309 - 17,237
	Brine-Soaked Clays	0-8	4.0	1,642	157.6	4 - 9	863 - 1,941
	Subtotal	-	-	-	-	-	**5,172 - 19,178**

Range of Total ET Loss from Bristol and Cadiz Dry Lakes	**16,582 - 58,568**

[1] - [4] = From Kupfer and Bassett (1964)

[5] = Average Pan Evaporation Data from Amboy Station during 1967-1977 (California Dept. of Water Resources)

[6] = From White, 1932; based on [3]

[7] = [4] * ([5] / 12) * [6]/100

Table 2

Table 22. Summary of evapotranspiration estimates from all techniques used.

Technique	Evapotranspiration estimate (centimeters per day)
Energy-balance eddy correlation	0.1 to 0.3
Empirical potential evapotranspiration relations:	
Lower range (January)	0.1 to 0.5
Upper range (July)	0.5 to 1.7
Temporal changes in soil-moisture content in the unsaturated zone	Inconclusive -0.07 to 0.1
Evapotranspiration by phreatophytes (Robinson, 1958)	0.09 to 0.34
Temperature profiles	Inconclusive
Saturated-zone vertical gradients	0.06 to 0.5
One-dimensional finite-difference model	0.06

hydraulic-conductivity estimates may result in a similar wide range of values because of local heterogeneities from site to site. Techniques involving measurement of air permeability in the unsaturated zone, infiltration rates, or barometric efficiency may provide a means to diminish the range of values. Isotope hydrochemistry also may be a tool for estimating the quantity of evaporation required to produce observed isotopic composition of water in the saturated or unsaturated zone.

The rate of evapotranspiration of ground water from the saturated zone is a function of many variables: (1) phreatophyte type and density; (2) depth to the water table; (3) ground-water salinity; (4) soil-moisture characteristics; and (5) climatic factors. Of these, depth to the water table probably has a greater effect on evapotranspiration rate than the other variables. Although most of the discharge from the ground-water-flow system that includes Franklin Lake playa probably is from the playa surface, additional discharge probably occurs at upgradient areas north of Franklin Lake playa. To estimate this additional discharge, a more detailed definition of depths to the water table in these areas would be needed, as would a determination of the upgradient areas where upward vertical gradients in the upper part of the saturated zone are present or absent. The latter could be accomplished using a series of piezometer nests.

Only a general relation between depth to the water table and resultant evapotranspiration exists for this region. No systematic relation was obtained for data from the multiple sites and measurements at Franklin Lake playa; no significant change in estimated evapotranspiration was observed for a given time at sites that have differences in depths to the water table of as much as 3 m. To observe significant changes in rates of evapotranspiration, differences in depths to the water table of 5 m or more between sites may be required, if all else is equal. Equivalent conditions (phreatophyte density and type, soil-moisture characteristics, and climatic factors) at various locations may be difficult to find to make valid comparisons. Undoubtedly, locations exist in the Amargosa Desert where the water table is sufficiently deep, such that evapotranspiration is negligible. That depth may be about 15 m. Construction of piezometer and tensiometer nests in upgradient areas could provide confirmative vertical-gradient data to show the presence or absence of evapotranspiration of water from the saturated zone, as could detailed mapping of phreatophytes in these areas.

surface of the 12-foot water pan. The graphs indicate the variations that occurred in ground-water evaporation from tanks 5 to 9 (expressed as a percentage of the evaporation from the 12-foot pan) with changes in the depth to the water table. The figures for ground-water discharge do not include evaporation of rainfall. The precipitation during the observations was comparatively light, and the rains for the most part were torrential and penetrated the soil for only a few inches or at the most a foot or two.

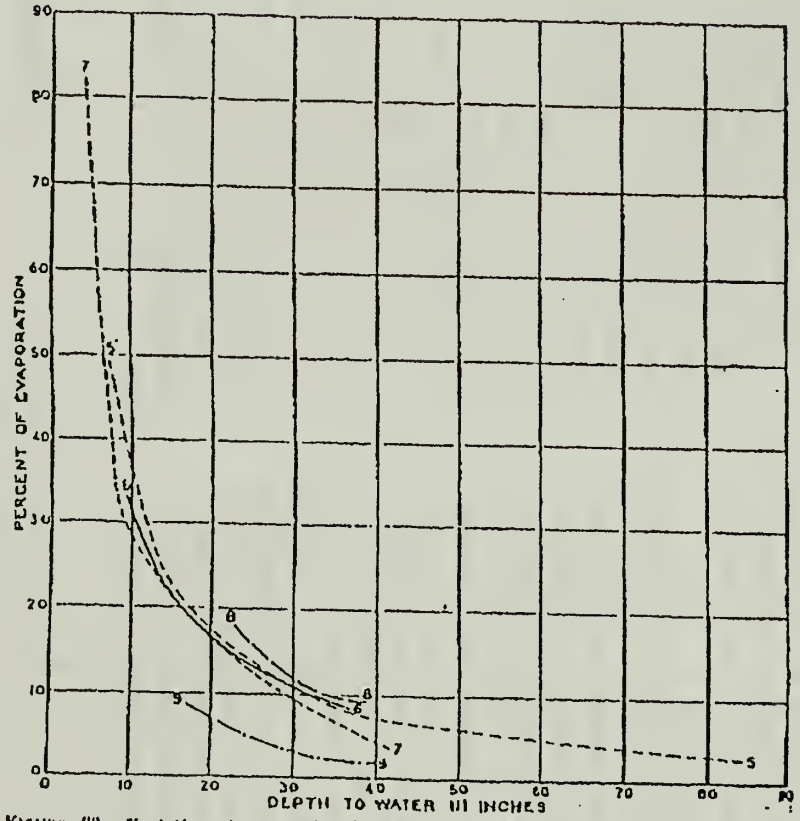


FIGURE 20.—Variations in ground-water evaporation with depth to water table, expressed in percentage of evaporation from 12-foot tank with free water surface

A few observations showed a rise of the water table in the tanks after rains, but the rise was invariably small. When such a rise occurred the tank record for several days after the rain was neglected, and estimates of discharge based on the average for the same depths during other parts of the season were substituted.

The rate of ground-water evaporation in all the tanks was comparatively high when the depth to water was 1 foot or less and was

rate of evaporation in tank 7, which contained undisturbed soil, was lower than it was in tank 8, which contained a fill of the same kind of soil, but the difference was not great. The high rate of evaporation computed for tank 6a may have been due to a slight leak.

INTERPRETATION OF THE DATA IN TERMS OF GROUND WATER

The investigation shows that beneath the tracts of ground-water plants in Escalante Valley and in other near-by valleys in Utah and Nevada the water table usually declines during the day and rises at night throughout the season of plant growth. The daytime decline occurred in every such field investigated, but in a few of them no rise was recorded at night. Where the night rise was not observed either the soils are highly permeable or a high specific yield of the soils is associated with a small consumption of ground water. Under the first of these conditions recharge during the day keeps pace with discharge, and a night rise is not to be expected. Under the second condition a slight rise probably takes place, but it is so slight as to be practically unappreciable. The key to the interpretation of the daily fluctuations of the water table in terms of ground water consumed by the plants lies in the specific yield of the soils in which the fluctuations take place and in the rise of the water table during the middle hours of the night, when the ground-water discharge is practically negligible and the hydraulic head induced by the daytime drawdown is about average for the 24 hours. The investigation indicates further that the annual growth put on by the plants is an index of the ground-water supply which they consume during the season.

The quantities r and s on the right-hand side of the formula $q = y(24r \pm s)$ are comparatively easy to measure. They were obtained in the course of the experimental studies from about 50 test wells. The specific yield (y), however, is exceedingly difficult to determine. Cylinders used to ascertain specific yield were driven adjacent to seven observation wells—well A–1, in Hendrickson's naturally subirrigated alfalfa field; well D, in a field of shad scale and greasewood at the Milford experiment station; well D–2a, in a salt-grass meadow 600 feet east of the station well; well D–3a, in a field of greasewood 400 feet north of the station; wells D–6 and D–6a in a salt-grass meadow 900 feet east of Milford railway station; and well G–2, in a field of greasewood 2 miles south of Milford.

Automatic water-stage recorders were maintained on these wells either continuously or long enough to permit a reasonably accurate estimate of the average night rise during the entire growing season.

Attachment B

Re: Evapotranspiration - Franklin Lake Playa (USGS WSP 2377)
3/1/00 2:22:33 AM Pacific Standard Time
jczamec@emirates.net.ae (John Czamecki)
SSIWATER@aol.com

Dr. Williams,

ugh the climatic conditions may be similar to that at Franklin Lake playa, hydrologic conditions in your basins may be derably different. Franklin Lake is a discharge playa where depths to water tend to be 3 meters or less. The sediments th its surface are fine grained (silts and clays) that have a strong control on the extent of the capillary fringe. Coarser ents would cause a smaller capillary fringe, all other things being equal. Some playas in the region have depths to water derably greater than at Franklin Lake playa, and as a result have negligible discharge. I don't know that anyone has cterized the 'extinction' depth at which evaporation of ground water stops, but appreciable discharge from water tables er than 15 m below land surface are unlikely. In addition, the surface of the playa can be an indicator of it being a arge environment. Soft, puffy porous surfaces are found on Franklin Lake playa and are likely caused by salt crystal n and expansion/contraction of clays as ground water is carried to the surface by evaporation. Hard, compact surfaces e indicative of negligible evaporation such as the conditions found on the Black Rock Desert playa in Nevada. Other s that impact evaporation rates are the salinity of the water, presence or absence of salt crust, and presence of tophytes.

th to water is 3 m or less, bare soil evaporation is dominant, sediment is silt to clay sized, and salt crust is generally nt, then a rate of 0.1 to 0.3 cm/day throughout the year is probably not an unrealistic estimate.

ks for your interest.

----- REPLY SEPARATOR -----

29/00, at 3:14 PM, GSSIWATER@aol.com wrote:

Dr. Czamecki:

are refining a hydrologic budget to estimate ground water recharge in the z and Bristol Basins which are located approximately 125 miles h-Southeast of the Franklin Lake Playa. Obviously, an important part of ydrologic budget is the evapotranspiration from these two dry lakes.

ur opinion, can we apply the data you developed for the Franklin Lake a to the Cadiz and Bristol Basins to estimate evapotranspiration? cifically, can we apply the evapotranspiration rates (0.1 cm/day to 0.3 lay) which you reported in Table 22 from your Energy-balance eddy lation method to the Cadiz and Bristol Basins?

king you in advance for any help you can provide on this matter.

is E. Williams, Ph.D.
dent
SCIENCE Support Services, Inc.

zamecki
al Drilling Co.-US Geological Survey
can Embassy Abu Dhabi
ment of State

Subj: Re: (no subject)
Date: 03/03/2000 8:34:02 AM Pacific Standard Time
Fr: lrwoolfe@usgs.gov
To: GSSIWATER@aol.com

Dennis,

I haven't done any further data collection in that area. I'm not aware of any one else in the CA district collecting data out there but that doesn't necessarily mean there hasn't been any.

Linda

Linda R. Woolfenden
Hydrologist, U.S. Geological Survey, WRD
Phone: (916) 278-3014
Fax: (916) 278-3013
Email: lrwoolfe@usgs.gov

GSSIWATER@aol.com
To: lrwoolfe@aqua.wr.usgs.gov
cc:
03/02/00 09:30 AM
Subject: (no subject)

Dear Linda:

We are in the process of refining evapotranspiration estimates from Bristol and Cadiz Dry Lakes. In the USGS Water Resources Investigation Report (83-41168) in which you were a co-author, Sheet 2 is a map showing equal depth to ground water.

The contours around Bristol and Cadiz lakes are very useful for the evapotranspiration estimates. Have you done any further data collection which would preclude us from relying on this map for estimates of depth to ground water?

Thanking you in advance,

Dennis

HYDROMETER CONVERSION TABLES
(Continued)

SHOWING THE RELATION BETWEEN DENSITY (C. G. S.) AND BAUMÉ AND TWADDELL SCALES FOR DENSITIES ABOVE UNITY.

Density	Degrees Baumé.	Degrees Twaddell.	Density.	Degrees Baumé.	Degrees Twaddell	Density	Degrees Baumé.	Degrees Twaddell.	Density.	Degrees Baumé.	Degrees Twaddell.
1.00	0.00	0	1.20	24.17	40	1.41	42.16	82	1.61	54.94	122
1.01	1.44	2	1.21	25.16	42	1.42	42.89	84	1.62	55.49	124
1.02	2.84	4	1.22	26.15	44	1.43	43.60	86	1.63	56.04	126
1.03	4.22	6	1.23	27.11	46	1.44	44.31	88	1.64	56.58	128
1.04	5.58	8	1.24	28.06	48	1.45	45.00	90	1.65	57.12	130
1.05	6.91	10	1.25	20.00	50	1.46	45.68	92	1.66	57.65	132
1.06	8.21	12	1.26	29.92	52	1.47	46.36	94	1.67	58.17	134
1.07	9.49	14	1.27	30.83	54	1.48	47.03	96	1.68	58.69	136
1.08	10.74	16	1.28	31.72	56	1.49	47.68	98	1.69	59.20	138
1.09	11.97	18	1.29	32.60	58	1.50	48.33	100	1.70	59.71	140
1.10	13.18	20	1.30	33.46	60	1.51	48.97	102	1.71	60.20	142
1.11	14.37	22	1.31	34.31	62	1.52	49.60	104	1.72	60.70	144
1.12	15.54	24	1.32	35.15	64	1.53	50.23	106	1.73	61.18	146
1.13	16.69	26	1.33	35.98	66	1.54	50.84	108	1.74	61.67	148
1.14	17.81	28	1.34	36.70	68	1.55	51.45	110	1.75	62.14	150
1.15	18.91	30	1.35	37.69	70	1.56	52.05	112	1.76	62.61	152
1.16	20.00	32	1.36	38.28	72	1.57	52.64	114	1.77	63.08	154
1.17	21.07	34	1.37	39.16	74	1.58	53.23	116	1.78	63.54	156
1.18	22.12	36	1.38	39.93	76	1.59	53.80	118	1.79	63.99	158
1.19	23.15	38	1.39	40.68	78	1.60	54.38	120	1.80	64.44	160
			1.40	41.43	80				....	.....	...

DENSITY OF D_2O

G. S. Kell

t, ° C.	ρ, G./Cc.	t, ° C.	ρ, G./Cc.	t, ° C.	ρ, G./Cc.	t, ° C.	ρ, G./Cc.
0	1.10460	20	1.10534	50	1.09570	80	1.07824
3.813	1.10546	25	1.10445	55	1.09325	85	1.07475
5	1.10562	30	1.10323	60	1.09060	90	1.07112
10	1.10599	35	1.10173	65	1.08777	95	1.06736
11.185	1.10600	40	1.09996	70	1.08475	100	1.06346
15	1.10587	45	1.09794	75	1.08158	101.431	1.06232

(Thompson, 1929) were the first work done in the area. Gale (1951), Durrell (1953), ver Plank (1952,1958), and Bassett *et al.* (1959) first studied the geology of the area by trenching and core analyses. However, emphasis was placed on detailed description and not on interpretation of facies relationships or diagenetic controls. Recently, Handford (1982a,b) conducted a reconnaissance study of the gross sedimentology of the surface and shallow subsurface of Bristol Dry Lake and attempted the first integrated interpretation of the area. This study developed a general facies patterns based on lateral facies distribution, but raised many important questions about how these facies pattern vary with depth.

Table 2.1. Climatic data for Bristol Dry Lake area.

Temperature data from Bagdad, Ca. Approx. 30 km northwest of Amboy
(based on 17 years of data from Thompson, 1929).
High: 48.3 °C Low: -0.8 °C
Highest monthly mean (July): 35.1 °C
Lowest monthly mean (December): 11.4 °C
Annual mean: 22.4 °C

Precipitation data from Bagdad, Ca. Approx. 30 km northwest of Amboy
(based on 17 years of data from Thompson, 1929).
Maximum monthly rainfall (February): 81.3 mm.
Minimum monthly rainfall (every month): 0.0 mm.
(In 17 years it never rained in June).
Mean annual rainfall: 57.9 mm (35% of rain falls in Jan.-Feb.).

Maximum yearly rainfall: 259 mm.
Minimum yearly rainfall: 0.0 mm.

Precipitation data from Amboy (based on 4 years of data
from 1982-87 from Dr. G.I. Smith, written Communication, 1987).

Summer average 1982-86: 58 mm.
Winter average 1982-87: 56 mm.

Data from Handford (1982a).
Humidity: 40 - 50% (January), 20 - 30% (July).
Mean annual salt pan evaporation: 3200 - 4000 mm.

B13

TO: January 7th, 2001
Mr. Gilbert Ivey <givey@mwd.dst.ca.us>
Office of the General Manager
** Metropolitan Water District of So. Cal. Headquarters **
700 N. Alameda St., Los Angeles, CA 90012 USA Phone: (213) 217-6000
-and-
** Washington, DC Office **
Mr. Brad Hiltscher <bhiltscher@mwd.dst.ca.us> Federal Legislative Representative
The Metropolitan Water District of So. Cal.
1015 18th St. N.W., Suite 600, Washington, DC 20036-5203 Phone: (800) 996-9332
-and-
** Sacramento, CA Office **
Ms. Kathy Cole <kcole@mwd.dst.ca.us> California State Legislative Representative
-and-
Raymond E. Corey Jr. <rcorley@mwd.dst.ca.us> California State Legislative Representative
The Metropolitan Water District of So. Cal.
1121 L Street, Suite 900, Sacramento, CA 95814 Phone: (916) 650-2600
Website: http://www.mwd.dst.ca.us/

Dear MWD Personnel:

Subject: Trace Heavy-Metals in Cadiz Aquifer = FACT

We are happy to see the community-support for "The Cadiz Groundwater Storage and
Dry-Year Supply Program (in association with) The Metropolitan Water District.
Please go to: http://www.cadizinc.com/c/pdf/quotes.pdf

It seems that there is no mechanism to send this important Attachment to
Cadiz, Inc.,
through this webpage: http://www.cadizinc.com/e/eframeset.html

B13-1

Therefore, we would like to call to your attention that according to the US
Geological Survey
(USGS) the "general target area" where the Cadiz Aquifer is located, happens to contain
relatively high levels of (at least) Arsenic ..... and possibly other heavy-metals such as
Chromium, Lead and Mercury.

B13-2

In addition, as your public/private cooperation begins to pump water "into"
the general aquifer
area there may be opportunities for other contaminates (possibly Perchlorates) to leach-into
this natural underground storage facility.
-AND-
In the Calif. dry-season, as your public/private cooperation begins to pump

B13-3

water "out-of"
said general aquifer area, you will need some type of infrastructure to remove said contaminants: B13

We recommend the following (Preliminary Quotation - Installed):

1MMGD System to process your ground-water, which will remove at least Arsenic to 5PPB and potentially other heavy metals -and- remove selected
Bacteria and Viruses
.....
$1,500,000

NOTE: B13
The actual water-analysis may affect the design and in turn will affect the
cost of the System.

In general, these Systems operate at 15 psi and the power requirement is
less
than 0.5 kWHr/1,000Gal.

These 1MMGD Attachments are modular. We can provide as many modules as your
budget will allow.

BACKGROUND NOTE: Please go to:
http://www.house.gov/transportation/water/09-29-99/vanwinckle.html
(At this webpage you will see that the Army Corps is a little reluctant to
take-on this project, because
of several challenges addressing ground-water pollutants, covered by the
Army Corps of Engineers.)

B13

Reference:
HR 910 US Rep. Dreier, March 29, 2000 by Public Works Committee
"An act to authorize the Secretary of the Army, acting through the Chief of
Engineers and in
coordination with other Federal agency heads, to participate in the funding
and implementation
of a balanced, long-term solution to the problems of groundwater contamination,
water supply, and reliability affecting the San Gabriel groundwater basin
in California."

NOTE: We have been in contact with: (on various water and power solutions): B13
Mr. Dan Smith <dans@acwanet.com> ACWA-USA JPA Secretary
** Association of California Water Agencies ** (ACWA)
910 K Street, Suite 100, Sacramento, CA 95814 (916) 441-4545
-and-

Dr. Lon W. House <lwhouse@el-dorado.ca.us> ACWA-USA JPA Advisor
Water & Energy Consulting - 4901 Flying "C" Road, Cameron Park, CA 95692
(530) 676-8956

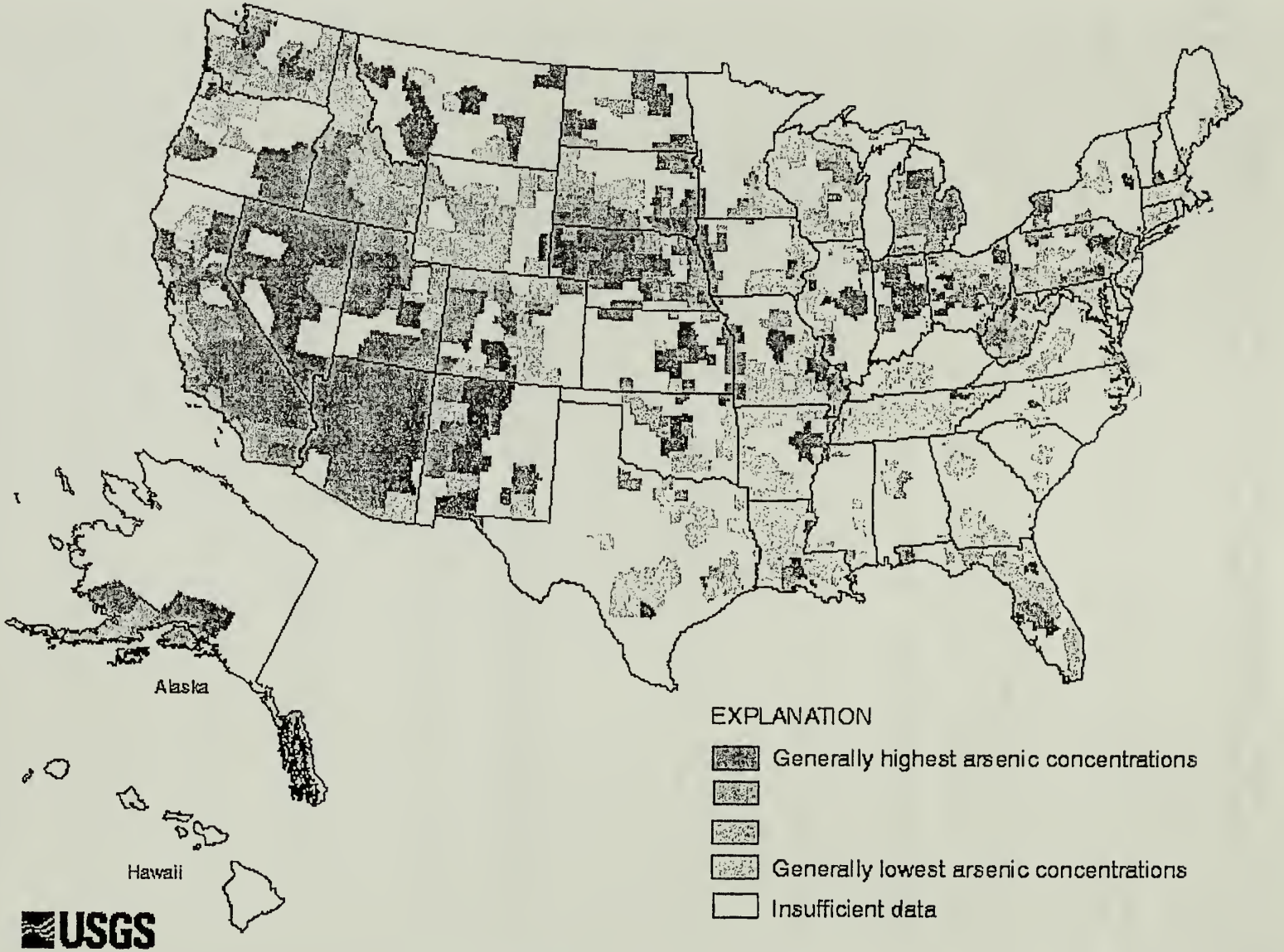
Please let us know if you are interested in pursuing this equipment.

B13-6

Regards,

Clark A. Tibbs, Principal CT Associates
1720 King Road, Suite D-4, Newark, Ohio 43055 (Columbus Area) USA
Phone: (740) 366-9013 24Hr.-Fax: (740) 366-5230
E-mail: <cta@ee.net> Office Hours: 8AM to 8PM EST M-F

==========
=== END


Alaska
Hawaii
USGS
EXPLANATION
Generally highest arsenic concentrations
Generally lowest arsenic concentrations
Insufficient data

B/3

e

ENVIRONMENTAL DEFENSE

finding the ways that work

September 7, 2000

Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054-1053
Attention:
Mr. Dirk Reed
Mr. Jack Safely

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attention:
Mr. James Williams

Subject: **Supplemental Draft EIR/EIS for Cadiz Project** G18

Dear Sirs:

I have heard that a supplemental EIR/EIS for the proposed Cadiz Groundwater Storage and Dry Year Supply Program should soon be available. Having submitted comments last March on the draft EIR/EIS and the related February 23, 2000, memorandum from the United States Geological Survey, Environmental Defense is keenly interested in this supplemental document. Can you please send me a copy? G18-1

My Mailing address is:

Spreck Rosekrans
Environmental Defense
5655 College Avenue, Suite 304
Oakland, CA 94618

Thank you.

Sincerely,

Spreck Rosekrans
Senior Analyst

THE DESERT PROTECTIVE COUNCIL INC.
A NON-PROFIT ORGANIZATION
P.O. BOX 3635 • SAN DIEGO • CALIFORNIA 92163-1635

DESERT PROTECTIVE COUNCIL
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SYLVIA BROADBENT
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Conservation Ecologist

PETE DANGERMOND
Park Consultant

MARY DEDECKER
Botanist

BETTY FORGEY
Desert Tortoise Activist

MICHAEL FROME
Author

AUGUST FRUGE
Conservationist

LARRY IWERKS
Wilderness Advocate

WILBUR MAYHEW
Professor of Zoology

ART MONTANA
Professor of Earth Sciences

ALLAN MUTH
Biologist

KAREN SAUSMAN
BioPark Director

ROBERT STEBBINS
Herpetologist

LEONARD VINCENT
Professor of Biology

FRANK WHEAT
Attorney

HOWARD WILSHIRE
Geologist

G19

October 19,2000

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

Sirs,

It is our understanding that the Supplement to the DEIR/ DEIS for the Cadiz Groundwater Storage/Dry Year Supply Program Will be released in the immediate future with a 30-day comment period.

On October 15, 2000, the members of the Desert Protective Council, Inc during their Annual Meeting, voted unanimously to request a 90-day comment period.

Please keep this national, desert-oriented, membership organization on the mailing list for all materials related to this project. If there are charges, please advise the President at the address above.

We respectfully request a 90-day comment period.

Respectfully submitted,

Douglas W. Allen

Douglas W. Allen, President

cc: BLM, Riverside
BLM, Needles

Western Environmental Law Center
Defending the West

Southwest Office
P.O. Box 1507
New Mexico 87571
505/751-0351
505/751-1775 (fax)
gosiaw@laplaza.org

Northwest Office
1216 Lincoln Street
Eugene, Oregon 97401
541/485-2471
541/485-2457 (fax)
esterniaw@welc.org
www.welc.org

October 20, 2000

G-20

VIA FACSIMILE AND CERTIFIED MAIL
Tim Salt
Desert District Manager
Bureau of Land Management
5221 Box Springs Boulevard
Riverside, California 92507

Re: Extension of Comment Period for Cadiz Water Project

Dear Mr. Salt:

I am writing, on behalf of the Sierra Club, the National Parks Conservation Association, and the rest of a rapidly growing coalition of environmental organizations and concerned citizens, to urge the Bureau of Land Management to extend the comment period for the supplemental Draft Environmental Impact Statement for the Cadiz Water Project to 120 days.

This extension is necessary because the proposed Cadiz Water Project and the supplemental Draft EIS present complex and highly controversial issues of great public import. As you know, the initial Draft Environmental Impact Statement was so glaringly inadequate that several federal agencies and the County of San Bernardino readily exposed it as "scientifically indefensible" and demanded that a new, revised Draft Environmental Impact Statement be prepared to more adequately address a variety of issues. The issues that the public must consider in reviewing, analyzing, and commenting on this new, revised Draft E. include complex aspects of geology and geohydrology, the adequacy of the proposed monitoring and mitigation plan, potential impacts to various species of wildlife and plants, potential impacts to air quality, impacts to specially protected federal lands such as the Mojave National Preserve and several wilderness areas. impacts on water resources required for other purposes, the range of reasonable and preferable alternatives to the proposed project, and secondary impacts on population growth and commercial development.

G20-1

The complexity of the issues that the public must consider and comment on within the time period provided is shown by the fact that it took Cadiz (the project proponent), the BLM, the Metropolitan Water District of Southern California, and other cooperating agencies over six months and approximately $600,000 to produce this supplemental Draft EIS. To provide the public with a reasonable opportunity to address these complex issues, the BLM should provide the public with enough time to carefully review the supplemental Draft EIS in its

unbleached • 100% postconsumer waste • soy ink

entirety and to consult with people possessing the necessary expertise to independently evaluate the supplemental Draft EIS's responses to the issues. Moreover, concerned members of the public must do this without access to the awesome resources of Cadiz, the BLM, and the other state and federal agencies that contributed to the preparation of the supplemental Draft EIS. In light of these considerations, 120 days would be a reasonable amount of time that would allow the public an adequate opportunity to review and comment on the supplemental Draft EIS.

Accordingly, we were disappointed to learn that BLM is planning to provide only a 45-day comment period following publication of public notice today in the Federal Register. A 45-day comment period is far too short and will deprive the public of an opportunity to thoroughly review and comment on the supplemental Draft EIS.

Further, the BLM's own regulations require that this EIS be open to public comment for at least 90 days. This is so because, as with the initial draft EIS, the supplemental Draft EIS includes a proposal to amend the BLM's Desert Plan of 1980 under the Federal Land Management Policy Act. The proposed amendment of the resource management plan is a crucial precondition for the proposed Cadiz Project because without the amendment Cadiz cannot obtain a right of way from the BLM which is necessary for the construction of the Project. The proposed amendment would involve the reclassification of lands from their current classification as Class L lands to another classification that would permit the right of way. Where, as here, the BLM proposes to amend a resource management plan through an EIS, BLM regulations clearly require that the public be provided with at least a 90-day review and comment period. See 43 C.F.R. §§ 1610.2, 1610.5-3, 1610.5-5.

In addition, the Council on Environmental Quality's regulations implementing the National Environmental Policy Act indicate that the BLM should lengthen the public review and comment period in this case. As the CEQ regulations note, insuring meaningful availability of environmental information to the public and public scrutiny of that information are "essential to implementing NEPA." 40 C.F.R.§ 1500.1(b). Accordingly, federal agencies are required to "[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment," 40 C.F.R. § 1500.2(d), and to "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures," 40 C.F.R. § 1506.6. To ensure that the public can indeed meaningfully participate in the environmental review process under NEPA, the CEQ regulations authorize a lead agency, such as the BLM in this case, to extend prescribed time periods for public comment and agency consideration. See 40 C.F.R. § 1506.10(d).

In light of both the legal and practical considerations described above, we sincerely hope you will recognize the need to extend the public review and comment period for the supplemental Draft EIS to 120 days in order to insure meaningful public scrutiny. Because of the enormous time pressure currently bearing down on the public, we further request that you consider our request and notify us of your decision as soon as possible. You can contact me in writing through the fax number and mailing address indicated on the first page of this letter, and by telephone at (505) 751-0351. G20-1

Very truly yours,

Simeon Herskovits

cc: Mike Pool, BLM
Mary Martin, NPS
Mike Shulters, USGS
Jeanne Geselbracht, USEPA
Jack Safely, MWD

RECEIVED
BUREAU OF LAND MANAGEMENT
2000 NOV 7 PM 1:52
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

THE WILDERNESS SOCIETY
California/Nevada Regional Office

Eastern Sierra Field Office
P.O. Box 442
Lee Vining, CA 93541
(760) 647-1614

TO | INITIAL
DM
ADM
OSR
FA
ADMIN
F&O
LM & RP
PCMs

November 1, 2000

Tim Salt
Desert District Manager
Bureau of Land Management
5221 Box Springs Boulevard
Riverside, CA 92507

G21

Re: **Extension of Comment Period for Cadiz Water Project**

Dear Mr. Salt:

I am writing on behalf of The Wilderness Society to request an extension of time to comment on the Supplement Environmental Impact Report/Statement (SEIR/EIS) for the "Cadiz Groundwater Storage and Dry-Year Supply Program."

The Wilderness Society previously submitted comments, with the National Parks Conservation Association on the Draft EIR/EIS for this project. We remain deeply concerned about the potential for this project to irreversibly impact both Bureau of Land Management and National Park Service lands. Potentially impacted resources include:

- Plants and wildlife, including the Desert bighorn sheep;
- Critical habitat for the threatened Desert tortoise;
- Groundwater and surface water supply and quality;
- Air quality;
- Mojave National Preserve and four Bureau of Land Management Wilderness areas.

G21-

The issues that the public must review, analyze, and comment upon include complex aspects of geology and hydrogeology, the adequacy of the proposed monitoring and mitigation plan, potential impacts to wildlife, plants, air quality, water resources and specially protected federal lands, the range of reasonable and preferable alternatives to the proposed project, and secondary impacts on population growth and commercial development.

Presidio Building 1016, P.O. Box 29241, San Francisco, CA 94129-0241 415-561-6641 fax: 415-561-6640 www.wilderness.org

Recycled Paper

Note: This letter was also sent to the Metropolitan Water District

Because of the length and complexity of the document, and the serious significance of its potential impacts to federally protected resources, we respectfully request a 45-day extension of time on the existing comment period, so that the comment period totals 90 days, the minimum required under the Federal Land Policy Management Act for an action that mandates a change in the protection status of Bureau of Land Management lands required by this project. G21-1

Thank you for your consideration of our request. We look forward to your prompt response. Please address correspondence to our Eastern Sierra Field Office, Attn. Sally Miller, P.O. Box 442, Lee Vining, CA 93541.

Sincerely,

Sally Miller

Sally Miller
Regional Conservation Representative

LOREY CACHORA
QUECHAN TRIBAL CULTURAL COMMITTEE CONSULTANT
P.O. BOX 894
WINTERHAVEN, CALIFORNIA 92283

November 23, 2000

G22

Bureau of Land Management
California Desert District
6221 Box Spring Blvd
Riverside California 92507

Dear, Mr. James Williams

The Quechan Tribe is interested since the Cadiz Groundwater Project impacts on conservation clean streams and wildlife and protection. We request that the comment period on the Supplement to the Cadiz Groundwater Storage project be extended from 45 days to 90 days. G22

Thank you

Lorey Cachora

Note: This letter was also sent to the Metropolitan Water District.

Western Environmental Law Center
Defending the West

WEST OFFICE
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@laplaza.org

WEST OFFICE
Lincoln Street
regon 97401
1/485-2471
5-2457 (fax)
aw@welc.org
www.welc.org

November 16, 2000

VIA FACSIMILE AND FIRST CLASS MAIL
Bruce Babbitt
Secretary of the Interior
United States Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

David Hayes
Deputy Secretary of the Interior
United States Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

623

John Leshy
Solicitor
United States Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear Messrs. Babbitt, Hayes, and Leshy:

I am writing on behalf of a coalition of concerned citizens groups, including the Sierra Club, the National Parks Conservation Association, and the California Wilderness Coalition, to urge you to act immediately to extend the public comment period for the Cadiz Groundwater Program to at least 90 days from the date of public notice in the Federal Register.

As noted in my letter of October 20, the immense and unrealistic time pressure created by the 45-day comment period that was initially announced makes it imperative not only that the extension to 90 days be granted, but that the extension be granted as early as possible. It has now been almost four weeks since we first made this request, and the Department's delay in acting on it is seriously prejudicing our ability to thoroughly scrutinize and comment on the supplemental EIS for the Cadiz Program. (A copy of the October 20 letter is attached for your information.)

623-1

The requested extension is necessary for the following reasons. First, this highly controversial proposal to drain the aquifer that sustains the ecosystems of the western Mojave desert raises numerous complex technical issues. To thoroughly and meaningfully comment on these issues and the supplemental EIS's ramifications will require time consuming review and expert consultation.

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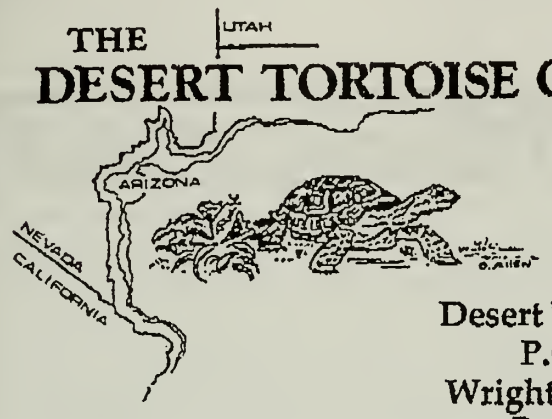
Further, as you may have heard, just three days ago it was revealed that the native groundwater which would be extracted by the Cadiz program and sold to southern California for domestic consumption contains the known carcinogen Chromium 6 at levels up to more than 100 times the California proposed health protective level. This adds a major new public health dimension to the proposed project that has never been addressed in any of the NEPA documents. G23-2

Finally, the BLM's own regulations mandate a 90 day comment period where, as here, a proposed project will require the amendment of a resource management plan under FLPMA. Because the project would not provide additional water to southern California for at least two years and there is no pressing need for the project's potential water supply, we believe it would be unreasonable and arbitrary to abrogate the procedural requirements of the BLM's own regulations. G23-3

In light of these compelling reasons for the extension and the enormous time pressure bearing down on the interested public, please act now to extend the comment period for the Cadiz Program's supplemental EIS to 90 days from the date of public notice in the Federal Register. If you have any questions regarding this request, please do not hesitate to contact me at (505) 751-0351. Thank you for your attention to this urgent matter.

Very truly yours,

Simeon Herskovits



Desert Tortoise Council
P.O. Box 3141
Wrightwood, CA 92397
December 3, 2000

G24

Mr. James Williams
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

RE: Cadiz Groundwater Storage and Dry-Year Supply Program
Supplement to the Draft Environmental Impact Report, Draft
Environmental Impact Statement SCH No. 99021039
Report No. 1169

The Desert Tortoise Council wishes to note the following: The Supplement does not directly address the desert tortoise, although the original DEIR/DEIS did. We remain concerned about the impact of this project on the populations of desert tortoises in the area of the proposed project and in the general degradation of the Mojave Desert, no matter how socially beneficial the proposed projects. G24-1

We remain an interested party in these matters and request to be informed as matters develop (or don't develop).

Sincerely,

Marc D. Graff, M.D.
Senior Co-Chair
Desert Tortoise Council--

CALIFORNIA INDIAN ARTS

December 28, 12000

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, Calif. 92507
Attn: Mr. James Williams

G25

RE: SEIS CADIZ Inc.
sale of underground water

Gentlemen,
This is in opposition to the proposed theft of nature's underground water by CADIZ Inc., and their proposed sale of that water to the Los Angeles MWD. Although I am a life long resident of San Diego and Orange Counties, and would be the recipient of some of that water, I am also a responsible Citizen, and an American Indian, and I cannot sit idly by and watch a governmental agency recklessly give away precious desert water to a foreign agency just because they want it.

I am sure that your agency is well aware of the infamous theft of Owens Valley water by the MWD some years ago. That area still feels the ill effects of that theft. It now appears that an agency of our Federal government is trying to do virtually the same thing again, only in an region where there are less people to oppose them. G25

Certainly your agency is aware of the fact that allowing the MWD to drain the aquifer in this region will condemn this entire region to perpetual drought ... FOR EVER. Were there a compelling reason to ruthlessly steal this water, perhaps that might be excusable. To EVEN LISTEN to a poor excuse such as " The Los Angeles basin needs water so that it can ATTRACT more people and MORE industry" is a PRETTY LAME excuse.... AT BEST!..... Right now the LA Basin is hopelessly over populated and those of us who are natives must suffer air quality that is almost fatal to some of our weaker neighbors, even with the status quo. It therefore doesn't take a brain surgeon to understand that more water means more people/more density/more pollution/less quality of life for everyone.

I am perfectly aware of the frenzied efforts to obtain a monetary gain, any way that does end you up in prison. I can even understand the callous desires of corporate officers wanting to turn a buck, even it means killing off every living thing in the entire Mojave Desert. What I cannot understand is the willingness of some governmental employees who are willing to allow these corporate officials to implement this mass

C/O Justin Farmer 1954 E. Evergreen Avenue, Fullerton, CA 92835 (714) 256-1260

execution of all living things in this Mojave Desert. This is the very reason a large portion of our society looks with such contempt upon some such employees, be they in private practice or on government rolls. I can understand the thinking of such officials because I was the president and CEO of a corporation for approximately 20 years and I worked in governments for approximately 25 years. I also understand the demands on a corporation to show a profit, regardless of its lasting effect on our society. I have also sat on boards of directors of other corporations and been responsible for policies regarding profitability of those corporation. However, during those last two decades, I am proud to say that I have fought for a policy that is compatible with our society and our environment FIRST, and for profitability SECOND.

It has been claimed that CADIZ Inc. will replenish the stolen ground water with that taken from the Colorado River. NOW THAT REALLY OVERWHELMS ME!!. There have been battles for generations between Mexico, Arizona, and California over water from this river. Now do you honestly believe that CADIZ Inc. will prevail over these other agencies? I kind of doubt it! G25-1

In summary, I humbly ask that you, as a representative of our government; you who have been entrusted with the future of our great American Desert, do all in your power to disapprove of this rape of our Mojave Deseret. Please try to understand that this water merely represents dollars to CADIZ Inc but loss of this water means drought for this desert, FOR EVER.

Thank you very much for your consideration.

CALIFORNIA INDIAN ARTS ASSOCIATION

Justin Farmer Gen. Mgr.

Cc. Metropolitan Water District
Water Resources Management
PO Box 54153, LA 90054
Attn: Mr. Jack Safely

C/O Justin Farmer 1954 E. Evergreen Avenue, Fullerton, CA 92835 (714) 256-1260

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 8:57
DISTRICT
RIVERSIDE, CA.

CHEROKEE WATERSHED GROUP

Lynn Barris, 2830 House Avenue, Durham, CA 95938

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

G26

January 3, 2001

RE: Cadiz Groundwater Project

Dear Mr. Williams,

Cherokee Watershed Group has many concerns about the Cadiz Groundwater project. As all of California is trying to move to a more sustainable, less abusive system of managing water, the Cadiz example takes us back to a time when decisions were made without good science to back them up. G26

The degree of science used in the draft and supplemental EIR/EISs fall short of the scientific integrity that is required under CEQA and/or NEPA for a site-specific project. Both documents have failed to use the best reasonably available science for such important issues as: G26

- The aquifer's recharge rate
- Air quality impacts G26
- Wildlife impacts G26
- The efficacy of the monitoring program G26
- The effectiveness of potential mitigation measures G26

Other areas of concern include: G26

- Misrepresentation of available surplus Colorado River water
- Groundwater overdraft G26

- Other overlying landowners groundwater rights
- Lack of examining alternatives that are actually sustainable, safer, and less environmentally destructive, specifically water conservation

G26-9
G26-10

As we reviewed this project we were struck by:

- Bad process- decisions not transparent to the public, facts hidden, impossible to get into public meeting, lack of meaningful stakeholder participation
- Bad science- not using best readily available science
- BAD PRECIDENT for future water management projects

G26-11
G26-12
G26-13

Cherokee Watershed is part of the Butte Basin, one of the largest, healthy aquifers remaining in California. As we hope to move forward in a sustainable groundwater management plan, we can only look at the Cadiz project as a clear example of where superficial science started a momentum to see the project through. Now that more credible science and concerns have surfaced it has not been enough to stop the momentum. To move forward with this project at this point is imprudent environmentally, politically, and socially.

G26-14

Thank you for giving us a chance to comment.

Sincerely,

Lynn Barris

n Barris
2830 House Ave.
Durham, CA 95938

James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd

Desert Tortoise Pres
Committee, Inc.

Metropolitan Water District of Southern California
Attn: Jack Safely
P.O. Box 54153
Los Angeles, CA 90054-0153

January 4, 2001

G27

Dear Mr. Safely:

Re: Proposed Cadiz Groundwater Storage Project

I am the Executive Director of the Desert Tortoise Preserve Committee, a nonprofit organization that has been devoted to promoting the welfare of the desert tortoise, *Gopherus agassizii*, and its habitat throughout its range in the desert Southwest since 1974. On behalf of the Committee and other tortoise interest groups such as the Desert Tortoise Council that I represent on the Bureau of Land Management's desert planning efforts, I thank you for providing this additional opportunity to review and provide comment on the proposed Cadiz Groundwater Storage Project. As you will see below, we are deeply concerned that the Supplemental Draft EIR/EIS includes new proposals that may have significant negative environmental impacts on both the desert tortoise and its designated critical habitat. These impacts are not addressed in the Supplement or in the original Draft EIR/EIS.

G27-1

4067 Mission Inn Avenu
Riverside
California
92501

Page 1-4 of the Supplement states, the "Supplement to the Draft EIR/EIS is focused on water resources and related air quality issues" and further "The Draft EIR/EIS addressed issues such as potential effects on endangered species, wildlife habitat, and cultural resources; these issues are not revisited in this Supplement." These statements are of concern in and of themselves, since by implication any relevant new data on other affected resources has been ignored. In particular, a new federally-funded study has determined that local desert tortoise populations have undergone a recent decline of such magnitude that we feel that a complete reevaluation of the potential impacts of the project to this resource may be warranted. Of even greater concern, however, is that the Supplement to the Draft EIR/EIS includes new proposed actions such as the construction of a series of "observation wells" that are not evaluated for their environmental impacts on the tortoise or its designated critical habitat.

G27-2

(909) 683-3872 Phone
(909) 683-6949 Fax

Although the Cadiz landholdings lie immediately adjacent to designated desert tortoise critical habitat (in fact according to Figure 3-5, Cadiz owns Section 5 of T5N R15E which was designated as critical habitat in the February 8, 1994 determination) neither the original Draft EIR/EIS nor the Supplement include a single map depicting critical habitat boundaries. If this had been done, it would have been quite clear that most of the newly proposed locations for the observation wells are within or along the boundary of designated critical habitat. Nowhere in the Supplement are the direct or indirect environmental impacts to the

www.tortoise-tracks.or

G27-3

Desert Tortoise Preserve
Committee, Inc.

tortoise or its critical habitat of these newly proposed constructions addressed. Indeed, a footnote on page 3-29 states "Installation of any new monitoring facilities would be subject to approval by the applicable regulatory agencies." This is troubling in that the EIR/EIS process appears to have failed to evaluate both the specific impacts of certain proposed actions and the cumulative impacts of the project to a Federal- and state-listed species.

G27-3

The proposed actions will impact on critical habitat in two separate desert tortoise recovery units. The proposed spreading basins and those production wells northeast of the basins lie on the southwestern edge of the Chemehuevi critical habitat unit (CHU), which is part of the Northern Colorado Desert Tortoise Recovery Unit. The proposed observation wells to the east of the spreading basin lie within the Chemehuevi CHU. In addition, many of the observation wells proposed to the north of the basin lie in and along the Fenner Valley within the Piute-El Dorado CHU of the Eastern Mojave Desert Tortoise Recovery Unit.

G27-4

The Fenner Valley forms a significant link between the Chemehuevi and Piute-El Dorado critical habitat units. In the Fenner Valley lies the Goffs Permanent Study Plot, which was established in 1977 for the Bureau of Land Management and is one of 15 plots in the California desert where tortoise populations have been surveyed every 4 years or so. This site was surveyed in spring 2000 by a team led by Dr. Kristin Berry of the U.S. Geological Survey. The survey results were widely publicized and were featured in several newspaper articles (e.g. Los Angeles Times, 7/16/00; San Bernardino Sun 8/14/00). According to a July 2000 report of the survey, the population has undergone a severe decline and only 10-14% of tortoises registered in prior surveys remain.

G27-5

4067 Mission Inn Avenue
Riverside
California
92501

(909) 683-3872 Phone
(909) 683-6949 Fax

www.tortoise-tracks.org

The Fish and Wildlife Service's 1994 *Desert Tortoise (Mojave Population) Recovery Plan*, notes that predation by ravens may significantly impact on recruitment of juvenile tortoises, that raven populations are increasing in the Fenner Valley (Appendix F, page 11) and that "artificial sources of food and water help sustain more individuals during times of resource shortage" (Appendix D, page 34). Clearly, now that the local tortoise population has crashed, recruitment of juvenile tortoises is at premium if recovery is to occur. However, according to the Draft EIR/EIS, the proposed spreading basins will provide a new water source for birds (page 5-164). We were pleased to see that the original Draft EIR/EIS included a series of proposed mitigations for impacts to non-critical tortoise habitat caused by construction of 35 miles of pipeline. However, the ongoing impact to the tortoise afforded by subsidizing one of its known predators by providing a ready source of water for ravens was not considered in the original EIR/EIS. Given that new data shows a major decline in the local tortoise population, appropriate mitigations must be provided to offset this impact.

G27-6

Desert Tortoise P
Committee, Inc.

According to page ES-3 of the Draft EIR/EIS the purpose of the EIR/EIS is to provide "a detailed project description and an analysis which fully evaluates the potential environmental impacts and mitigation measures for the proposed project. CEQA and NEPA specifically require that an EIR/EIS identify any potential adverse impacts determined to be significant after mitigation." Clearly, given the issues we have identified above, this purpose has not yet been fulfilled and the EIR/EIS process is incomplete since the proposed actions have not been fully evaluated for their impacts on the threatened desert tortoise and its habitat. Obviously, appropriate mitigations cannot be developed without this evaluation. G27-7

Again, we thank you for providing the opportunity to comment on the Supplemental Draft EIR/EIS and we look forward to seeing your response. If we can be of any additional information or assistance please feel free to contact me by telephone at (909) 683-3872 or by e-mail at <dtpc@pacbell.net>. G27-8

Sincerely,

Michael J. Connor, Ph.D.
Executive Director

4067 Mission Inn Ave
Riverside
California
92501

(909) 683-3872 Pho
(909) 683-6949 Fax

www.tortoise-tracks

cc: James Williams, BLM

RECEIVED
BUREAU OF LAND MGMT.
01 JAN -5 AM 9:44
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

LAW OFFICE OF
GARRY L. HAYES
A PROFESSIONAL CORPORATION
3777 SOUTH PECOS-MCLEOD
SUITE 104
LAS VEGAS, NEVADA 89121

L. HAYES
L. SMITH

TELEPHONE:
(702) 434-3444
FACSIMILE:
(702) 434-3739
E-MAIL:
nevlaw@aol.com
www.lvlaw.com

January 4, 2001

VIA FEDERAL EXPRESS

G-28

James Williams
United States Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

Re: Public Comment to Cadiz Groundwater Storage Project - San Bernardino County, California

Dear Mr. Williams:

The purpose of this letter is to comment on the Supplement to the draft Environmental Impact Report - Environmental Impact Statement ("Supplement") for the proposed Cadiz groundwater storage and dry year supply program in eastern San Bernardino County.

This comment is on behalf of GVR, Inc. ("GVR") and Mojave Lands Conservation, LLC ("Mojave Lands Conservation"). Collectively these two entities own or are under contract to purchase 2680 acres in the Mojave National Preserve. All of these lands are in environmentally sensitive areas including critical desert tortoise habitat as well as private inholdings in wilderness areas or are properties of concern to the National Park Service in relation to the management of the Mojave National Preserve. Attached and marked as Exhibit "A" is a description of the GVR and Mojave Lands Conservation properties.

G28-1

While all of the GVR and Mojave Lands Conservation properties may be impacted by the Cadiz proposal, the one property that is most in jeopardy is that property owned by GVR. The GVR parcel is a 640 acre parcel located in Gold Valley in the Mojave National Preserve. This property is traversed by Black Canyon Road, a main thoroughfare through the Mojave National Preserve and is approximately three miles north of the Hole in the Wall campground. A legal description for the GVR property is attached and marked Exhibit "B". The GVR property is currently being utilized for residential and livestock purposes and is served by a windmill pumping station on the property.

Based upon the map in the Supplement, the GVR property is located within the Fenner watershed. Based on figure 2.14 of the Supplement, it appears that the ground water flow is from the GVR property to the proposed Cadiz development.

Cadiz Has Failed to Adequately Plan and Monitor Upstream Water Levels and To Provide for the Loss of Water Resources for Upstream Users

Figure 3-4 of the Supplement provides a chart of the regional monitoring features as proposed by Cadiz. For upstream water users such as GVR, Cadiz has failed to provide adequate monitoring of groundwater resources. The only monitoring being proposed is a stream gage as well as a future weather station located in the New York mountain. G-28

Cadiz should be required to provide at its cost extensive upstream ground water monitoring with specific performance standards to assure that upstream ground water is not diminished. This monitoring should be under the supervision of third parties, including, but not limited to the Bureau of Land Management as well as the National Park Service. Should there be a reduction in ground water, Cadiz must take immediate steps to cease any further pumping of the groundwater resource. Cadiz should also be required to compensate property owners such as GVR for any loss or damages that may result from the reduction of the groundwater resource.

Based on the foregoing, it is respectfully requested that the Supplement in its current form be rejected and that any future supplements or proposals incorporate the above comments. G-28

Sincerely,

LAW OFFICE OF GARRY L. HAYES

GARRY L. HAYES, ESQ.

GLH:ran
enc.

Refer to comment
G28-1

Properties owned by Mojave Lands Conservation LLC, and GVR, Inc. by parcel number in the Mojave National Preserve

APN 567-151-12

APN 567-151-20

APN 0543-271-20

APN 0563-021-006

APN 0656-071-15

APN 0568-171-19

Total Acres 2680

"A"

Refer to comment
G28-1

PARCEL NO. 1:

SECTION 29, TOWNSHIP 12 NORTH, RANGE 15 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND.

PARCEL NO. 2:

THAT PORTION OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 20, TOWNSHIP 12 NORTH, RANGE 15 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND, BOUNDED AS FOLLOWS:

BEGINNING AT A STANDARD U.S. GENERAL LAND OFFICE BRASS CAP AT THE SOUTHWEST CORNER OF SECTION 20, TOWNSHIP 12 NORTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN; THENCE EAST 2640.14 FEET ALONG THE SOUTH LINE OF SAID SECTION 20 TO A STANDARD U.S. GENERAL LAND OFFICE BRASS CAP, SAID POINT BEING THE SOUTH 1/4 CORNER OF SAID SECTION 20; THENCE RETRACING ALONG THE SOUTH LINE OF SAID SECTION 20, WEST 269.46 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 45.00 FEET; THENCE WEST 30.00 FEET; THENCE SOUTH 45.00 FEET TO THE SOUTH LINE OF SAID SECTION 20; THENCE EAST ALONG THE SOUTH LINE OF SAID SECTION 20, 30.00 FEET TO THE TRUE POINT OF BEGINNING.

"B"

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -8 PM 3:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

To: James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd
Riverside, CA 92507-0714

Jack Safely
Water Resources management Group
Metropolitan Water District
PO BOX 54153
Los Angeles, CA 90054-0153

From: The League of Women Voters Environmental Action Committee (ENACT)
John D. Sullivan, Chair
1050 N. Mills Avenue
Claremont, CA 91711

G29

Subj: Supplement to the Draft Environmental Impact Report/Statement (EIR/S) for the Cadiz Groundwater Storage and Dry Year Supply Program

Date: January 5, 2001

ENACT, which consists of representatives of Leagues in San Bernardino, Riverside, Orange, and Los Angeles Counties, has reviewed the Supplement to the Draft EIR/S and we have the following comments.

In most instances, the EIR/EIS adequately addresses the questions and concerns raised regarding groundwater management issues. If properly implemented, the Groundwater Monitoring and Management Plan could ensure the protection of critical resources identified in the plan. The early warning system is essential to preventing or mitigating adverse impacts which may occur as a result of the project.

G29-1

We hope that the Technical Review Team and a Basin Management Group proposed in the plan provide a mechanism for cooperative problem-solving. The success of the plan's implementation depends on the willingness of the parties involved to work together to resolve issues in the interest of the environment. Furthermore, in order to ensure that the public interest is protected, we suggest that there be a means of informing and involving the public in the decision making process outlined in the plan and that this should be adopted as part of the plan.

G29-2

Although the role of the Bureau of Land Management has not been determined, we agree that its role as a final arbiter and regulator should preclude it from having an active role in the decision making as a means of avoiding conflicts of interest, but that an appropriate role would be as an observer.

We support conjunctive use programs and nonstructural alternatives to water supply sources; however, we have some concerns about several aspects of this project.

G29-3

*WATER QUALITY: The discovery of the presence of Chromium 6 in the indigenous water, and the presence of other contaminants in Colorado River water. What levels of contamination are there and how much will it cost to treat the water?

*POTENTIAL FOR OVERDRAFT: The lack of definitive data on recharge capabilities of the project area also concerns us. We would oppose the transfer of any water out of the basin if it would cause an overdraft of the water in that basin.

G29-4

*HOW MUCH SURPLUS WATER WILL THERE BE? There seems to be a great deal of uncertainty about allocation of Colorado River water in the future. Is there too much risk involved in the assumptions made in the EIR/EIS about how much water will be available for storage?

G-29

*IMPACTS ON THE DESERT LANDSCAPE AND WILDLIFE HABITAT: The need to build a 35-mile pipeline and above-ground power transmission lines to connect the project area with the Colorado Aqueduct. This is likely to have greater impacts than are indicated in the EIR/EIS. A major concern is the impact of above-ground transmission lines on the desert tortoise, but so is the impact of building the conveyance facility. Will these impacts be addressed by the Basin Management Group?

G-29

*ALTERNATIVES TO THIS PROJECT: Are there better alternatives? For example, would the other two projects under consideration - the Hayfield/Chuckwalla basin program or the Coachella Valley - be better in terms of fewer impacts as well as achieving the goal of a full Colorado River Aqueduct?

G-29

We look forward to your responses to these questions. We also want to reiterate our concern for the lack of public participation in the plan. We urge you to take seriously this concern and modify the management process to include public participation.

G-29

Sincerely,

John D. Sullivan

John D. Sullivan
Chair, ENACT

Phone: 909-607-3072
Email: john_Sullivan@pitzer.edu

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PLEASE REPLY TO THE
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Via E-Mail, Facsimile, and First-Class Mail

January 5, 2001

James Williams
Bureau of Land Management
6221 Box Springs Blvd.
Riverside, CA 92507

G30

Jack Safely
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054

Re: Quechan Indian Tribe's Comments on DEIS/DEIR for Cadiz Groundwater Storage Dry-Year Supply Program

Dear Messrs. Williams and Safely:

We are submitting the following comments on the above document ("Cadiz DEIS") on behalf of the Quechan Indian Tribe ("Tribe").

The Tribe's Ft. Yuma reservation at its current site was established in 1884, which gave the Tribe, under federal law, reserved rights to water in the Colorado River with a priority date of 1884; *see Arizona v. California I*, 376 U.S. 344 (1964); *Arizona v. California II*, 460 U.S. 605 (1983). Some of the Tribe's water rights were allocated by federal decree, *see id.*, and others are still under dispute.[1] The U.S. Supreme Court recently allowed the Tribe to pursue its claim to about 78,000 AFY per year of Colorado River water. *Arizona v. California,* 530 U.S. ___ (on exceptions to report of special master, No. 8, decided June 19, 2000).

G30-1

The Department of the Interior and its Bureau of Land Management ("BLM") have adopted many policies and procedures to ensure that their actions comply with their trust responsibility to Indian tribes and their members. Interior's policy, to which BLM is subject, states that it will "recognize and fulfill its legal obligations to identify, protect, and conserve the

[1] *See Metropolitan Water District v. United States*, 628 F. Supp. 1018 (S.D. Cal. 1986), 830 F.2d 139 (9th Cir. 1987); *California v. United States,* 490 U.S. 920 (1989). *See also* Report of the Special Master, *Arizona v. California*, No. 8, July 28, 1999, original.

trust resources of federally recognized Indian tribes and tribal members." 512 DM 2.2 (Dec. 1995). Interior's procedures require that "[a]ny effect [on Indian trust resources] must be explicitly addressed in the planning/decision documents, including, but not limited to . . . Environmental Impact Statements . . . ." 512 DM 2.4(A). Indian trust assets include water rights. Cadiz DEIS at 5-295. G3

For the following reasons, the Cadiz DEIR may be in error when it concludes that (1) there would be no impacts to Indian trust assets or to surface water resources, and (2) no mitigation is necessary. Cadiz DEIS at ES-19, -23, -36, -37. The document may also be in error when it concludes that the Cadiz project would only "enhance the management of water from the Colorado River." *See id.* at 1-3. G3

The Cadiz project will take Colorado River surplus or unused water. The availability of surplus Colorado River water comes largely from unused existing entitlements, including those of the Tribe. The Lower Basin presently exceeds its compact apportionment, even though the Quechan Tribe and other tribes have not fully developed their perfected water rights. G3

The Cadiz DEIS is unclear as to the effect of the Metropolitan Water District's ("MWD") taking this surplus or unused water on the overappropriated Colorado River and the Tribe's senior water rights. Will the Cadiz project reduce the Colorado River's annual flows? If so, by how much?

Moreover, the Cadiz DEIS does not address the effect of the MWD developing a reliance on surplus or unused water, which will have the direct, practical effect of diminishing the Tribe's ability to utilize its quantified and unquantified entitlements. Nor does the DEIS discuss mitigation for this disincentive to the Tribe's water development. G3

Finally, the DEIS may improperly conclude that the Cadiz project will have no cumulative environmental effect. *Id.* at ES 35-36. The DEIS' cumulative effects analysis only focuses on other projects in the Cadiz Project Area. *Id.* at 35. It does not mention the numerous other past, present and reasonably foreseeable future projects that are located outside of the project area, but that also involve using water that comes either directly or indirectly from the Lower Colorado River. NEPA and CEQA require agencies to examine a project's cumulative and indirect effects on water systems. *See, e.g.*, 40 C.F.R. § 1508.7, § 1508.8, CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* at 12 (Jan. 1997) ("When analyzing the contribution of th[e] proposed action to cumulative effects, however the geographic boundaries of the analysis almost always should be expanded. Project-specific analyses are usually conducted on the scale of counties, forest management units, or installation boundaries, whereas cumulative effects analysis [sic] should be conducted on the scale of human communities, landscapes, watersheds, or airsheds."). G3

Some of these omitted projects include:

a. Imperial County's Felicity project, which allows the applicant to construct a mid-size city adjacent to the Tribe's Ft. Yuma Reservation, and 3-4 miles from the Colorado River. Imperial County will allow the city to pump groundwater to serve its 22,000 residents, and industrial and commercial uses. The recent U.S.G.S. report shows that Felicity lies within the Colorado River Aquifer, and is therefore presumed to be taking Colorado River water.

b. BLM's proposed privatization of over 3,000 acres of land within Imperial County's Felicity Specific Plan Area and adjacent to the Tribe's Ft. Yuma Reservation, which is occurring in an area slated by Imperial County for future development and which will intensify area water use. *See* FEIS 3-109. The privatization is occurring through two BLM land exchanges.

The BLM has not considered the cumulative effect of BLM's privatizing of 3,162.59 acres of land through several land exchanges. The to-be-privatized parcels lie only a few miles from the Colorado River. Most of the land is within the Felicity Planning Area. Once in private ownership, development pursuant to the Felicity Plan may occur. The BLM refuses to consider the privatization's effects on the Colorado River or the Tribe's interests. The Tribe has formally protested the BLM's inadequate environmental analysis. All of the BLM privatized lands are within the Colorado River Aquifer, as shown in the recent BOR report mentioned above.

G-30-5

c. Proposed Coachella Canal Lining Project, which will decrease water flows in the lower Colorado River. BOR has inadequately considered the cumulative effect of this program, particularly on the Colorado River and the Tribe's senior water rights.

d. Proposed Lower Colorado River Multi-Species EIS/EIR Process, which is analyzing the effects of current water diversions and power production, and facilitating opportunities for future water and power development. The BOR has inadequately considered the cumulative effect of this program, particularly on the Colorado River and the Tribe's senior water rights.

e. Proposed BOR Colorado River Interim Surplus Criteria, in which the BOR has inadequately considered the cumulative effect of these criteria, particularly on the Colorado River and the Tribe's senior water rights.

f. Proposed All American Canal Lining Project, which will decrease water flows in the lower Colorado River. The BOR has inadequately considered the cumulative effect of lining the All American Canal, particularly on the Colorado River and the Tribe's senior water rights.

g. Lower Colorado River Multi-Species Conservation Program (LCRMSCP). The BOR has inadequately considered the cumulative effect of this program, particularly on the Colorado River and the Tribe's senior water rights.

h. IID-San Diego County Water Authority Water Conservation and Transfer Project. The BOR has inadequately considered the cumulative effect of the proposed transfer, particularly on the Colorado River and the Tribe's senior water rights. G30

i. Imperial Open Pit Gold Mine Project. We highly commend the BLM for selecting the no-action alternative as the preferred alternative, and trust that this alternative will be contained in the BLM's final decision. The project could have a significant and cumulative effect on the hydrology in the area of the Ft. Yuma Reservation and the Tribe's water rights, among other things. The Tribe outlined its hydrological concerns in its comments on the FEIS, dated December 18, 2000 (and in other correspondence relating to cultural resource impacts).

We request that addition work addressing these concerns be done in all these areas before an FEIS is issued. Thank you for your consideration of these comments. G30

Sincerely yours,

MORISSET, SCHLOSSER, AYER & JOZWIAK

Mason D. Morisset

MDM:sih
cc: Honorable Mike Jackson Sr., President, Quechan Indian Tribe
Members of the Quechan Tribal Council

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MORONGO BASIN CONSERVATION ASSOCIATION

POSTOFFICE BOX 218 TWENTYNINE PALMS, CALIFORNIA 92277

January 5, 2001

Mr. Jack Safely
Project Manager
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054
FAX: 909-697-5299

G31

RE: Cadiz Groundwater Storage and Dry-Year Supply Program

Dear Mr. Safely:

We thank you for the opportunity to comment on the Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement ("Supplement") on the Cadiz Groundwater Storage and Dry-Year Supply Program ("Project"). G31-1

I. Pilot Program

It is conceded in Section 1.1 that there continues to be substantial and important disagreement among experts regarding the natural recharge to the Project area. As the Project is an as-yet-untested enterprise that would require considerable commitment of environmental resources, we see manifest grounds for instituting a smaller-scale pilot program before initiating the full-scale project so as to obtain further data and gauge environmental effects. G31-2

II. Groundwater Monitoring and Management Plan ("Plan")

In general, our members support the concept of basing a project on ongoing monitoring of environmental data and effects combined with preventive management, with built-in caps and triggers. However, because of the speculative nature of elements of the Plan, the environmental success of the Project is entirely reliant on the oversight and enforcement provided by the Technical Review Team and the Basin Management Group ("TRT/BMG"). And that is where our main concern lies. G31-3

In Point VIII of our comments on the Project Draft Environmental Impact Report/Environmental Impact Statement ("Draft"), dated February 18, 2000, we suggested composition for a Plan oversight committee. The make-up of the TRT/BMG as specified in Sections 3.9 and 3.10 of the Supplement does not demonstrate that our suggestions were considered. We continue to endorse our original suggestions for the make-up of the committee as detailed in our Feb. 18 comments.

We especially emphasize the need for environmental representation from the public at large, with consideration for appropriate expertise to the particular issue at hand.

Also missing from the Plan is any detail on how the general public will participate in the TRT/BMG process. Will all the meetings of the TRT/BMG be open to the public? When will they be held? Where will they be held? Will the public be able to participate in the meetings directly, or respond in writing? In the interests of maximizing public participation we would advocate that all meetings be open to the public and that the locations of the meetings be rotated throughout affected areas, including the desert communities.

Furthermore, again because of the speculative nature of elements of the Plan, public access to the technical data is critical to ensure that the triggers and actions are being noted and pursued appropriately. According to Sections 2.0 and 2.2 of Appendix E in the Supplement, access to project data will be "limited". This is not in the public interest. We advocate that not only should access to those files be available to the public but that the data should be posted on a dedicated, regularly updated (every two weeks) Web site.

Finally, throughout the Plan there is an overall lack of commitment expressed through the use of, for example, the words "would" and "may" rather than "will" and "shall". Wherever possible the language needs to be definitive, rather than speculative. We are too often left with the question, what trigger will prompt absolute action?

III. Potential Impacts to Indigenous Groundwater Quality

Also in our February 2000 comments on the Draft we expressed concern about monitoring methods to analyze the Colorado River water for future potential constituents, i.e., toxins, radioactivity, etc. We have not found in the Plan that there is an intent to monitor the presence/levels of or publish data regarding any constituents except those currently covered by the statutes named in Section 3.7.2. We would like made regularly available to the public a complete analysis of water composition and constituents and their levels, including and beyond those required by law.

IV. Emergency Orders

Are there any circumstances under which the state or another authority could declare some sort of emergency situation that would allow the Plan to be superseded or overridden (e.g., water supplies affected by earthquake, etc.)?

V. Concurrent Water Projects

In Section 1.4.3 of the Supplement the Coachella and Hayfield/Chuckwalla projects are mentioned. We are not given any information on control of water entitlement when these two projects are combined with the Cadiz project. The environmental and technical data on the Coachella and Hayfield/Chuckwalla projects need to be made available to the public, and we hereby request that action be taken to provide that data. G31-8

We thank you for your consideration of these comments.

Sincerely,

Christine Carraher

for D.J. Masker
Director

THE
DESERT TORTOISE COUNCIL

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Desert Tortoise Council
P.O. Box 3141
Wrightwood, CA 92397

January 6, 2001

G32

James Williams
Bureau of Land Management
Desert District Office
6221 Box Springs Blvd.
Riverside, CA 92507

Dear Mr. Williams:

This is to advise you that the letter of 4 January 2001 sent by Michael J. Connor, Ph.D. on behalf of the Desert Tortoise Preserve Committee has been reviewed by the Desert Tortoise Council and is incorporated by way of reference as part of the Desert Tortoise Council position regarding the Proposed Cadiz Groundwater Storage Project.

Sincerely yours,

Marc D. Graff, M.D.
Senior Co-Chair
Desert Tortoise Council

The mission of Desert Survivors is to experience, share and protect the desert, a beautiful, fragile and threatened environment deserving of respect and requiring constant vigilance.

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G33

James Williams
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Jack Safely
Metropolitan Water District of Southern California
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Los Angeles, CA 90054-0153

RE: **Cadiz Groundwater Storage and Dry-Year Supply DRAFT EIR/EIS SUPPLEMENT Comments**

Dear Sirs:

Thank you for the opportunity to comment on the Cadiz Groundwater Storage and Dry-Year Supply Project Draft Environmental Impact Supplement.

Desert Survivors is an environmentally-oriented organization of people interested in the conservation of desert and arid areas in California and Nevada. Our focus is to educate people about desert and arid area protection issues by leading trips, publishing informational materials and working with public land managers and advocates to protect and conserve our rapidly vanishing natural areas.

G33-1

We have long been involved in California desert protection issues working for passage of the California Desert Protection Act and commenting on numerous management actions in the various BLM resource areas. We have led hikes across the Sheephole and Cadiz Valleys and into the Old Woman Mountains and Trilobite Wilderness Areas. The BLM's California Desert Conservation Area lands are very important to our group. We have walked the ground, we have beheld the views, we have been awed by the vast open spaces of this complex of desert valleys and surrounding mountains. We are an interested party in area management and a staunch defender of its natural values. We look forward to the BLM stepping up to its responsibility as protective steward of these lands. This area is worth saving in its undeveloped state for the benefit of future generations.

We have commented on the Project Draft and would like to add additional comments here concerning both the newly distributed Supplement, the original Draft EIR/EIS, and on the new "Definitive Economic Terms and Responsibilities Between Metropolitan Water District of Southern California and Cadiz, Inc." document presented to the Metropolitan board for their 1/9/01 meeting. As Director-at-Large and Chairman of the Cadiz Groundwater Task Force of Desert Survivors I am glad to be able to represent our group in presenting these comments to you. Desert Survivors is also participating in a combined multi-group comment submitted separately. G-33

Draft EIR/EIS with Supplement Not Sufficient for Compliance with NEPA.
Desert Survivors feels that the material presented by the BLM, the MWD and Cadiz does not provide complete feasible alternatives with sufficient information for the public and decision makers to react to this project. We ask that you continue to study the impacts of this proposed project, work out complete alternatives, determine the full impacts, and present the material as legally mandated. What we have been given avoids the responsibility imposed by the law to determine beforehand what impacts a project is likely to have. We do not have this information, therefore you cannot proceed. G-33

Estimates of Groundwater Basin Recharge and Yield Available to Project are Missing. G-33
Without this critical element how can the impacts of this project be assessed? How can decisions regarding the relative cost in money verses resource impact of one alternative verses another be reasonably determined? Cadiz and MWD want a right-of-way granted on a exceptional basis. They want permission to destroy what has already been determined to be sensitive resources. They have so far refused to do the work to either fully determine impacts or present complete alternatives. Recently Cadiz, Inc. won a lawsuit against Rail-Cycle specifically on the issue that the proponent did not provide complete groundwater information. Haven't they been listening? The BLM and MWD have not done their job. First complete the groundwater recharge studies. Then come back to the table.

Project Cannot be Approved Before Completion of Studies. G-33
I was dumbfounded when I read the project supplement proposing that the project be approved and all facilities be built and the desert be impacted before any study was completed regarding the recharge rate for the basin. Since when do things work that way? Build the project, then determine the impacts? Legally this cannot be done, legally the studies must be completed and the full impacts assessed. It is your responsibility. We are not in an emergency situation. The time is available to do the work in a proper way.

No Determination of Colorado River Water Availability. G-33
A large part of the rationale for this project is the ability to store "surplus" Colorado River water. Within the next few months a determination will be made regarding whether there is any surplus available. This is vital information to determine project feasibility. Since the necessary the recharge study for transferred

groundwater has not been completed, there will be ample opportunity to include the up-to-date Colorado River water figures and assess their impact when a new revised complete proposal is produced. G33-6

Missing Alternatives Using Required Current Rights-of-Way.
Where is the Alternative that stipulating the use of the existing right-of-way along the Arizona and California Railroad? Where is the alternative that uses the existing right-of-way along the powerline road from the Iron Mountain pumping station to the railroad right-of-way? The BLM's California Desert Plan, in describing how to deal with requests for new rights-of-way clearly states that nearby existing rights-of-way must be given priority. We were given no adequate information in the Technical documents as to why this was dropped from consideration. Perhaps it cost more, but that is not sufficient reason to drop this required alternative from consideration. All alternatives presented involve significant impacts to Class L land, protected under BLM regulations and under FLPMA from "unnecessary degradation". This alternative must be brought forth as a true alternative, the costs must be seen, and the decision-makers can then determine if it is necessary to degrade untrammeled California Desert Land for this project. Desert Survivors feels it is not necessary. G33-7

Missing Alternative Using Natural Gas-powered Pumps with No Powerline. G33-8
A source of energy for the well pumps is close to the Cadiz well sites. A natural gas line crosses not too far away. The possible use of gas is mentioned, but instead a 35-mile four-story powerline is proposed, and no alternative is included for the use of natural gas. This is a fifty year project. This scenic values of this area are well known. Route 66 is the current focus of a revival of historical interest about the past century. General Patton's camps are also receiving more attention from historians and the public. People want to experience the feelings of the past. The use of natural gas will allow an alternative which will be powerline-free. Another reason to provide the natural gas alternative is the recent significant increase in the price of electricity. Please provide us with this alternative.

Failure to Provide an Alternative which Draws Water Only from the Upper Aquifer.
All the groundwater information agrees on two things: 1) There is some understanding of the movement, age, percolating dynamics, and recharge groundwater in the UPPER level alluvial aquifer. 2) The movement and recharge of groundwater in the lower level alluvial and carbonate basement aquifers is either unknown or "not well understood." It seems that the main reason to go to the lower alluvial aquifer for drawing water is for additional purity and because certain scenarios project continued multi-year pumping at a rate of up to six times the disputed 30,000 acre-feet per year. A deep well would allow an overdraft of many, many years worth of native groundwater. G33-9

All projects are required to present an environmentally preferred alternative. A clear environmentally preferred alternative is to take out the water you put in from the aquifer you put it in. This seems to make sense. Take out what you put in. This is not given as an alternative, all pumping is from the lower aquifer, all storage G33-10

is in the upper aquifer. Mention is made of some occasional pumping specifically from the upper aquifer, but there is no requirement to consistently pump only from the upper aquifer. It is not environmentally sound to pump water from a aquifer which is admittedly "not well understood." This should be prohibited. Why isn't this included either as a strict prohibition or as an alternative so the impacts can be discussed? Fossil Water is a Paleontological Resource! G3

Inadequate Representation in Decision Making for the Groundwater Monitoring System. G3

Quite a bit of work has been done in coming up with a technically oriented monitoring system. The process of developing the monitoring plan actuall demonstrated how much disparity there is in the technical estimates regarding the effects of this project. The project proponents want to go ahead prior to studies being completed and this is actually being presented as a possibility. This is a perfect example of a failure in decision-making.

The proposed Board that would be controlling the Monitoring system has a Cadiz person, a MWD person, a county person, and an unidentified other, presumably federa,l person. Where is the public? How about some outside parties? We are talking about impacts to 1.7 million acres here of which Cadiz and MWD represent maybe 2 percent of the land. We need at least a National Park representative, a BLM Needles Office land representative, a USGS representative, a private landowner such as Catellus, and perhaps a regional desert advocate such as Dennis Casebier. Of course it would be entirely appropriate to have an environmental representative as well. G33

Inadequate Air Quality Impact Analysis. G33

The Supplement has added a large amount of discussion of the possible impacts of this project on air quality. It is quite clear that if you remove a significant amount of water from a relatively stable system you will have changes. Most of these changes will appear downstream from the removal. Downstream are the dry lakes. Remove a large part of their water source and they get more dusty. More dust means air quality goes down. Its that simple. If you take out water at a rate significantly greater than the recharge rate for sustained periods, as apparently permitted by this project, then the air quality will be even more impacted.

Desert Survivors is concerned about the lack of information in the EIR/EIS regarding Air Quality Classes. Joshua Tree National Park has been accorded Class 1 status and the Mojave reserve has applied for this as well. When the Clean Air Act was passed in the late 70's all existing wilderness areas were accorded Class 1 status. Why hasn't the BLM attained Class 1 air quality status for the 1994 CDPA-designated wildernesses? Has the lack of an overall BLM Desert wilderness planning process delayed this? Please add this information into the next version of the EIR. I assume that the nearest and most strongly affected potential Class 1 area will then be the Cadiz Dunes Wilderness and the Old Woman Mountains Wilderness, just downwind from the Bristol and Cadiz dry lakes. This means that less additional project-caused dust is permissible from the dry lakes. We need a discussion of this in the project proposal and improved measures to deal with this.

Failure to deal with Chromium 6 in the Groundwater.
I presume you have been reading the newspapers lately. If not, try scanning the Los Angeles papers for articles about the city of Glendale dumping what they feel is contaminated groundwater containing elevated levels of chromium 6 into the Los Angeles River. The recent popular movie highlighting the health effects of chromium 6 groundwater contamination has put this contaminant squarely in the public eye. Here is a city in defiance of the local water control authorities dumping groundwater which is still OK, according to current standards. Cadiz proposes to add water with elevated levels of chromium 6 into the California Aqueduct for delivery to LA. It ain't going to fly. When the project is re-evaluated after the required recharge studies are completed, a chromium 6 removal method will have to be specified, and the costs declared and published for the benefit of decision-makers and the public. G33-14

Cadiz Now Proposes the Forced Sale of Fifty Years of Water in the First Twenty-Five Years - Potential Environmental Impacts Not Addressed. G33-15
Cadiz, in their most recent contract proposal with MWD ("Definitive Economic Terms and Responsibilities Between Metropolitan Water District of Southern California and Cadiz, Inc.") dated 1/4/2001, contains language requiring the sale, within 25 years, of all the projected available yield of the project's groundwater for 50 years. In other words Cadiz wants to sell water that may or may not ever be available, and they want to be paid for it up to 25 years in advance. Either that, or they think that they can pump water at double the recharge rate for 25 years and then walk away.

How does this impact the Groundwater Monitoring Plan? If Cadiz sells off water up to 25 years before delivery, can we believe the Monitoring system will really be free to shut down deliveries in the event of impacts? This contract does not give us any confidence in the actual power/efficacy of the monitoring system . Please add discussion of the possible environmental impacts of this type of market-driven water sales long before possible delivery in the next version of this document.

CADIZ Now Proposes to Sell Up to Half the Project Groundwater to Third Parties - Potential Environmental Impacts Not Addressed. G33-16
The above mentioned "Definitive Economic Terms and Responsibilities - - -" document for the first time reveals that Cadiz proposes to sell up to half the available groundwater to third parties rather than the MWD. If it can't be sold to third parties, MWD would be forced to buy it up to 25 years ahead of its availability based upon recharge rates. How do third party sales mixed with MWD sales affect the groundwater issues? We don't know, but it is possible that conflicts will arise over delivery schedules (see item below), and political and economic pressure may well be exerted on the monitoring system if certain third parties with political muscle are expecting delivery. No public disclosure of this possibility was made, it is not discussed in the EIS/EIR. Please add an analysis of this potential impact when revising this the EIS/EIR.

Cadiz Now Proposes Alternate-Year Exclusive Control Over the Project Pipeline - Potential Environmental Impacts Not Addressed.
Another Cadiz proposal revealed in the "Definitive Economic Terms and Responsibilities" document is that they could demand exclusive rights in alternating years over the pipeline. One year Cadiz could use it exclusively if it so chooses, the next year MWD can choose to use it exclusively. This set-up could easily be a source of conflict, especially as Cadiz is forcing MWD to pay up front for large quantities of Colorado River storage rights as well as native groundwater. MWD has stated it wants to store river water for the first few years. Cadiz wants immediate payment for 600,000 acre-feet of storage. It will take four years of exclusive use of the project's 150,000 Acre-feet/year capacity pipeline to put that much water into the ground. Meanwhile Cadiz has the option to sell groundwater to third parties and demand alternate year exclusive use of the pipeline and MWD facilities to deliver it. This would mean that MWD would have to wait longer than four years to put into the ground the 600,000 acre-feet they have already paid for. 6-33

Conflicts are sure to arise, especially if one party wants to put water in, one wants to draw it out, and the monitoring group says that the stored mound of water is moving downstream toward the dry lakes and must be re-pumped up and over into the percolating ponds again. Lets put the control of the pipeline into the hands of the Groundwater Monitoring group. Then if there are environmental concerns which impact the so-called exclusive rights of one party or another to full usage of the pipeline, control is in favor of the environment. This alternating pipeline management proposal, and its possible impact on the environment because of market forces separately driving both parties, was not revealed in the environmental documents. It has not been analyzed as required. Please add this as a component in the next version.

Failure to Provide a Limitation on Short-term Groundwater Overdraft
The EIR scenarios show that the intention of the Cadiz and the Metropolitan Water District is to pump native groundwater at the rate of up to 150,000 acre-feet per year. The Cadiz-proposed contract "Definitive Economic terms - -" cited above specifically allows Cadiz to draw up to 150,000 AF per year at times. This would require five years of recharge at 30,000 AF/yr or 10 years of recharge if there were only 15,000 AF/yr available (this is quite likely given the USGS opinion). Several scenarios indicate that in a multi-year dry spell when the "stored" or "cycled" water has been used up, pumping will continue at the 150,000 acre-foot rate perhaps for several more years. This would result in a native groundwater overdraft of up to twenty years worth or even more if the 30,000 acre-feet per year figure is accepted. If this proposal is carried forward there must be an analysis and determination of a reasonable limit of short-term overdraft and the environmental consequences involved. 6-33

The proposed Groundwater Monitoring Plan discusses limiting the overdraft based upon the impacts to nearby monitoring wells. This is a play-it-by-ear method which does not provide sufficient protection in certain scenarios. There should be a specific limit. Lets say: **No overdraft of more than FIVE YEAR's RECHARGE** can be taken from the ground, period. That seems straightforward enough.

Inappropriate to Pollute Pure, Native Groundwater under Public Lands; Construct a Filter Plant at Iron Mountain Purify Colorado River Water

An element of an environmentally preferred alternative would be a component in the conveyance transport system to purify the Colorado River water to Cadiz Valley groundwater standards. This would allow the mixing of the two water sources without appreciable pollution of the native groundwater from the more dirty Colorado river water. The pollution of an intact Pleistocene aquifer as part of a project which purports to "purify" water for urban drinking is not an acceptable "multiple use" of BLM-administered public lands. G33-19

Failure to Analyze Impacts of Groundwater Manipulation on Cadiz Dunes Wilderness

The EIR states that the groundwater level under Cadiz Dry Lake will fluctuate depending upon the phase of storage, retrieval, or transfer. The Cadiz Dunes Wilderness Area is right above the groundwater path between the project and the Cadiz Dry Lake. One of the unique attributes of sand dune habitats for insect, plant and wildlife is the considerable stored water within and under the dunes. What impact will this manipulation have on this fragile environment? No data is presented regarding this prospect either in the EIR or the Supplement. G33-20

Conveyance Facilities in BLM Class L (Limited) Lands are Inappropriate

The 1976 FLPMA Act specifically described the California Desert Lands as requiring a special level of protection. The current California Desert Protection Plan indicates that Class L lands should be: "oriented towards giving priority protection to sensitive natural, scenic, ecological, and cultural resources while placing limitations on other uses that may conflict with or degrade these values." The area surrounding the Iron Mountains has been designated Class L. These lands have special sensitive resources, some of which are described in the EIR. Desert Survivors protests the proposed usage of Class L lands for pipelines, four-story powerlines and roads. There are non-Class L alternative routes which were dropped from the EIR. Lets get these back.

No Consideration of Roadless Area Impacts

A nationwide effort is being made to identify the last of our country's roadless areas. Especially in the Forest Service-managed portions of our public lands, this quality (roadlessness) is being considered in long-tern planning. It has been stated that there is no place in the lower 48 states of the United States that is farther than 11 miles from a road. The Iron Mountain/Kilbeck Hills Roadless Area contains approximately 166 sections, over100,000 acres of contiguous roadless public land. It is one of the largest mostly pristine areas left in the Mojave Desert that is not now protected with official wilderness status. These are areas to be treasured for their lack of human intrusions, not piece-mealed into degraded split-up portions with their integrity as wildlife habitat and their aesthetic wholeness long-gone. Survey work is now being conducted by volunteer wilderness advocate groups to define and include a General Patton/Iron Mountain Wilderness Area in the upcoming California Wild Heritage legislative campaign. Destruction of this existing roadless area and potential wilderness area should not be accepted by the BLM; any impacts need to be at least assessed in the EIR and presented for public comment. G33-21

No Evaluation of Landscape Resources
On February 16th, 2000, Secretary of the Interior Bruce Babbitt announced an address in which he defined what he called an evolving but important new type of public land management - National Landscape Monuments. He stated that the time had come for the BLM to lead the way in defining, protecting, and managing these large national landscapes in a more inclusive, yet still stringent fashion - different from national park management. The Secretary has since followed up by creating several BLM-managed National Monuments. He even appointed a National Landscape Monuments Assistant. This seems to be a promising way to go for the BLM. Why not here?

G

Route 66 Historic National Landscape Monument
When I first drove down the Cadiz/Danby road along what is now the proposed project area, I was impressed by its huge expanse of open desert with no powerlines intruding into view. It was a cloudy day. As it got later and the light waned, I heard the drumming of an approaching railroad train. Its five throbbing diesel engines were pulling it so slowly across the open desert, from nowhere to nowhere it seemed. I felt a sense of mystery and excitement. I have always referred to the Arizona and California Railroad as the "ghost" train, and always look forward to another chance to view its ponderous journey across this mysterious land. This is a landscape feeling. This is an aesthetic feeling. Desert travelers should be able to experience these feelings. These experiences are degraded by additional "new" modern improvements. The Route 66 experience is valid and worth preserving. This area presents a combined experience of vast desert space and mid-century history. These are significant elements in this greater landscape. They are definable, they are protectable, they deserve analysis and an impact evaluation.

G3

Aesthetic Impact Incomplete and Inaccurately Presented
Contrary to what is stated in the EIR there is NO existing powerline along the railroad right-of-way between the salt works at Danby Dry lake and a mile or so south of the tanks near Cadiz where the gas pipeline crosses. This twenty-five mile stretch is one of the most open, visually pleasing, desert graded-dirt road drives in the California Desert. The openness of the valleys and the mysterious qualities of this "backcountry-byway" would be irreparably harmed by the presence of a four-story modern powerline boxing in the traveler's relationship with the landscape.

G3

Continuing Failure of the BLM to Assert a Role in the Project as a Land Owner. It appears that the BLM has decided that their only role in this project is as the involved agency mediating the application to grant a right-of-way and eventually making a decision on the proposal. This is wrong. They also have a equally important role as an aggrieved adjacent land owner who happens to have correlative rights to the vast majority of the groundwater in the project area. The National Park Service has clearly put forth their parallel concerns. If the BLM is doing so we haven't seen it. It seems to be up to the public and environmental groups the take up much of the BLM's role in questioning this project. This should not be necessary. We deserve better from our desert's largest land steward agency.

G33

Please find a way to rectify this. Maybe you can designate the Needles Field Office as the land steward advocacy staff and let either the Desert District or the State BLM staff deal with the EIR/EIS process and decisions. It is wrong not to hear the BLM's voice as a concerned party in the evaluation of this project. G33-26

Where are the Desert Managers? Where is the USGS?
We have heard that the Desert Managers group was helpful in securing the help of the USGS in reviewing the project groundwater analysis. Yet there is no indication in the new Supplement material that the USGS will play any specific part in the on-going analysis of this project. I understand that the BLM has hired a hydrologist for its staff. That is good. But this is a big issue. It needs lots of attention. The USGS is already heavily involved in Mojave Desert Studies. The Mojave Desert Ecosystem Project supported by the military has funded many studies of desert ecological problems. The present proposed project is one of the biggest current desert issues, yet so far I have not heard that the USGS with its considerable expertise and authority is formally involved. G33-27

The USGS is currently sponsoring studies of groundwater recharge in the Mojave and Colorado desert on a large scale. These studies are not yet complete but indications are that most existing recharge estimates have been greatly over-stated. Desert Survivors strongly advocates that the BLM formally ask for USGS continuing involvement in the Cadiz project. The issues here are national in scope. Water is scarce and getting scarcer. We need nationally-sponsored expertise. There are real answers; groundwater management should not be analogous to the courtroom where each side hires their own psychiatrist. Let's get started with real research.

The Desert is Not the Market, the Desert is Long-term.
It is entirely proper for anyone concerned for the future of the undeveloped desert to be suspicious of Cadiz and MWD. The current contract proposal made by Cadiz to MWD (the "Definitive Economic Terms and Responsibilities -- - " document of 1/4/01) fully reveals the market-driven swash-buckling lets-go attitude of Cadiz, Inc. This may be an appropriate style for a private stock-holder controlled company. This may be a necessary stance in a competitive market place. We are not working in a market place however. We are in the desert on public land. Short-term impacts here take a long time to heal. General Patton's tank tracks from 1942-4, almost sixty years ago, are still visible next to the Iron Mountains. Cadiz advocates selling fifty years of desert water in twenty five years. Cadiz advocates market-driven, up-front actions without the opportunity to study and understand the impacts. Cadiz has brought forth this proposal with no complete studies of future impacts, and wants action now. G33-28

The desert cannot afford this type of behavior. The scars of this type of behavior are all over the desert. Old mines leave major scars. Old mines require expensive cleanup. Old mines were built without complete studies regarding future impacts. That behavior is no longer acceptable in the desert. In 1976 Congress recognized the special sensitive character on the California Desert in the FLPMA legislation. In 1994 Congress re-affirmed the special sensitive character of the California Desert.

These laws were passed to protect these fragile areas from just the type of behavior being perpetuated here. Action without prior knowledge. Short-term gain rated above long-term natural values.

SUMMARY

Desert Survivors is very concerned with this project. We will continue to be very concerned even when the additional studies are completed and still if the project moves forward with improved environmental protection. As you can see, many large issues are raised by this proposal. In the end however, two major ones predominate:

The BLM must be pro-active, protective, and knowledgeable regarding the groundwater resources under its public lands. WE SEE LITTLE EVIDENCE OF THIS IN THE CURRENT PROPOSAL!

In the California Desert, precedence must be given to the preservation of undeveloped natural landscapes with emphasis on the special environmental and cultural resources, and management of sustainable low-impact public recreation. NO MORE QUICK DECISIONS WITHOUT FULL STUDY!

The Cadiz Groundwater and Dry Year Storage Program, as presented, leaves too much out, raises too many questions, and fails to find a proper niche for itself which accords its neighbors sufficient respect.

The No-Action Alternative is the Best Alternative; failing that, much more work is needed before a revised project document should be presented to the public again.

Thanks for your time and attention. Please keep us informed of any new information about these issues. I would be happy to discuss any questions you have regarding these comments.

Sincerely yours,

Bob Ellis
Cadiz Groundwater Task Force Chair
Desert Survivors

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January 8, 2001

G34

James Williams
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear Mr. Williams:

Enclosed please find a copy of comments on the Cadiz EIR/EIS.

Copies have been distributed this afternoon to Jack Safely and Kathleen Kunysz of MWD via personal delivery to their respective offices, which I understand is sufficient to have this letter entered in the offical record today, but I also wanted you to have a copy as soon as possible. G34-1

Sincerely,

David Czamanske

David Czamanske

SIERRA CLUB
FOUNDED 1892

Angeles Chapter

January 8, 2001

Ron Gastelum, General Manager, Metropolitan Water District
700 N. Alameda Street, Los Angeles, California 90012

Attention: Jack Safely
and Kathleen Kunysz

RE: CADIZ GROUNDWATER STORAGE and DRY-YEAR SUPPLY PROGRAM:
Comments on Draft EIR/EIS and Supplemental Draft EIR/EIS

The comments below are focused primarily on major issues related to potential adverse impacts of drawdown of the groundwater aquifer under the proposed Project area in Fenner Gap. They, along with verbal and written comments by Elden Hughes, Chair of Sierra Club's California Desert Committee, and of Simeon Herskovits of the Western Environmental Law Center on behalf of the Sierra Club, express the Club's major concerns regarding this proposed Project.

A. Water transfers contemplated by the this project have the potential to severely deplete the groundwater aquifer underlying the proposed project wellfield.

The Draft EIR/EIS and its Supplement state that, based on preliminary studies prepared in 1999, the amount of groundwater currently in storage in underlying aquifer area of the proposed Project wellfield is estimated at 3.7 to 6.7 million acre-feet (page 7-3 of Supplement; restatement of estimate of 3.65 to 6.69 MAF on page 5-81 of Draft EIR/EIS).*

On January 5, 2001, MWD released in Board Letter 10-9 what the agency terms "Definitive Economic Terms and Responsibilities Between MWD and Cadiz, Inc." That Board Letter contains a 5-page Summary and a 25-page detailed statement of terms and conditions that specify the rate at which indigenous groundwater could be pumped from the Project wellfield and delivered to MWD's Colorado River Aqueduct. The relevant terms include:

a. A Transfer Component, assuming MWD and Cadiz maintain a partnership in operation of the Project, that includes sale and delivery by Cadiz of a minimum of 1.5 million acre-feet of water (60,000 af/yr for 25 years).

b. Alternatively, if MWD elects to cease participation in the Program due to a determination that Project yield will total less that 750,000 acre-feet, Cadiz may elect to purchase MWD's interest in the Program and operate the program itself. Under the proposed agreement "In any year up to and including year twenty-five of the Program, MWD shall deliver . . . up to 150,000 AF of indigenous water per year at Cadiz' request to purchasers within MWD's service area, . . . Cadiz and MWD shall jointly schedule the delivery of such water in each year." (Bullet 3 on page 4 of Summary; Section 4.6.3.4 on page 7-8 of detailed statement)

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Comment and questions: Transfer of 150,000 AF of indigenous groundwater per year for 25 years totals 3.75 MAF. Since this alternative arrangement would come into play only if there was a determination that the Project yield will total less that 750,000 acre-feet, why is there provision for pumping and delivery of up to 3.75 MAF? G34-2

Also, as noted above, the amount of groundwater currently in storage in the aquifer area underlying the proposed Project wellfield is estimated at 3.7 to 6.7 million acre-feet. Why is any consideration being given to allowing the pumping and delivery of up to 3.75 MAF? Pumping and delivery of this much indigenous water would obviously completely deplete the aquifer, or diminish it to such an extent that many environmental impacts would be significantly adverse. G34-3

It is completely ingenuous to state, as both the Draft EIR/EIS and Supplement do, that impacts to the aquifer system, to brine resources and dust mobilization at Bristol and Cadiz Dry Lakes, to the recreation and wildlife dependent on water resources, and to all the other resources discussed in these documents will be less than significant* when the "Terms and Responsibilities" stated in Board Letter 9-10 and attachments thereto contemplate an agreement which would permit a potential groundwater depletion of 3.75 MAF. Either the Draft EIR/EIS needs to be revised or the "Terms and Conditions" must be altered so that these documents are consistent with each other. (See also note on last page of this 5-page document.) G34-5

* Remarkably, the only adverse impacts identified in the Draft EIR as significant are identified as: (a) potential adverse air quality impacts, (b) exposure to hazardous materials, and (c) potential damage to paleontological resources. According to the EIR/EIS, these are all short-term impacts which would occur during the construction phase of the proposed Project.

B. The EIR/EIR fails to accurately estimate annual groundwater recharge in the watershed that drains into the proposed Project wellfield, making it impossible to calculate safe yield. G34-6

Surprisingly, the Draft EIR/EIS and its Supplement contain differing statements about the recharge rate in the watershed supplying Fenner Gap where the Project wellfield is to be located.

The Draft EIR states that "Based on a comprehensive program of exploratory drilling and testing in Fenner Gap, and extensive computer modeling of the hydrology of the area, the sustainable groundwater yield available to the Project wellfield is currently estimated to be approximately 30,000 acre-feet/year (GEOSCIENCE 1999)."

In contrast, the Supplement states "Given the limited availability of site-specific data and current limitations in technology, the current estimates of natural recharge to the project area are considered inclusive."

Comment and question: There are significant differences of opinion among several qualified geohydrologic consultants who have addressed the topic of estimating the amount of annual recharge, with estimates ranging from 6000 af/yr to 50,000 af/yr. Who are these consultants, what are their current best estimates, and what is the basis of differing opinions?

Rather than state that "current estimates of natural recharge to the project area are considered inclusive", the EIR/EIS instead should identify the consultants that have made informed estimates of annual recharge and provide the estimates that each has provided.

C. Water Quality: There has been considerable public concern recently about the presence of chromium 6 in drinking water supplies. MWD revealed in November 2000 that data from wells in the Cadiz and Fenner valleys indicate a significant level of this potential carcinogen. Although the concentration of chromium 6, also known as hexavalent chromium, is below the level now considered dangerous, it is higher that the revised standard under consideration.

The "Terms and Conditions" released with Board Letter 9-10 state that MWD shall be responsible to ensure that any water introduced into the Cadiz groundwater basin from the Colorado River Aqueduct meets all existing and potential future federal and state water quality standards, while Cadiz shall be responsible for ensuring that any indigenous water introduced into the Colorado River Aqueduct from the Cadiz aquifer meets all existing and potential future federal and state water quality standards.

Comment and Question: If Colorado River water fails to meet federal and/or state water quality standards, under normal operating conditions this water could be treated and/or blended at MWD's existing treatment facilities. However under this provision of the "Terms and Conditions" MWD would be required to construct new treatment facilities for water destined for storage in the Cadiz Project aquifer. These facilities would have be constructed at the location along the Colorado River Aqueduct where water is diverted, somewhere along the 35-mile canal to the Cadiz valley, or at the spreading basins at the canal's terminus.

Likewise if the Cadiz groundwater fails to meet federal and/or state water quality standards, new treatment facilities for water destined for the Colorado River Aqueduct would be required. These facilities would have be constructed at the Project wellfield in Fenner Gap, somewhere along the 35-mile canal, or at the location where indigenous Cadiz water is introduced into the the Colorado River Aqueduct.

Where do the parties intend to construct these treatment facilities? Potential locations should be identified and environmental impacts addressed in the EIR/EIS.

In addition, the degree of chromium 6 contamination in the indigenous groundwater in the Cadiz and Fenner valleys needs to be thoroughly presented and evaluated in the EIR/EIS, as do current and prospective federal and state water quality standards for this and other contaminants and operational implications of treatment facilities that may be required to meet these standards.

D. Groundwater Monitoring and Management Plan and Yield Determination. The EIR/EIS Supplement contains a lengthy discussion in Section 3 of a comprehensive Groundwater Monitoring and Management Plan. This section proposes establishment of a Technical Review Team, comprised of representatives of MWD, Cadiz, San Bernardino County, and the US Department of the Interior, with Interior representatives serving in an observer role, to collect and interpret data regarding impacts of Program operations, and to make recommendations for changes in operations based on new information developed during the monitoring process. Also proposed is establishment of a Basin Management Group, made up of representatives from the same entities, which would make management decisions regarding Technical Review Team recommendations.

The "Terms and Conditions" released with Board Letter 9-10 state that MWD and Cadiz "in consultation with the Management Plan and in compliance with all applicable permit requirements, will determine the total expected yield for the life of the Program on an ongoing basis."

Comment and question: As proposed, the Technical Review Team and the Basin Management Group fail to include adequate representation of the public interest; only the County of San Bernardino would have voting representation on these entities. The two partners in this Project, MWD and Cadiz, would therefore control key decisions with major implications for addressing adverse environmental impacts of the Program. By what means do BLM and MWD plan to remedy this inadequacy? G34-9

E. Advance Purchase Concept creates undue pressure on the Technical Review Team and Basin Management Group in implementation of Groundwater Monitoring and Management Plan.

The "Terms and Conditions" create a situation not discussed in the Draft EIR/EIS which has the potential of making it very difficult if not possible for the Monitoring and Management Plan to function as designed. Under the "Terms and Conditions" MWD is obligated to purchase 600,000 of put and take activity upon contract execution. MWD is also obligated to purchase 30,000 AF per year of additional put and take activity during Years 5-14 of Program Operations. G34-10

In addition MWD is obligated to purchase up to 60,000 AF per year of indigenous water for the first 25 years of the Program (MWD must purchase at least 30,000 AF/yr; however a 3rd party could purchase up to 30,000 af/yr). However MWD (or a 3rd party if a 3rd party makes a purchase) is not required to take delivery at any specific time during the 50-year contract. MWD (or a 3rd party) could bank water that has purchased but not yet delivered.

Comment and question: The problem with this arrangement is that it undoubtedly will put constraints on the ability and willingness of the Technical Review Team and the Basin Management Group to develop and implement the Groundwater Monitoring and Management Plan in a neutral and unbiased manner. Should adverse environmental impacts of the Program indicate that a reduction in groundwater yield is needed to prevent significant impacts, these decision-making entities will be constrained by the fact that the aquifer will then contain stored Colorado River water and/or banked indigenous water which has already been paid for.

The absence of any discussion of this topic is an indication that the Draft EIR/EIS was not based on specific Program operations, but was instead based on abstract concepts divergent from that reality. By what means do BLM and MWD plan to remedy this inadequacy?

Summary. The Draft EIR/EIS and its Supplement fail to adequately address many of the major adverse environmental impacts of this proposed Project. BLM and MWD must address the issues discussed above and respond to the questions raised herein. G34-11

Sincerely,

David Czamanske

David Czamanske, Water Resource Consultant
Angeles Chapter-Sierra Club and Sierra Club California

Note regarding estimate of indigenous groundwater available to supply transfer water for this Project: Although a public information brochure produced by MWD states that "Studies by independent experts have determined that the Program site overlies an aquifer system . . . . The aquifer system contains approximately 20 million acre-feet of high-quality groundwater.", this statistic evidently refers to the amount of groundwater in storage underlying the entire Bristol, Fenner, and Cadiz valleys, which is estimated to be 16.9 MAF (page 6-8 of Draft EIR/EIS), not that portion of the aquifer immediately under the proposed Project wellfield in the Fenner Gap, which as noted in the text of this letter is estimated at 3.7 to 6.7 million acre-feet.

EXTERNAL AFFAIRS CLIPSHEET

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

PUBLICATION Sacramento Bee - Editorial

DATE Monday, January 8, 2001

SPECIAL

Refer to comment letter G34

Water deal or mirage? Southern California too rushed to pump the desert

One has to flip deep into the history books to find the last time Southern California operated a project to import distant water to its thirsty customers -- projects like Los Angeles' infamous takeover of the Owens Valley. The southland's first major import project of the modern era may be launched as soon as Tuesday, as the Metropolitan Water District considers the terms of a deal to pump Mojave Desert groundwater.

This is historic and precedent-setting on many levels. It is California's first mega-deal with a private entrepreneur, an agribusiness that owns the potential pumping fields. It is a test of power, where control of desert pumping remains an unsettled issue between private interests, the would-be pump operators of Metropolitan, the local government (San Bernardino County) and the federal government, which owns most of this watershed.

Perhaps most important of all, this is a test of process. Will California build groundwater pumping projects only after there is a scientific consensus that the pumping is sustainable? Or will the course be to build the pumps, fire them up and discover the ramifications later? Metropolitan seems to be leaning toward the risky course, which for California water policy is the wrong one.

This corner of the Mojave, near the small community of Cadiz, indeed has an enormous reservoir of groundwater beneath it, estimated at many times as much water as that held behind Shasta Dam. A reality of desert pumping, however, is that nobody can sustainably take from the ground more than Mother

(continued)

ENVIRONMENTAL DEFENSE
finding the ways that work

VIA FACSIMILE/U.S. MAIL

January 8, 2001

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attention:
Mr. Jack Safely
Ms. Kathleen Kunysz

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attention:
Mr. James Williams

G35

Subject: **Environmental Defense Comments on Cadiz Groundwater Storage and Dry Year Supply Program Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement, SCH, No. 99021039**

Dear Sirs and Madam:

The following constitute the comments of Environmental Defense on the Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement, Cadiz Groundwater Storage and Dry-Year Supply Program, Report No. 1169, October 12, 2000. Environmental Defense also commented previously (March 7, 2000) on the original Draft EIR/EIS (November 17, 1999) for the project (copy attached).

The Supplement establishes a monitoring program that is designed to provide the technical underpinnings of a Groundwater Monitoring and Management Plan. The monitoring program and plan promise to provide decision-makers with information needed to make critical decisions in the future regarding the relative value of protecting desert landscapes, flora, fauna, water quality, and air quality on the one hand and a major metropolitan area water supply on the other hand.

What the Supplement does not do is to give interested present-day commentators and decision-makers adequate information to assess the merits of the project <u>today</u>, before major public funds are dedicated to its construction. Public assets, aquatic, environmental, and fiscal, are potentially implicated in the project. What are the project's benefits and costs? What are the risks involved in the project? Who will pay for the project and in what proportions? Who will be left holding the project's liabilities if the project does not meet expectations?

The nominal decision-makers on this project are the Metropolitan Water District of Southern California and the U.S. Bureau of Land Management. The actual decision-makers are likely to include the Secretary of the Interior, given the multiplicity of federal interests involved, and the Governor of California, assuming state subsidies are expected as part of the project's overall financial package. G35-3

Before the project receives approval at these levels and before irrevocable commitments of public funds are made, an objective and comprehensive analysis of the project's merits should be publicly presented. Crucial to this assessment should be the formulation of a set of legally enforceable assurances that the public assets in question will not one day be sacrificed in favor of fulfilling the project's uncertain water supply expectations. G35-4

Sincerely,

Thomas J. Graff
Regional Director

Spreck Rosekrans
Senior Analyst

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ENVIRONMENTAL DEFENSE

finding the ways that work

March 7, 2000

Metropolitan Water District
Water Resource Management Group
P.O. Box 54153
Los Angeles, CA 90054-1053
Attention:
Mr. Dirk Reed
Mr. Jack Safely

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attention:
Mr. James Williams

Subject: **Environmental Defense Comments on Cadiz Groundwater Storage and Dry Year Supply Program (Draft Environmental Impact Report/ Draft Environmental Impact Statement, SCH. No. 99021039)**

Dear Sirs:

Environmental Defense has reviewed the draft EIR/EIS for the proposed Cadiz Groundwater Storage and Dry Year Supply Program (Cadiz Project), as well as the February 23, 2000, memorandum from the United States Geological Survey which addresses some of the technical parameters of the project. Environmental Defense supports appropriate use of groundwater storage as a principal component of the integrated management of California's water resources. Nevertheless, we find that the draft EIR/EIS does not adequately address an appropriate range of the environmental impacts that may result from the operations of the Cadiz Project.

The EIR/EIS evaluates nine alternative storage/transfer operational scenarios. Only one of these, Alternative 9, could be truly characterized as a conjunctive use project, which would extract only the water transferred into the groundwater aquifer from the Colorado River. All other alternatives depend on extraction of local groundwater as a significant portion of the project's yield. Alternative 9 was eliminated from consideration as it would be too expensive on a unit cost basis (page 3-19). G-

Alternatives 1 through 6, which are "intended to define a range of probable Cadiz project storage and extraction operations; and to provide a basis for designing Cadiz project facilities and capacities", depend on a net withdrawal of between 1.3 and 2.0 million acre-feet of local water during the project period. In addition to this net withdrawal of local groundwater, the project would store and extract an additional 0.8 to 2.3 MAF of water from the Colorado River (Table 3-1).

The EIR/EIS assumes that this amount of net extraction of local water would be generally offset by 1.5 MAF of natural recharge over the project period (30,000 acre-feet per year over 50 years). The project's viability appears to depend heavily on this assumption. If the natural recharge rate is overestimated, then the alternatives evaluated by the EIR/EIS would not be representative of what would actually occur. Either the project would end up extracting only the volume of Colorado River water that it has put into the aquifer (as characterized by Alternative 9) or it would "mine" the indigenous groundwater without replacement.

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As stated above, the EIR/EIS characterizes an alternative that extracts only the water diverted from the Colorado River and stored in the aquifer as too expensive. The EIR/EIS does not address the effects, pertaining either to water quality or to the local environment, of mining the indigenous groundwater. While the EIR/EIS notes that the total groundwater underlying the project area is between 3.65 and 6.69 MAF, it does not evaluate whether this amount (or anything close to it) can be safely extracted.

The EIR/EIS does warn that groundwater mining could be a problem (page 3-18): "if extractions of groundwater for transfer purposes create a significant depression in the groundwater levels under the wellfield, this saline groundwater [underlying nearby Bristol Dry Lake - 15 miles to the northeast] could flow down gradient towards this depression. Migration of this saline water would have adverse impacts on water quality in the wellfield and other areas."

The EIR/EIS also fails to address the local impacts of groundwater mining. As noted by the USGS, significant net extraction of groundwater may result in either a drying out of the upper layer sediments at Cadiz Dry Lake (or even Bristol Dry Lake) and the creation of dust problems, reminiscent of the problems caused by water project operations in the Owens Valley. Similarly, the EIR/EIS fails to address potential land subsidence, if the indigenous groundwater is extracted at rates that significantly exceed its recharge. Indeed, the Cadiz Project's EIR/EIS is heavily dependent on the accuracy of its assessment that the natural recharge to the underlying aquifer is as high as 30,000 acre-feet per year.

G35-5

The analysis by the United States Geological Survey, however, suggests that this estimate may be significantly in error. This analysis calls into question the application of both the methodologies (Chlorine mass balance and Carbon-14 isotopes) used to support the EIR/EIS. The USGS goes on to offer persuasive evidence that the natural recharge is much lower than the estimates provided by the EIR/EIS, and may be as low as 1,710 acre-feet per year.

This discrepancy regarding natural recharge to the aquifer must be resolved, and a new draft EIR/EIS issued, which uses the best available technical information and which sets forth the responsibilities and policies of the two project lead agencies regarding the groundwater basins involved. The Cadiz Project should not be allowed to move forward in any form unless it includes operational criteria which specifically address whether any net extraction of groundwater is acceptable as a matter of federal and State policy, and if it is, how much and under what conditions. Ultimately, any Record of Decision should also include criteria for monitoring any net groundwater extraction, and for assessing water quality, air quality and land subsidence objectives, as well as which parties would bear the responsibility should these objectives not be met.

Sincerely,

Thomas J. Graff
Senior Attorney

Spreck Rosekrans
Senior Analyst

January 8, 2001

Metropolitan Water District
Water Resources Management Group
PO Box 54153
Los Angeles, CA 90054-0153
Attention: Jack Safely, Kathleen Kunysz

Bureau of Land Manage
California Desert Dis
6221 Box Springs Boule
Riverside, CA 92507-0
Attention: James Willi

G36

Comments of Clean Water Action

Re: Supplement to the Draft Environmental Impact Report/ Environmental Impact Statement Cadiz Groundwater Storage and Dry-Year Supply Program San Bernardino County, California

The following brief comments are submitted on behalf of Clean Water Action with regard to the above project. While we share a number of the concerns raised by Desert Citizens Against Pollution, the Sierra Club and others with regard to ecosystem impairments that may result from the project our comments will be limited to water quality and project timing relative to the MWD's water supply master plan process. G3

The overall point of view expressed within the document is that water quality impacts either to the indigenous groundwater or to the water in the Colorado River Aqueduct (CRA) are not significant. The basis for this claim appears to be whether the resulting water quality will still meet state and federal standards. While this is clearly an important benchmark , consumer satisfaction/confidence must also be considered. Does the project have the potential to improve or degrade public health protection vis a vis drinking water quality and at what expense is the real question. G3

1. On page 2-24 in section 2.6.9 the water quality in the project area is described only in terms of Total Dissolved Solids and is termed relatively good. This statement while accurate with regard to TDS ignores the presence of arsenic, chromium, nitrates and other constituents of concern in the groundwater basin. These constituents appear to occur at levels that may necessitate treatment and thereby cause the project to occur additional expense. G3
2. Section 6.2.1 9 (page 6-2) describes the potential for degradation of the indigenous groundwater by perchlorate and TDS from the CRA, both of which are termed less than significant. It is assumed that both constituents will remain primarily in the area of groundwater mounding and extracted for use outside the area, and that mixing would be minimal. Provisions are made to include these constituents in the monitoring plan and mitigate impacts as they arise. Perchlorate levels in the CRA have reached as high as 9 micrograms per liter. The document makes reference to the state's provisional maximum contaminant level of 18 micrograms per liter. This is not in fact an MCL (provisional or otherwise) but is rather an action level—more research is necessary into health effects before an MCL can be established. Accordingly there is no way to properly gauge the risk of perchlorate contamination Many communities with perchlorate contamination have opted to close sources rather that expose themselves to unknown but potentially high risks. While MWD's levels G3

have not been exceedingly high, they are exploring treatment alternatives. Exposing a new source to contamination seems unwise. G36-4

3. Also in section 6.2.1 on page 6-3 it is stated that little is known about the quality of the deeper aquifer. Given the recent discovery of chromium and the long know presence of arsenic in the shallower basin, it seems at least these constituents and possibly other metals may be present at levels that would be problematic if this water migrated upwards in response to pumping operations. G36-5
4. Section 6.4 (page 6-11) minimizes the significance of potential increases in arsenic and nitrates exposure and fails to mention MTBE and chromium that have been detected. While the attendant levels may be in accordance with Ca standards, most consumers would not be pleased to learn that these constituents were being added to their drinking water. The document makes an assumption that these impacts would be balanced out by the improvements in supply reliability and reductions in TDS. G36-6

Achieving a water quality objective based on maintaining equivalent public health protection for those who use the water locally and MWD's customers will require investments in treatment for constituents in both sources. This analysis appears to be missing from the document. G36-7

Finally, commitment to this project seems to be out ahead of the MWD's process for determining the best mix of reliability and water quality options for the future. This project may in fact be more expensive than other option still under exploration, and not yield any improvements in water quality. MWD should postpone further commitments to this project until completion of its urban water supply master plan and until it has found answers to the questions regarding water quality and the concerns raised by others with regard to habitat, ecosystem and air quality. G36-8

Sincerely,

Marguerite Young
California Director
Clean Water Action
23 Grant Avenue, Third Floor
San Francisco, CA 94108
415-362-3040

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COMMITTEE
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Playa Del Rey, CA 90293
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G37

January 8, 2001

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On the Internet
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Mr. Jack Safely
Project Manager
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054

Dear Mr. Safely:

On behalf of the Mono Lake Committee, I am submitting the following comments on the Supplemental Draft EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program. G37-

The two points I will make focus on timing and opportunity costs associated with moving forward on the Cadiz project at this time.

Timing

In many other programmatic areas, such as conservation, the Metropolitan Water District is delaying any decisions about investing aggressively in a long-term program until after the completion of MWD's Integrated Resources Plan and the contract negotiations with its member agencies. The argument is that MWD will not have a clear enough picture of its needs without moving beyond these two milestones. If that is true, then these criteria should also apply to a 50-year contract? G37-

I realize that this agreement is not the final contract and that there are still many hurdles over which to leap prior to signing the contract. I note particularly section 11.2 of the agreement that identifies significant reductions in Metropolitan's projected water demands as an example of a "materially changed condition" under which the agreement could be terminated. This appears to recognize that MWD will not know its needs for water and water storage until later, but there is no definition in the contract of "significant."

Opportunity Costs

With any long-term, expensive decision, the MWD makes a choice about where it wants to concentrate the agency's financial resources to best serve its members. In the case of Cadiz, it is not at all clear that this is the best choice for meeting the 4.4 obligation for the Colorado River or for securing "new" supplies to be used in a drought. G37-

The recent release of the Southern California Comprehensive Water Reclamation and Reuse Study identifies over 21.5 million AF of additional ground water storage available in Southern California, only one million of which comes from the Cadiz Valley. Will MWD's agreement with Cadiz limit its ability to work with its members to develop and contribute financially to increasing members' local storage capacity?

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The same study identified 34 regional water reclamation and reuse projects that have begun or are on the drawing board. These projects have the potential to produce about 450,000 AF per year of new recycled water supply. Again, will MWD's agreement with Cadiz limit its ability to work with its members to develop and contribute financially to increasing this new source of supply? 637-4

MWD's 2000 Urban Water Management Plan underscores the untapped potential in increasing conservation projects in the region. The Plan reports only 1,400,000 toilets have been installed in the region, 800,000 of which were installed in Los Angeles. There is tremendous opportunity to expand this program to other member agencies, such as those in fast-growing areas like San Bernardino and Riverside Counties. There is a landscape pilot program showing early signs of success in Orange County, which could significantly reduce landscape water needs. This program needs $1 million to complete the test phase, and it could be launched region wide within two to three years. Will MWD's financial obligation to Cadiz reduce its commitment to conservation and the low-cost water that conservation frees up for other uses? 637-5

Finally, as the state and the region begin to sort out responses to the energy crisis, there are many city and county agencies that are looking for ways to reduce both energy and water use. The effect of this move could further reduce Southern California's water demand curve. While it is too early to know what will happen, it is clear that MWD could step in and assume some leadership in promoting this trend But will MWD be trapped into needing to have higher water use because it has made a 50-year agreement with Cadiz? 637-6

These are examples of how a decision now may limit MWD's opportunities to work with its members on a wide range of projects that could greatly reduce the region's need for imported water. The niche for MWD is to be helping its members stay on the cutting edge of water supply and water quality advancements. The MWD should defer its final decision on a contract with Cadiz until late 2002 when MWD knows more about what its members will need over the next fifty years and what are the highest value technical areas in which MWD could serve as a regional resource to its members. 637-7

Sincerely,

Frances Spivy-Weber

Frances Spivy-Weber
Executive Director, Policy

California Native Plant Society

January 8, 2001

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attn: Mr. James Williams

638

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attn: Mr. Jack Safely

RE: Comments on Cadiz Groundwater Storage and Dry-Year Supply Program, Supplement to the Draft Environmental Impact Report, Draft Environmental Impact Statement SCH No. 99021039.

Dear Mr. Williams and Mr. Safely,

The California Native Plant Society (CNPS) is a non-profit organization of more than 10,000 laypersons and professional botanists organized into 32 chapters throughout California. The mission of the California Native Plant Society is to increase the understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, and conservation.

63

In that context, CNPS has several comments, that when fully addressed, will significantly improve the document and add to the overall evaluation of the feasibility of the project. The Supplemental EIR/EIS still does not fully examine the potential problems that could result from draining a desert ecosystem of its precious and scarce water supply, and specifically the effect that fluctuation in the water table and quality will have on the plant communities. Some of these plant communities are sensitive to elevated levels of total dissolved solids while others (halophytes) require saline conditions to persist. Many of the halophytic chenopod communities (Desert Iodine Bush Scrub, Greasewood, and others) are considered "rare and worthy of consideration" [under CEQA] communities by the California Department of Fish and Game (NDDB 2000), and could be impacted through groundwater/TDS fluctuations. No halophytic communities were addressed in the SEIR/EIS (or the DEIR/EIS), despite the fact that their occurrences in the area of influence of this project should be documented and an analysis of impacts should be provided.

63

The Groundwater Monitoring and Management Plan is not adequate to evaluate the potential impacts to the natural water sources. The 28+ existing springs are identified to be monitored once in pre-operational frequency, and then never again. What is the basis for the presumption that monitoring 2 existing springs continuously and 6 other springs semi-annually will provide adequate data to evaluate what's going on at the other 28+ springs? As you know, desert springs are oases for many species including special plant species. CNPS supports a more comprehensive effort to monitor the effect of the project on all the springs, plus more reasonable "Triggers - Action Criteria", and much more specific "Corrective Measures". In Table 3-4, the "Triggers - Action Criteria" for adverse impact to springs allows "measured water level change in excess of 1 ft in any S-series observation wells". A less than one-foot change in water level has the potential to eliminate many of these springs, and cause significant environmental impact. What are the "modifications of project extraction operations" that are proposed to "prevent adverse impacts"? These details are of the utmost importance in preventing adverse impacts and need to be disclosed. G38-3 G38-4

Furthermore, under this plan, all monitoring and decision-making will be by the project proponents and the County, and the project proponents have built-in incentives to favor continued groundwater extraction. In order to protect the public interest, we request that independent monitoring be done, and that the decision-making process have full representation by the interested public. G38-5

The environmental analysis for this project is still incomplete: An alternative still needs to be included that uses previously disturbed areas and existing energy corridors, that would "1) minimize the number of separate right's of way by utilizing existing rights-of-way... and 2) encourage joint use of corridors for transmission lines, canals, pipelines and cables" as identified in the California Desert Conservation Area Plan as amended (1980). This alternative would use the existing transmission line corridor from the Iron Mountain Pumping Station across Danby dry lake, to Cadiz Road, and then along the All American Pipeline right-of-way or the railroad right-of-way. These right's-of-way are previously disturbed, provide easy access for maintenance and eliminate impacts to undisturbed vegetation communities that would happen in all proposed alternatives. This alternative would prevent further fragmentation of plant communities and the habitat they provide, decrease the spread of exotics and retain the values of undisturbed habitat. G38-6

Another issue that is still not addressed is weed abatement, especially for tamarisk (*Tamarix* sp.). With the creation of inundation basins, we anticipate a likely environment for the establishment of tamarisk. This highly invasive weed whose tiny seeds are dispersed by wind will establish wherever water is available, such as the spreading basins G38-7

proposed in this project. MWD desert facilities currently support catastrophic tamarisk infestations (Copper Mountain reservoir as seen on Huell Howser). Large-scale abatement projects near the proposed project site (Camp Cady, Afton Canyon) are currently funded at taxpayer expense to eradicate tamarisk. A tamarisk abatement program needs to be addressed, established and implemented for all MWD desert projects to minimize the spread of tamarisk in the California deserts. These issues still need to be addressed and publicly disclosed in another environmental impact statement.

We trust that you will address these comments, and consider them in the context of the overall project feasibility. Please contact me with any questions at (323) 654-5943.

Sincerely,

Ileene Anderson
Southern California Botanist - CNPS
Renewable Resources Rep. - Desert Advisory Council, BLM

Steve Hartman
Desert Committee, Chair - CNPS

Cc: Emily Roberson, Senior Land Management Analyst, CNPS
David Chipping, Conservation Chair, CNPS
CNPS State Office

THE DESERT PROTECTIVE COUNCIL, INC.

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G39

RECEIVED
01 JAN -5 AM 11:21
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CALIFORNIA DESERT DISTRICT

COMMENTS ON THE SUPPLEMENT TO THE DRAFT EIR/EIS
FOR CADIZ GROUNDWATER STORAGE DRY-YEAR PROGRAM
SCH No. 99021039

January 8, 2001

The Desert Protective Council continues to oppose permiting, in whole or in part, this ill-defined project in the California Desert. The Supplement contains little new information to alleviate the Council's concerns. It continues to rely on future actions, monitoring and funding without visible allocations or bonds. G39-1

One basic concern is the lack of Alternatives, such as conservation or compliane with the Colorado River allocation agreements recently signed by the Secretary and effected States. There is no need for the Council to spell out the Alternatives; the BLM and MWD know what is needed and have the experts to do it. G39-2

The Council will not waste your time in analyzing all the little bits and pieces of the documnet. The Desert Protective Council requests information on various aspects of the Dry-year Storage Project. G39-3

Are Cadiz and MWD partners or has Cadiz sold out as was reported on December 21st on a local Station? If so, the Supplement and Draft will have to be revised to reflect responsibilities. G39-4

What are the vested interests and committments of MWD relative to the massive NAWPA, the North American Water and Power Alliance and the Ralph Parsons' engineering firm? (See Attch A). G39-5

Is the Cadiz Storage Program addressed in the agreement recently signed by the Secretary of Interior and effected States' allocation of Colorado River Water? Is a part of the same agreement effecting Los Angeles/So California allotments and transfers? G39-6

The Council is aware of the impacts on the Mojave Preserve, especially as stated on page 65 in the Mojave Preserve Revised Draft EIS and General Management Plan, July 2000. (See Att B). DPC requests a written statement from NPS that the Supplemental document contains correct information and that the project will not adversely impact Mojave National Preserve. G39-7

Furthermore, the Council is curious as to the status of the water that was observable G39-8

in the Hayfield Basin adjacent to the southern edges of Joshua Tree National Park, i.e., is it in storage directly under the basin, did it seek its lowest level (maybe Salton Sea), did it contaminate the aquifer, was it transported elsewhere, was it cost-effective? G39

Of further interest is the report that chromium 6 had been found in the aquifer at Cadiz. Should Cadiz be held accountable for clean-up if chromium-laced water was used in the vinyards and for other purposes? G39

What guarantees does the public have that the Cadiz/Fenner area will not become another Owens Lake or Mono Lake under the auspices of MWD? Promises of faithful monitoring is easily said, but corrective action must be based on more than consultations among scientists. G39

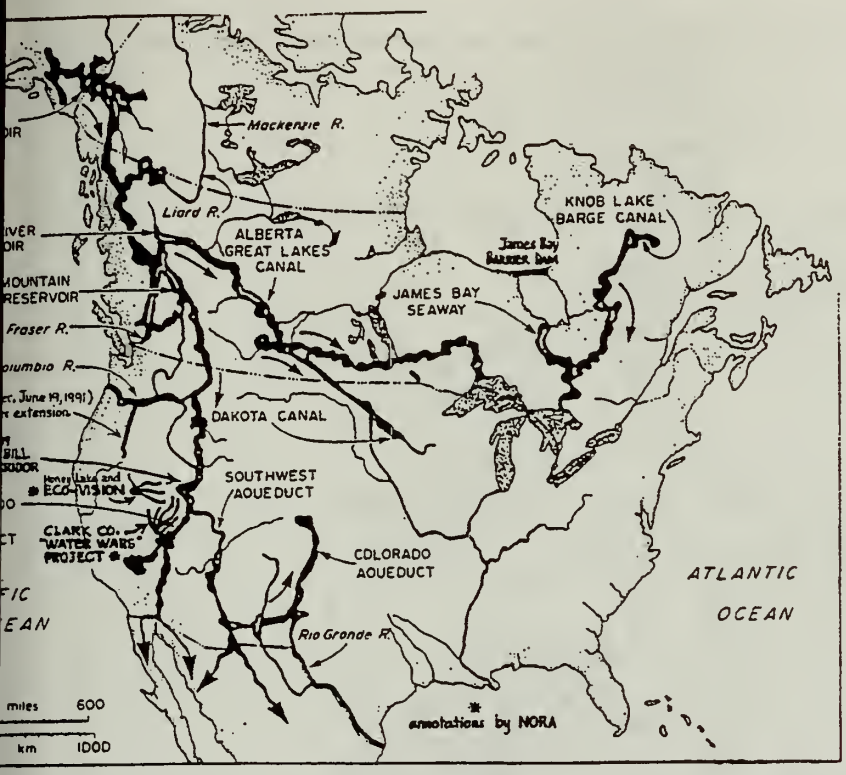
In summary,
For the reasons stated above and many others suggested by the Draft and/or Supplement EIS, the Council urges the Needles Field Office as well as the California Desert District Office to seek sound legal and Departmental advise prior to proceeding with the final EIS and permits. It may save and money to say "no" now, as well as saving precious desert resources for future generations. G3

Please keep the Desert Protective Council on all mailing lists for this project. G39-12

Respectfully submitted,

Douglas W. Allen

Douglas W. Allen, President



"NAWAPA" SCHEME – the North American Water and Power Alliance (map
irtesy of Rawson Academy of Aquatic Science Ottowa.) On June 19, 1991,
NBC TV, and San Francisco Examiner verified NAWAPA's Canada-USA
ipson and Columbia River segments. The backers are known as the
national Water and Power, Inc. (NORA, Summer, 1991).

*Was it John Muir who said that when you
with one isolated facet of the ecosystem, you
pretty soon that it is connected to another and
ner and finally that it is all connected?*

NTROLLING THE WATER

No one has invented a substitute for
r. It covers 3/5 of the globe. It falls
clouds and runs relentlessly downhill
t to the ocean, where a giant hydraulic
nine picks it up to distribute it around
globe and drop it again on mountains
plains. The rain falleth upon the just
the unjust. And yet, what city, what
er, what river system ever has enough?
Not only is water essential to all life, but
n be channeled to go west and leave
ast dry. In cities, if it comes from the
you can live - if it fails to run, all other
ms are useless or irrelevant.

Is There a NAWAPA In Your Future?

G-39-13

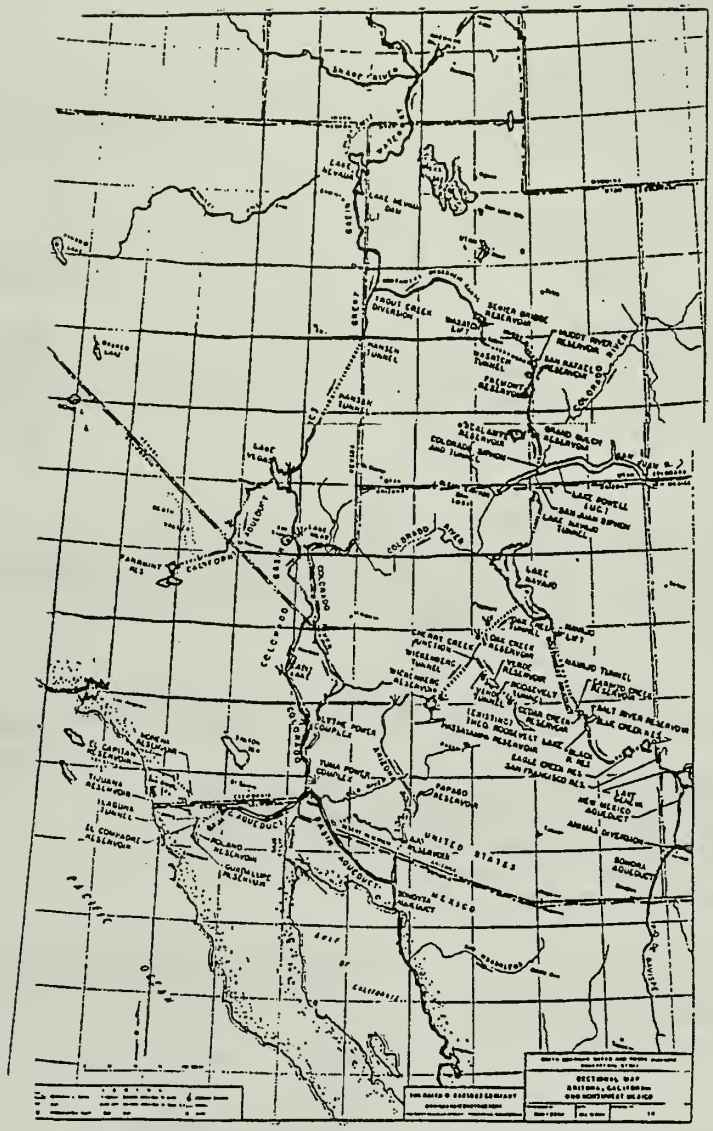
By
Janet O'Crowley

**Educational Bulletin
#94-2
A publication of the
Desert Protective
Council, Inc.**

MAKING THE DESERT BLOSSOM

Now, wouldn't it be just dandy if you could control the water? Better than money – you can't drink that. Here in the northern hemisphere, most water falls where the fewest people are, and furthermore it runs mischievously north into the arctic oceans. Canada has long thought "How grand if we could turn the rivers around, sell the water at the border; also the power that could be generated as the rivers flowed southward." The U.S. has very arid west and northern plains states that never see enough water for the crops that farmers would love to grow. Also, the northern center of Mexico lies parched and fruitless without irrigation water.

British Columbia has the third, fourth, seventh, eighth, and nineteenth largest rivers in North America; Alaska has the Tanana, the Susitna, the Copper, and the Yukon which could conceivably be turned



G-39

Map by Ralph M. Parsons Company, dated 1964.

south. It would be like discovering an Amazon in the Great Basin...an immense river. An engineer with imagination could turn all that to gold.

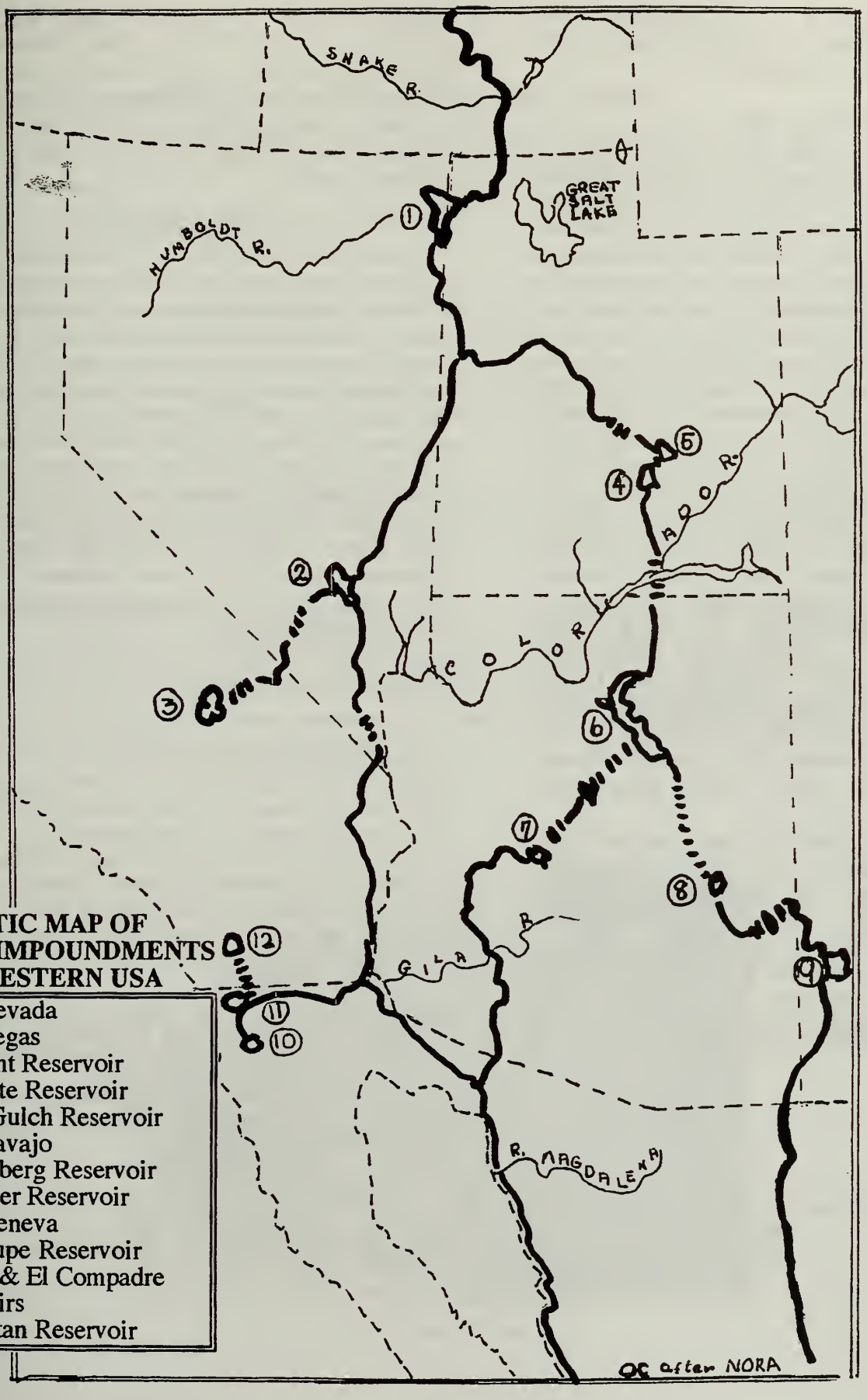
A MAN, A PLAN

A water engineer for Los Angeles Water and Power did think of that; he took his vision 40 years ago to Ralph Parsons' mega engineering and construction firm in Pasadena. Parsons loved the grandeur of the concept – altering the face of North America – dozens of raging rivers dammed and forced to run south, whole river systems converted to reservoirs, tunnels under the Rockies, valleys wiped out. The glory, the power, the **profit**...Alexander the Great would have sold his horse for them!

TODAY

That was in the fifties. Today the NAWAPA plan has grown. With the North American Free Trade Agreement in place, the wild waters now flow on paper into northern Mexico, and the marketing framework is in place. If water is a commodity, then no nation may erect barriers in restraint of that trade, nor prevent the profits from flowing where they will. Ralph Parsons is dead, but his vision has been picked up by

Dm



ℂMATIC MAP OF
GER IMPOUNDMENTS
IE WESTERN USA

ake Nevada
ake Vegas
namint Reservoir
calante Reservoir
rand Gulch Reservoir
ake Navajo
ickenberg Reservoir
lt River Reservoir
ake Geneva
uadalupe Reservoir
juana & El Compadre
servoirs
Capitan Reservoir

639-13

governments and by corporations who advise presidents and prime ministers who make deals and sign treaties.

DAMS AND DOLLARS

In round brave new world figures, NAWAPA would construct up to 240 dams (up to 1770 feet high), 112 mammoth diversion structures leading to 17 habitat-vaporizing canals. Fifty to eighty thousand megawatts of power would be generated by 136 cubic kilometers of water per year drained, siphoned, and pumped into the U.S. – some for Idaho, some for Utah, a lot for Texas real estate, even some to flush the salt out of the lower Colorado River. Thirty-nine percent of the U.S.' share would flow into Mexico to Baja and the Baja California Gulf coast, and more into the Rio Grande.

NAWAPA will alter the southwest desert beginning south of Wells, Nevada, with the Lake Nevada dam. Great Basin Waterway will branch east toward Utah's salt flats and west in the direction of Las Vegas (in the vicinity of Pahranagat), where tunnels and an aqueduct will cut through lower Death Valley to the "Panamint Reservoir." The other line will head for Las Vegas City and south, cutting across the Colorado River, and power a giant Yuma generating complex.

Generating plants are placed on this map wherever feasible. They will undoubtedly generate a huge margin beyond the energy needed for lifts. Canals, reservoirs, and power transmission lines will obliterate or alter the face of the southwest beyond recognition, or as Marc Reisner says in his *Cadillac Desert*, "largely destroy what is left of the natural West." Luna Leopold, hydrology professor at UC Berkeley, could only state that "the environmental damage can't even be described...as much harm as all the dam-building we have done in a hundred years."

WHAT MAN HAS THOUGHT OF

It has been thought, so it's not unthinkable, that some version of this monster will be built. Robert Bourassa, a Liberal Party leader of Quebec, wrote a book about it. Ralph Parsons' tax-exempt NAWAPA Foundation, receiving surplus profits from his company (the third or fourth largest engineering company in the world) worked on it exclusively. The North American Free Trade Agreement created the international trade framework for it. Canada has water – needs cash. Mexico is allowing foreign corporate farms to take over water-short ejido lands. Southern California and southern Nevada gasp for it.

The bull dozers are waiting.

FOR MORE INFORMATION:

Cadillac Desert Marc Reisner. 1990: Martin, Secker & Warburg Ltd. ISBN 0-436-41050-8

Power from the North - Robert Bourassa

Canada's Water – For Sale? Richard Bocking. 1972: James, Lewis and Samuel, Toronto

"Water Wars Becomes No. American Menace" Nevada Outdoor Recreation Association, Inc. NORA Newsletter, Summer 1991. PO 1245, Carson City, NV 89702

CARRY PLENTY OF WATER

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CADIZ GROUNDWATER STORAGE AND DRY YEAR SUPPLY PROGRAM

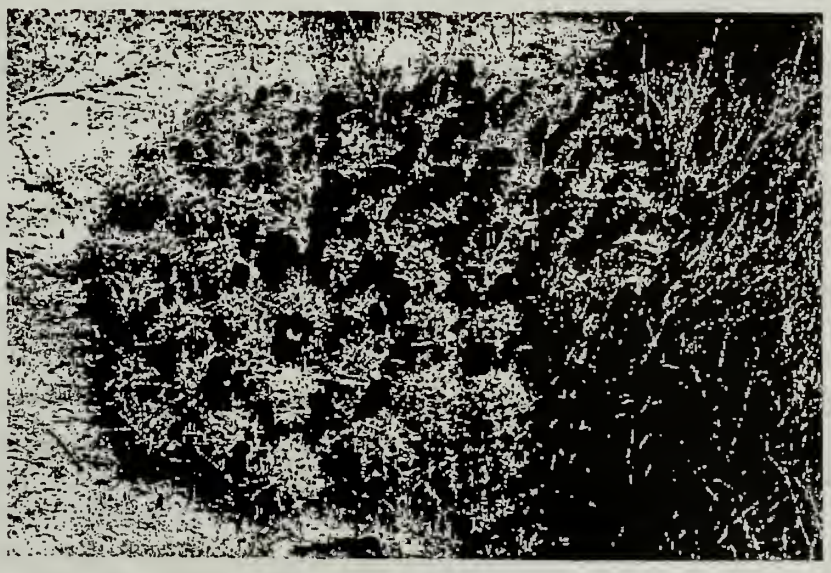
The Cadiz Groundwater Storage and Dry Year Supply Program is a project proposed by the Metropolitan Water District of Southern California (MWD) and Cadiz, Inc. to store and retrieve excess Colorado River water in a groundwater aquifer shared by Mojave National Preserve. In addition, the project would pump up to 30,000 acre-feet of indigenous groundwater per year from the basin for shipment to Los Angeles.

Mojave National Preserve is located approximately 15 miles north of the main project area. The project area and proposed conveyance pipeline are located on public land managed by the Bureau of Land Management and private land owned by Cadiz, Inc. Fenner Basin, which is expected to provide the primary source of natural recharge groundwater to the Cadiz Project, runs nearly 30 miles into the Mojave National Preserve, and is one of the park's major groundwater aquifers. The Cadiz Project has the potential to adversely affect the groundwater resources of Mojave National Preserve and air quality in the Preserve.

639-14

A Draft EIS was issued to the public on the project. Groups or agencies that commented included NPS, USGS, EPA, county of San Bernardino, National Parks Conservation Association, and the Sierra Club. NPS and other reviewers found the EIS and supporting hydrologic documents to be seriously flawed.

Based on comments received on the Draft EIS, BLM and MWD have decided to issue a Supplemental Draft EIS. NPS has accepted BLM's request to serve as a cooperating agency on the project. Currently, the lead (BLM and MWD) and cooperating agencies (NPS, USGS, Fish and Wildlife Service) are working to complete the Supplemental EIS and modify the project proposal so it will be acceptable to the potentially affected stakeholders. Mojave National Preserve remains concerned about potential impacts to its air and water resources.



Mojave mound cactus

PEOPLE AGAINST RADIOACTIVE DUMPING
424 "E" Street
Needles, CA 92363
760/326-4318

January 8, 2001

Governor Gray Davis
State Capitol
Sacramento, California

Mr. Tim Salt, District Manager
California Desert District, Bureau of Land Management
United States Department of the Interior
6221 Box Springs Boulevard
Riverside, CA 92507-0714
Attention: Mr. James Williams

CERTIFIED MAIL NO. 7099-3220-0001-1262
VIA FAX 1 909/697-5299

Ms. Molly Brady, Area Manager
Needles Field Office
Spikes Road
Needles, CA 92363

VIA FAX 1 760/326-7099

G-40

Mr. Stephen N. Arakawa, Manager
Water Resource Management Group
Metropolitan Water District - a California Public Agency
P. O. Box 54153
Los Angeles, CA 90054-0153
Attention: Mr. Dirk Reed, Mr. Jack Safely

CERTIFIED MAIL NO. 7099-3220-0001-1255
VIA FAX 1 213/217-6119

San Bernardino County Supervisors
County of San Bernardino, Planning Division
385 N. Arrowhead Ave
San Bernardino, California 92415-0181

VIA FAX 1 909/387-3223

Re: COMMENTS AND ALLEGATIONS WITH REGARD TO THE PROPOSED "CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT REPORT DRAFT ENVIRONMENTAL IMPACT STATEMENT SCH. No. 99021039" AKA THE

"DILUTION OF RADIOACTIVE COLORADO RIVER WATER"

Dear Governor Davis and Supervisor Davis, Mr. Tim Salt, Mr. Stephen N. Arakawa, San Bernardino County Board of Supervisors, and Ms. Brady;

We object to the continued misuse of public funds to process the subject project proposal and application for use of public lands. The EIS/R and Supplement are inadequate and difficient under the National Environmental Policy Act and the California Environmental Quality Act in that the documents fail to adequately address the impact of the proposed project upon the environment down stream on the Colorado River from the proposed delivery system diverting water to the Cadiz Farm and fail to address the impact of injecting water from the Colorado River with relatively high levels of radioactive elements

into the pristine water aquifer in the Cadiz basin. 640-1

Further, People Against Radioactive Dumping (PARD) objects to the injection of Colorado River water contaminated with radioactive elements into natural and pristine desert aquifers such as the subject Fenner Basin groundwater basin. Public record has shown that the Colorado River is contaminated with radiation from the Atlas Mine, bomb testing fall out, and sewerage discharges from industrial and medical wastes upstream (Las Vegas, Laughlin, Bullhead, Needles). The subject EIS/R is deficient in that it does not provide an analysis of the radioactive elements in water samples taken from the Colorado River, and thus inadequately describes the effect of injecting radioactive elements included in Colorado River water into the groundwater basin at Fenner. Further, not analyzed, is the effect that such radioactive materials injected into the ground water basin at Fenner would have upon existing basin mineral deposits which are being used for beneficial purposes, such as those at the chloride mines around Bristol Lake. Further testing and analysis of Colorado River water samples is needed to determine the total volume and type of radioactive isotopes which are in Colorado River water proposed to be mixed with pristine desert aquifers. 640-2

PARD is concerned that the Environmental Protection Agency may not be aware of the subject proposal. Strict EPA regulations prohibit/govern the injection of contaminated water into groundwater basins—is this the reason why the EIS/R never uses the word "injection" but instead refers to the proposed "spreading basins." Whether the mixing is accomplished through "injection" or through "spreading," the spirit of the law and good stewardship is violated when radioactively contaminated water is mixed with pristine desert aquifers in the California Desert Conservation Area. 640-3

PARD represents 25,000 San Bernardino County residents who have signed our petitions to 1) require the responsible management of nuclear materials and 2) rewrite the nuclear waste management laws to reflect an honest classification of what is really being proposed for management, 3) manage nuclear waste according to longevity and level of toxicity/radioactivity—not by who produces/generates it or by where it comes from. In other words, it does not matter who makes it or where it comes from, the waste needs to be classified and managed according to how dangerous it is and how long that danger will last. 640-4

Submitted by,

Ruth Lopez

Ruth Lopez
Director
People Against Radioactive Dumping
760/326-4318 or 760/326-2519

SIERRA CLUB

CAL/NEV REGIONAL CONSERVATION COMMITTEE

BLM LANDS COMMITTEE

230 Larkspur St, Ridgecrest, CA 93555

G41

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714
Attn: James Williams
Re: Cadiz Project SEIS

1/4/01

Dear Sir:

We are very concerned with the proposed Cadiz water project.

First, we find that the authority of the Bureau of Land Management (BLM) to limit or deny water withdrawals which will impact public land administered by BLM is not defined in the Supplemental Environmental Impact Statement (SEIS). As we understand it, the BLM's authority will be defined in meetings not open to the public, and therefore subject to political pressure. We believe that it is both immoral and illegal for a matter of this importance not to be addressed in the SEIS, and to be decided outside of public view and comment. The BLM, acting as our agent to protect our public lands, has the responsibility to protect the Wilderness Areas and other public lands which may be impacted by this project . We have the right to oversee the BLM's stewardship of our land. We have the right and the duty to protect the water that lies under our land. It is ours; it does not belong to the project proponents.

G41-1

Second, all of the monitoring and mitigation is controlled by the project proponents. These proponents have a great incentive to maximize water withdrawals regardless of collateral damage to other resources. Monitoring and mitigation must be controlled by the agencies that administer the public lands that may be impacted, the BLM and the National Park Service. The criteria that will be used to shut this project down before it causes irreversible damage must be spelled out in the SEIS, and the decision left to completely unbiased, objective decision makers (not Cadiz and MUD). A plan similar to that used for the Viceroy Mine project water pumping might be used here.

G41-2

Third, the actual need for the project must be addressed along with alternatives to this project. These alternatives must include water conservation measures and other existing, planned and or feasible water storage projects.

G41-3

Forth, the quality of the water to be injected and the quality of the water in the aquifer must be addressed. The groundwater may contain high levels of chromium 6, and both sources of water may contain high levels of arsenic, radon, MTBE and perchlorates. Does this water need treatment before it is used for domestic purposes, and if so, at what cost? Is this cost economically feasible?

G41-4

Thank you for your attention to these comments. Please keep us informed regarding your decisions in these matters.

G41-5

Sincerely,

Stan Haye

Stan Haye, Co-Chair

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CALIF. DESERT DISTRICT
RIVERSIDE, CA.

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Defending the West

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January 11, 2001

Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, California 90054-0153

James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, California 92507-0714

Re: Errata in Comments on Cadiz Project

Dear Messrs. Safely and Williams:

I am writing to inform you of a couple of errata that have been brought to my attention in the comments submitted by the Western Environmental Law Center on January 8, 2001.

First, the list of organizations making up the coalition on whose behalf the comments were submitted inadvertently included one organization that had not reviewed and signed onto the comments and failed to include three organizations that did. Clean Water Action should not have been included, and the following three organizations should have been included: Center for Community Action and Environmental Justice, California Citizens Against Toxics, and Desert Citizens Against Pollution.

G42-0

Second, figure 11 was inadvertently left out of the figures attached to Dr. John Bredehoeft's report, which is the first attachment to Law Center's comments.

Enclosed with this letter is a copy of figure 11 from Dr. Bredehoeft's report and a revised page 1 of the Law Center's comments with a corrected list of the organizations making up the coalition on whose behalf the comments are submitted.

Please incorporate these corrections into the comments. Should you have any questions regarding these corrections, I can be reached at the telephone number in the margin. Thank you for your attention to this matter.

Very truly yours,

Simeon Herskovits

Enclosures

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G42

Comments of

the Western Environmental Law Center

on the

Draft Environmental Impact Report/Environmental Impact Statement and Supplement to the Draft Environmental Impact Report/Environmental Impact Statement

for the

Cadiz Groundwater Storage and Dry-Year Supply Program

Submitted: January 8, 2001

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C. BLM has failed to adequately evaluate the impact to adjacent wilderness areas in violation of FLPMA.

IV. CONCLUSION

I. INTRODUCTION

A. The Commenters

The Western Environmental Law Center submits these comments on behalf of a coalition of citizens organizations that are opposed to the Cadiz Groundwater Storage and Dry-Year Supply Program, including: Sierra Club, National Parks Conservation Association, Defenders of Wildlife, Wilderness Society, California Wilderness Coalition, Desert Survivors, Desert Citizens Against Pollution, California Citizens Against Toxics, Southern California Watershed Alliance, California Watershed Network, Butte Environmental Council, Valley Water Protection Association, Center for Biological Diversity, Center for Community Action and Environmental Justice, and Citizens for the Chuckwalla Valley.

The commenters request that these comments, and all attachments be included as part of the administrative record. The commenters further request that all documents, articles, and reports cited in these comments and attached expert testimony be included as part of the administrative record of this action. See County of Suffolk v. Secretary of Interior, 562 F.2d 1368, 1384, n.9 (2d Cir. 1977) (addressing scope of NEPA administrative record), cert. denied, 437 U.S. 1064 (1978); Silva v. Lynn, 482 F.2d 1282 (1st Cir. 1973) (same); see also Thompson v. United States Dep't of Labor, 885 F.2d 551, 555 (9th Cir. 1989) (administrative record consists of all documents and materials directly or indirectly considered by agency and includes evidence contrary to agency's position).

B. Summary

The Cadiz Groundwater Storage and Dry-Year Supply Program (Cadiz Project or Project) is proposed to enhance the Metropolitan Water District of Southern California's (MWD's) water supply. The Project has two components. One is to store up to 1 million acre-feet of surplus Colorado River water in the groundwater system underlying the Cadiz and Fenner valleys in the Mojave Desert during years when that water is not needed, and extract that water as needed during dry years. The other component is a proposal to extract up to 2 million acre-feet of indigenous, or native, groundwater from that groundwater system for MWD's use during dry years. The Project would entail the construction of the following facilities: approximately 390 acres of spreading basins to allow the Colorado River water to percolate into the groundwater system; a well-field to extract water from the aquifer; monitoring wells and other monitoring equipment; and conveyance facilities to carry water 35 miles between the Colorado River Aqueduct (CRA) and the Project site, along with accompanying power lines.

The reviewing agencies (Agencies) are MWD and the United States Bureau of Land Management (BLM). MWD is the lead agency under the California Environmental Quality Act (CEQA), Cal. Pub. Resources Code § 21000 et seq., and BLM is the lead agency under the National Environmental Policy Act, 42 U.S.C. § 4321 et seq. BLM's involvement in the Project results from the fact that the conveyance facilities and accompanying power lines will require the grant of a right of way through BLM land between the CRA and the Project site. In order to

grant such a right of way, BLM must amend the California Desert Conservation Area Plan, which presently prohibits such a use of the land being crossed.

As explained in detail below, the proposed Cadiz Project poses a serious threat to the groundwater system underlying the whole of the Cadiz-Fenner basin and the surrounding environment. Among the harms likely to be caused by the Project are catastrophic depletion of the aquifer that could take centuries to be remedied. By substantially drawing down the aquifer, the Project also threatens to dry out the moist lake beds, or playas, of Bristol and Cadiz lakes. This would create a large area of dried out lake sediment with an enormous potential to generate harmful dust emissions on a significantly larger scale than Owens Lake, which ranks as one of the nation's most conspicuous environmental disasters. In addition, the draining of the aquifer could cause springs in the surrounding mountain ranges to dry up, spelling extinction for the local populations of bighorn sheep. Perhaps even more distressing, the vast area of fresh water spreading basins on the Cadiz Project site will be a major attraction for ravens and other birds that will prey on the fragile desert tortoise population in critical habitat areas within the basin. These are only some of the devastating potential environmental impacts from the Cadiz Project, impacts that in practical terms will be permanent and very expensive to even attempt to mitigate. G42-4

Neither the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/S) nor the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (SEIR/S) adequately address these and other serious problems with the Cadiz Project. Indeed the DEIR/S and SEIR/S are woefully inadequate under CEQA, NEPA, and other state and federal laws. Among their most glaring deficiencies, the DEIR/S and SEIR/S are based on a patently deficient description of the Project and the physical conditions and environmental resources in its vicinity, a grossly inadequate assessment of the purpose and need for the Project, and a failure to examine the Project's feasibility and likely adverse environmental impacts. Rather than remedying any of these glaring deficiencies in the DEIR/S, the SEIR/S simply attempts to sidestep all substantive problems by proposing to defer the identification of problems and the decisions about how to deal with those problems to a future date and to unaccountable committees dominated by the Project's proponents under a vague and inadequate monitoring and management plan. In all these regards, the DEIR/S and SEIR/S fail to comply with NEPA and CEQA, and for all these reasons the Agencies should reject the proposed Cadiz Project. G42-5

II. THE AGENCIES HAVE FAILED TO COMPLY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND THE NATIONAL ENVIRONMENTAL POLICY ACT

A. The Legal Requirements of the National Environmental Policy Act.

"Section 101 of NEPA declares a broad national commitment to protecting and promoting environmental quality." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348 (1989), citing 83 Stat. 852, 42 U.S.C. § 4331. "The sweeping policy goals announced in § 101 of NEPA are . . . realized through a set of 'action-forcing' procedures that require that agencies take G42-6

a "hard look' at environmental consequences.'" Id. at 350, citing Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). NEPA's main "action-forcing" procedure comes in the form an environmental impact statement ("EIS"), a detailed statement on environmental impacts that must be prepared before an agency undertakes any "major Federal action[] significantly affecting the quality of the human environment." NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C).

Thus, NEPA "ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989). See also Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 553 (1978) ("NEPA places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action"). "These procedural provisions of NEPA 'are designed to see that all federal agencies do in fact exercise the substantive discretion given them. These provisions are not highly flexible. Indeed, they establish a strict standard of compliance.'" Sierra Club v. Watkins, 808 F. Supp. 852, 859 (D.D.C. 1991), quoting Calvert Cliffs' Coordinating Comm., Inc. v. United States Atomic Energy Comm'n, 449 F.2d 1109, 1112 (D.C. Cir. 1971).

The Council on Environmental Quality ("CEQ") has promulgated regulations implementing NEPA that are binding on all federal agencies. 40 C.F.R. § 1500.3; Robertson v. Methow Valley Citizens Council, 490 U.S. at 354.

B. The Legal Requirements of the California Environmental Quality Act

"The California Environmental Quality Act, Cal. Pub. Resources Code § 21000 et seq., is a comprehensive scheme designed to provide long-term protection to the environment. In enacting CEQA, the Legislature declared its intention that all public agencies responsible for regulating activities affecting the environment give prime consideration to preventing environmental damage when carrying out their duties. CEQA is to be interpreted to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." Mountain Lion Foundation v. Fish and Game Comm'n, 65 Cal.Rptr.2d 580, 584 (1997).

"The environmental impact report, with all its specificity and complexity, is the mechanism prescribed by CEQA to force informed decision making and to expose the decision-making process to public scrutiny. The EIR is, as the courts have said repeatedly, the 'heart of CEQA,' 'an environmental alarm bell,' and a 'document of accountability.' An EIR provides the public and responsible government agencies with detailed information on the potential environmental consequences of an agency's proposed decision." Planning and Conservation League v. Department of Water Resources, 100 Cal.Rptr.2d 173, 187-88 (Cal. App. 2000) (citations omitted).

The EIR serves not only to protect the environment but also to demonstrate to the public

that it is being protected. CEQA Guidelines § 15003(b). Thus, CEQA requires that the lead agency identify and disclose all of the significant environmental impacts of a proposed project. CEQA Guidelines § 15126.2. CEQA also requires the public agency to consider feasible alternatives to the project which would lessen any significant adverse environmental impact. Cal. Pub. Resources Code §§ 21002, 21081; Planning and Conservation League, 100 Cal.Rptr.2d at 188. G42-7

C. The DEIR/S and SEIR/S Fail to Adequately Evaluate the Purpose and Need for the Cadiz Project

As described below, the Assessment of purpose and need that underlies the DEIR/S and the SEIR/S is woefully inadequate and riddled with omissions and inconsistencies. G42-8

1. Conservation Measures

To begin with, neither the DEIR/S nor the SEIR/S provide sufficient specificity regarding what conservation measures have been, or reasonably can be expected to be, implemented, or how the MWD makes this assessment. Without this information it is not possible to assess the reasonableness of MWD's future demand premise. G42-9

Throughout the discussion of need and purpose, the DEIR/S betrays a bias in favor of obtaining additional water supply rather than aggressively pursuing additional available opportunities for increased conservation. The DEIR/S invokes the drought of 1987-1992 to show the need for improving MWD's supply reliability, and makes clear that improving supply reliability means essentially increasing supply. DEIR/S 2-3. In contrast, neither the DEIR/S or the SEIR/S acknowledges that such droughts make it just as clear that there is an even greater need for aggressive implementation of conservation in the desert region that makes up its service area. Similarly , MWD claims that its studies of dry-year demand show the need to enhance water storage and water transfers, but it fails to acknowledge the self-evident fact that the same studies show a similar need to enhance conservation. DEIR/S 2-6. G42-10

Another example is the contradiction between the assertion that adequate storage is needed to prevent and offset overdraft of groundwater basins and surface storage during droughts, DEIR/S 2-4, coupled with the failure to meaningfully address the high probability that the Cadiz Project is likely to result in a major overdraft of the groundwater basin underlying the Cadiz and Fenner valleys. The bias betrayed in this unbalanced consideration is also evident in the DEIR/S's failure to acknowledge that increased conservation measures also would protect against such overdraft of groundwater basins and surface storage, and would do so more sustainably than draining new basins. G42-11

Further, throughout the assessment of future water demand, MWD passively accepts projections of continued "rapid population growth and water demand increases" without any examination of the sustainability of this trend or the obvious opportunities to moderate this trend G42-12

through SCAG and SANDAG's regular periodic planning summits to set population, and other, goals. DEIR/S 2-6. For example, in its discussion of growth trends and water use, the DEIR/S offers no analysis of why inland households use so much more water than coastal ones (164 vs. 97 gpcd), whether this discrepancy is necessary, or whether it could be changed. DEIR/S 2-10. The purpose and need discussion does not explain how MWD's planning system accounts for implementation of conservation practices. DEIR/S 2-7. Thus the public and the ultimate decision-makers have no basis for assessing the adequacy of the consideration given to reasonably available additional conservation measures.

The credibility of the entire discussion of water usage patterns and expected future demands is undermined by the contradiction between the DEIR/S's assertion in one place that agricultural use accounts for only about 10% of the total demand in MWD's service area, DEIR/S 2-14, and the assertion elsewhere that increased summer irrigation use accounts for approximately 30% of the total annual use in MWD's service area, DEIR/S 2-10.

The assessment of future demand also is deficient because it gives no consideration to the opportunity to reduce consumption through the use of disincentives for unnecessary, wasteful "discretionary" water usage by higher income households. Rather, the DEIR/S just passively accepts such wasteful water use by the wealthy. Further, the DEIR/S passively and uncritically adopts unattributed projections that real incomes will outpace the price of water and therefore per capita water demand/consumption will increase. DEIR/S 2-10 to 2-11.

The discussion of current and projected water conservation measures is remarkably incomplete, again revealing inadequate consideration of this least environmentally harmful and most sustainable approach to avoiding future shortfalls. While MWD makes much of its conservation programs, the details reveal that there only have been significant efforts to implement two measures, low-flow toilets and low-flow showerheads. The details further reveal that MWD has advanced these measures through only one method, a program providing financial incentives to member agencies for implementing the measures. DEIR/S 2-11 to 2-12.

Although the DEIR/S claims that MWD has embarked on an "ambitious" and "aggressive" program of conservation measures, the detail indicates far more modest past and planned efforts. DEIR/S 2-12 to 2-13. This is astounding given the fact that MWD's service area lies in what naturally is a desert area, the economic and environmental costs of importing water, and the availability of significant additional feasible conservation measures. While the DEIR/S and SEIR/S fail to provide adequate information for an adequate assessment of MWD's past or planned efforts in conservation, what detail is provided undermines the assertions that conservation has been adequately explored or emphasized.

By way of illustration, the description reveals that MWD's conservation efforts to date have been limited to BMPs developed a decade ago, which boil down to the limited retrofitting of toilets and showers discussed above. Without any explanation or analysis the DEIR/S reports that MWD and its member agencies have decided not to look beyond these dated BMPs and not to

consider more aggressive implementation of available conservation measures. DEIR/S 2-12. There is a passing reference to "a number of potential" new BMPs, but again no meaningful information is provided about what measures these may apply to or what potential they have for additional conservation savings. The only measures discussed in any even remotely concrete fashion are the residential installation of low-flow toilets and showerheads. DEIR/S 2-12 to 2-13. G42-17

As noted in the comments concerning the Cadiz Project submitted by Frances Spivy-Weber, Executive Director of the Mono Lake Committee, even these limited measures have only been partially implemented, and the vast majority of installations have been in residential households. Although Los Angeles accounts for less than 25% of the land area and less than 50% of the population served by MWD, it accounts for substantially more than half of all low-flow toilets installed in MWD's service area. 2000 LADWP Urban Water Management Plan 12, 18. In contrast, MWD reports that only a paltry additional 600,000 low-flow toilets have been distributed throughout the remainder of its service area. 2000 MWD Urban Water Management Plan, III-3. This clearly indicates that there is an opportunity to promote more aggressive low-flow toilet installation to bring the entire region up to the standard set by Los Angeles. Because the DEIR/S and SEIR/S fail to address, with any specificity or concrete data, the opportunity to raise the level of water conservation through more aggressive installation of low-flow toilets, neither the public nor the Agencies can make an informed, reasoned decision about how much additional water this would save. Nonetheless, it would appear to be at least in excess of 66,000 acre-feet per year by 2020. See Comments on the Cadiz Project of Frances Spivy-Weber, Executive Director, Mono Lake Committee. G42-18

The same discrepancy in installation rates between Los Angeles and the rest of MWD's service area presumably holds true for low-flow showerheads. Again the discrepancy indicates a readily apparent opportunity to increase water conservation through more aggressive installation. However, because neither the DEIR/S or SEIR/S address this discrepancy or discuss the potential to more aggressively pursue installation of low-flow showerheads, neither the Agencies nor the public can have any confidence that the DEIR/S and SEIR/S are based on an accurate or even reasonable assessment of reasonably achievable additional water conservation supplies. G42-19

Further, the DEIR/S and SEIR/S fail to recognize, let alone adequately consider, potential savings from additional reasonably feasible conservation measures such as High Efficiency Clothes Washers and Landscape Evapotranspiration Controllers. These show high promise for increasing the amount of water saved in Southern California. The same is true of more aggressive distribution of low-flow toilets to commercial, industrial, and institutional outlets. Because most of these programs are in the pilot phase reliable precise figures for the amount of water that can be saved are not yet available. However, with marketing it is likely that they could yield savings higher than those from domestic low-flow toilets. See Comments on the Cadiz Project of Frances Spivy-Weber, Executive Director, Mono Lake Committee. G42-20

The DEIR/S claims that MWD has undertaken a number of studies regarding the G42-21

effectiveness of additional conservation actions, but nowhere provides any meaningful detail explaining what measures have been considered and how they were assessed. Thus there is no way for the public or the ultimate decision-makers for this Project to determine the thoroughness or reliability of any such studies, on which the DEIR/S's conclusory assertions about conservation measures are based. DEIR/S 2-12.

The only other future, or "projected" plans mentioned at all are three vaguely and cursorily described "programs" to support: some home water auditing to evaluate homeowners' water use; a leak detection program that is confusingly described but the development of which appears to be contingent on the results of a vaguely planned water distribution system audit; and a plan to develop a landscape water audit program and financial incentives to encourage member agencies to actually implement some such program. DEIR/S 2-13. These three so-called programs appear in fact to be merely elaborations on existing programs. (The DEIR/S also includes as a "program" a general statement of intent to continue assisting its member agencies in enforcing 1992 plumbing code provisions regarding low-flow toilets and showerheads, id., but such a vague statement of intent to help with the enforcement of extant cade provisions can not seriously be viewed as a new conservation program.)

For none of these ostensible "new" projected "programs" is any concrete or specific information provided. And nowhere else does the DEIR/S or the SEIR/S describe any new conservation programs MWD plans to implement or the potential savings from each such program. This superficial, incomplete discussion of available additional conservation opportunities clearly reflects a failure to seriously consider potential opportunities for additional conservation savings to reduce future growth in water demand.

In addition, the consideration of conservation measures is inadequate because it summarily rejects any form whatsoever of rationing on the basis of a conclusory assertion that it "is not a permanent measure and can have significant economic and social costs." Absolutely no information is provided to indicate what if any analysis of rationing was performed. Thus, it appears that absolutely no consideration has been given to such reasonably available measures as every third day watering of lawns, which have successfully been implemented in other metropolitan areas. National Park Service Comments on DEIR/S (DATE). Contrary to the assertion in the DEIR/S, such a limited form of "rationing" as every third day watering of lawns could easily be implemented on a permanent basis, would make eminent sense in a desert climate such as MWD's service area, and would likely yield significant additional conservation savings. The failure to consider such measures at all renders the need and purpose assessment of the DEIR/S and SEIR/S inadequate under CEQA and NEPA.

Because reasonably available additional conservation measures are not addressed at all, and because virtually no meaningfully detailed information is provided for the measures or plans that are mentioned, it is not possible to assess the basis for the DEIR/S conclusory projection of only 500,000 acre-feet in new conservation savings by 2020. The sense that conservation has not been thoroughly considered is also reinforced by the fact that figures for projected additional

conservation savings are not clearly attributed and are confusingly, and perhaps contradictorily, thrown out. For instance, while the DEIR/S mentions 500,000 acre-feet in new savings by 2020, in the same breath it defines the projected savings to be accomplished as 164,000 acre-feet per year. DEIR/S 2-14. This raises the question whether 500,000 acre-feet represents the total cumulative additional conservation savings over the next twenty years. That would be an appallingly low goal given the fact that, in its first significant effort at conservation, MWD has accomplished 560,000 acre-feet per year in savings over just nine years under BMPs developed a decade ago. DEIR/S 2-11.

G42-25

In addition, the DEIR/S's assertions regarding reduction in per capita demand are inadequately explained and appear to be inconsistent. The DEIR/S claims that the "extension" of existing programs and the implementation of new programs will result in a 13% per capita reduction. There is no explanation of what portion of that 13% will be achieved merely through the continuation of existing programs and what will be achieved through new programs. Nor is this figure backed up with any meaningful data or analysis. These questions are begged by the DEIR/S's earlier assertion that the 560,000 acre-feet per year savings already achieved through existing programs represents a 13% per capita reduction. DEIR/S 2-11 to 2-12. It is patently inconsistent to claim that 560,000 acre-feet per year represents a 13% reduction from current or past consumption and then claim that 500,000 (or perhaps only 164,000) acre-feet per year represents a 13% reduction in the context of projected increased levels of demand 20 years in the future.

G42-26

2. State Water Project Supply

A further deficiency in the assessment of need is that it is premised in part on inconsistent statements regarding MWD's water supply form the State Water Project (SWP). Despite the fact that MWD's portion of the current dependable supply from the SWP is 1.14 million acre-feet per year, the DEIR/S project MWD's current dry-year supplies available from the SWP to be only 450,000 acre-feet per year. The only basis for this substantially depressed estimate appears to be general statements that supplies could be less in a critical extended drought and that the SWRCB's current review of existing standards could reduce the amount of water available from the SWP. However, the DEIR/S follows this with an optimistic statement that MWD expects the resolution of SWP water supply problems in the long term. Thus, the estimate of 450,000 acre-feet per year does not appear to be reasonably related to the rest of the information provided regarding MWD's water supply from the SWP. DEIR/S 2-15 to 2-16. Rather, it appears to be contrived in order to inflate the final projection of need.

G42-27

3. Water Recycling and Groundwater Recovery Programs:

The purpose and needs analysis also fails to adequately describe or address the opportunities to meet anticipated water demand through water recycling and groundwater recovery programs. Specifically, the DEIR/S and SEIR/S does not discuss the opportunities identified in the Southern California Comprehensive Water Reclamation and Reuse (CWRR)

G42-28

Study, a 6-year comprehensive effort to identify regional water recycling systems. The study identified 34 regional projects and estimated that they have the potential to produce approximately 450,000 acre feet per year of new recycled water supply. Because these projects and the potential additional supply they represent are not considered in the purpose and need analysis underlying the DEIR/S and SEIR/S, neither the Agencies nor the public can make an informed decision regarding the actual need for the Cadiz Project.

4. Storage Potential of Southern California's Groundwater Basins

In addition, the DEIR/S and SEIR/S fail to adequately describe the available water storage potential of groundwater basins in southern California. Because the DEIR/S and SEIR/S fail even to accurately identify the full scope of storage potential, neither the Agencies nor the public can have any confidence that potentially more cost-effective and less environmentally harmful water storage alternatives have been considered. The Association of Groundwater Agencies' guide to conjunctive use of groundwater and surface water in Southern California documents over 21.5 million acre-feet of additional groundwater storage available in southern California groundwater basins, only one million of which comes from the Cadiz Valley. In other words, there are many places other than Cadiz that offer additional groundwater storage capacity, which could eliminate the need for extraction of indigenous groundwater from the Cadiz-Fenner Basin. Because these potential storage alternatives are not even recognized, let alone evaluated, in the DEIR/S or SEIR/S, it is not possible for the Agencies or the public to make an informed judgment as to whether the Cadiz Project represents a reasonable choice among available alternatives.

Most importantly, the analysis regarding projected storage supply is internally inconsistent and does not support the assessment of need on which the DEIR/S and SEIR/S are premised. In projecting the potential dry-year contribution from virtually all storage programs, the DEIR/S uniformly applies a three-year drought to the storage capacity of each project to arrive at approximately one third of the project's capacity as the estimate of dry-year yield. However, without any justification, the needs analysis suddenly deviates from this uniform approach when it comes to the Hayfield Valley and Cadiz projects. DEIR/S 2-22 to 2-26.

Without any explanation, the DEIR/S does not estimate the Hayfield Valley Project's dry-year yield as one third of that project's 1.1 million acre-feet storage capacity, which would be approximately 330,000 acre-feet per year. Rather, the DEIR/S assumes only 150,000 acre-feet per year as Hayfield Valley's potential dry-year yield. DEIR/S 2-25 to 2-26. This unjustified deviation from the methodology applied in the rest of the needs analysis is crucial to the needs assessment. If the same method of estimating dry-year supply were applied to the Hayfield Valley Project, that project's contribution to dry-year supply would result in a total dry-year supply from the Colorado River Resource Area of 604,000 acre-feet – 10,000 acre-feet higher than MWD's total target. This reveals that there is in fact no need for the additional Cadiz Project. By substituting this irrationally depressed figure for Hayfield Valley's potential dry-year supply, the DEIR/S improperly manufactures an apparent shortfall of 170,000 acre-feet.

Interestingly, the DEIR/S also deviates from its general methodology for estimating dry-year supply for the storage component of the Cadiz Project. Again without any justification, the needs analysis does not use 330,000 acre-feet, or one third of the Project's 1 million acre-feet storage capacity, as the Cadiz Project potential dry-year yield from storage. Rather, the discussion inexplicably assumes a yield of only 150,000 acre-feet and, thus, a remaining shortfall of 20,000 acre-feet. DEIR/S 2-26. This creates an apparent need for the component of the Cadiz Project that calls for extraction and transfer of indigenous groundwater. G42-32

Had the same methodology been applied to these two projects as was applied throughout the rest of the needs analysis, it would be clear that there is no need for the Cadiz Project and if there were it would be more than met by the storage component of the Cadiz Project alone. The lack of any justification for these deviations from the otherwise uniform methodology of estimating dry-year yield from projects was further underscored in Jack Safely's presentation at the December 18, 2000 public meeting, in which he reported that the Cadiz Project could withdraw up to 300,000 acre-feet per year during dry years. It thus appears that the estimated dry-year yield from the Hayfield Valley storage project was arbitrarily depressed in order to create the appearance of a need for the Cadiz Project, and that the same was done to the storage component of the Cadiz to create the appearance of a need for extraction of indigenous groundwater. This clearly renders the needs analysis underpinning the DEIR/S and SEIR/S fatally flawed under CEQA and NEPA. G42-33

5. Inadequate Consideration of Metropolitan Water District's Integrated Resource Planning Process

The DEIR/S and SEIR/S are largely premised on the information and analysis contained in the MWD's 1996 Integrated Water Resources Plan (IRP). However, the IRP is expected to be updated by mid-2001, and that updated version will reflect significant positive changes in regional water that have occurred since the 1996 IRP was prepared. In the absence of this updated report it is difficult, if not impossible, to make a reasoned judgment about how much water MWD will need over the next twenty or fifty years. G42-34

6. Inadequate Consideration of Imminent MWD Take or Pay Contracts with its Member Agencies

Over the next year, MWD will be negotiating 5-10 year contracts for water with each of its members. There will be tremendous incentive for members to reduce their dependence on MWD if they can do so cost-effectively through conservation and water recycling. The DEIR/S and SEIR/S fail to consider the potential impact of these imminent negotiations on the demand for additional water from MWD. Without some discussion, it is not possible to make a reasoned or informed judgment about what effect these negotiations will have on MWD's need for water over the next twenty years. G42-35

Both of the imminent updating of the IRP and negotiation of new water supply contracts

with member agencies illustrate why it is premature, at best, for MWD to enter into a long-term contract with Cadiz for water storage and transfer.

D. The DEIR/S and SEIR/S Fail to Adequately Describe the Cadiz Project and the Physical Conditions and Environmental Resources in its Vicinity

A complete, adequate description of a proposed project and the physical conditions and environmental resources in the project vicinity is an essential component of an EIR/S. CEQA Guidelines §§ 15125, 15126.2, subd. (A); Cadiz Land Co. v. Rail Cycle, 99 Cal. Rptr.2d 378 (2000); County of Amador v. El Dorado County Water Agency, 76 Cal. App. 4th 931, 952 (1999).

1. Deficient Description of Recharge Rate

The DEIR/S fails to adequately describe the Cadiz Project because it greatly overestimates the natural recharge rate of the groundwater system. It is commonly agreed that groundwater development, or extraction, must not exceed recharge if the development is to be sustainable. Accordingly, the estimate of recharge becomes critical in any analysis of how a groundwater system will perform. Because the estimate of recharge in the DEIS is in error, the predictions of system performance are also in error.

The DEIR/S asserts that the annual recharge rate of the Cadiz and Fenner Valleys is in the range of 40,000 to 50,000 acre-feet per year and on that basis suggests that there will be little or no adverse impact on the groundwater system. However, the great weight of the pertinent technical literature shows that the estimate of annual recharge used in the DEIR/S is an order of magnitude too high. A more realistic recharge rate is almost certainly in the range of 5000 - 6000 acre-feet per year. The DEIR/S uses estimates made by GeoScience, a consultancy employed by Cadiz, Inc., which stands to be paid hundreds of millions of dollars if the Project is approved. Those estimates stand in stark contrast to and are an order of magnitude higher than the range of every other estimate of recharge in the Cadiz and Fenner Valley's groundwater system. In making this estimate, Cadiz's consultants used a watershed model that was designed for the County of San Bernardino to size stormwater facilities within the county. This model was not designed to estimate groundwater recharge and when used to do so, it greatly overestimated the recharge.

Thus, one of the most basic premises of the Project is seriously flawed. Factoring a more realistic recharge rate into the analysis would make it clear that there will be drawdown of the groundwater and adverse impacts to the surrounding environment from the proposed Cadiz Project. A water budget, prepared by Dr. Bredehoeft, reflecting 50 years of operation of the Cadiz Project along the lines that were assumed by MWD in determining that the Cadiz Project was cost-effective and feasible as compared with other alternatives, shows that project operations would create an overdraft of 1,400,000 acre feet.

The over-estimate of the recharge rate is even more troubling considering the fact that there is evidence that the basin is already overdrafted. A 1996 study by Boyle Engineering concluded that water levels in the vicinity were declining due to existing pumping for irrigation of Cadiz's agricultural operations. Similarly, the court in Cadiz Land Company, Inc. v. Rail Cyle, L.P., 99 Cal. Rptr.2d 378, 389, 392 (Cal. App. 2000), indicated that the system underlying Cadiz is already in a state of overdraft.

G42-40

Unlike the DEIR/S, the SEIR/S does not even address the issue of recharge rate. Instead it seeks to side step this fundamental issue by proposing a monitoring and management scheme premised on the notion that project operations would be modified to control adverse impacts as they are observed. This premise is fatally flawed in two regards. First, the future impacts of the Project simply cannot be projected with any accuracy without a sound estimate of the recharge. Second, by the time an adverse impact is detected by the monitoring system proposed on the SEIR/S, the groundwater system will be sufficiently perturbed that even stopping the extraction of groundwater completely will not ameliorate the impacts. The inadequacies of the mitigation and management plan are discussed further in subsequent sections.

G42-41

2. Failure to Describe Terms and Conditions of Proposed Right of Way

The description of the Project in the DEIR/S and the SEIR/S is also inadequate because it does not describe/include any of the proposed content/substance of the terms and conditions of any rights of way that BLM plans to grant for the Project. These rights of way may contribute significantly to the Project impacts in part because they will cross through land in the California Desert Conservation Area that are classified as L under the CDCA Plan in order to protect its environmental and cultural values.

G42-42

Consequently, the substance of the terms and conditions attached to such rights of way and the mechanisms for enforcement by BLM are a significant part of the picture that must be presented to the public as well as the Agencies to allow informed, reasoned decisions to be made regarding the Project's potential to cause adverse impacts to the environment and the potential effectiveness of proposed mitigation measures.

The failure to include the proposed terms and conditions and the provisions for BLM enforcement runs counter to the goal of both CEQA and NEPA to ensure informed decision-making before a Project is approved, and to reassure the public that the decision-makers have adequately considered the project's potential impacts and provided for their mitigation. Accordingly, the DEIR/S and SEIR/S are deficient under DEQA and NEPA, and the omitted terms and conditions must be included in a future EIR/S that is published for public review and comment.

E. The DEIR/S and SEIR/S Fail to Adequately Assess the Feasibility of the Cadiz Project

G42-43

Consideration of feasibility is central to an adequate alternatives analysis under CEQA. See, e.g., Planning and Conservation League, 100 Cal.Rptr.2d at 192. However, neither the DEIR/S and the SEIR/S have adequately considered the feasibility of the Cadiz Project in several regards.

1. California Groundwater Rights Law

California has a correlative system of groundwater rights. All land owners overlying a common aquifer have the right to use the groundwater beneath their property. These "overlying rights" allow a land owner to take groundwater and make reasonable beneficial use of it on their property. Barstow v. Mojave Water Agency, 5 P.3d 853, 863 (Cal. 2000). As between overlying land owners, the rights are correlative. Therefore, in times of shortage each land owner is limited to her "reasonable share." City of Pasadena v. City of Alhambra, 207 P.2d 17, 29 (Cal. 1949).

If a groundwater supply contains "surplus water," this water may be appropriated by a private party and transported for use outside of the watershed or basin. Barstow, 5 P.3d at 863. However, "[p]roper overlying use . . . is paramount, and the right of an appropriator, being limited to the amount of the surplus, must yield to that of the overlying owner in the event of a shortage, unless the appropriator has gained prescriptive rights through the taking of nonsurplus waters."[1] City of Pasedena, 207 P.2d at 28-29.

Under California law, there is a surplus of water only when the basin is not overdrafted. The Supreme Court of California has defined overdraft in terms of the "safe-yield" of the basin. The safe-yield is the amount of water that can be withdrawn annually from a groundwater supply under a given set of conditions without causing a gradual lowering of the groundwater levels resulting eventually in depletion of the supply. City of Los Angeles v. City of San Fernando, 537 P.2d 1250 (Cal. 1975). However, the court has stated that withdrawals may exceed the safe-yield to the extent that the amount will create storage space for "temporary surplus" water normally wasted in wet years. Id. Thus, overdraft occurs and there is no surplus for appropriation when extractions exceed the net recharge rate of the aquifer plus any temporary surplus.

There have been prior findings that the groundwater system underlying Cadiz is already in a state of overdraft. As Dr. Bredehoeft notes, the 1996 Boyle study concluded that water levels in the vicinity were declining due to existing pumping for irrigation of Cadiz's agricultural operations. In addition, the court in Cadiz Land Company, Inc. v. Rail Cycle, L.P., 99 Cal. Rptr.2d 378, (Cal. App. 2000), observed that, "Although *the CPC and Board conclude the rechargeability of the aquifer water is relatively low and the aquifer is in overdraft*, without knowing the volume of water in the aquifer, it cannot be determined how soon depletion will occur." Id. at 392 (emphasis added). Thus, there is some evidence that there is an overdraft in the basin and that the county has previously recognized this fact. If this is the case, then Cadiz is

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[1]Prescriptive rights are not at issue at this point because Cadiz has not yet begun to transport water out of the basin.

legally prohibited from exporting any indigenous groundwater from the basin to MWD. This would render the "transfer" portion of the Project infeasible.

G42-47

2. Federal Reserved Water Rights

The California Desert Protection Act reserves federal water rights sufficient to fulfill the purposes of the Act for each wilderness area designated by the Act. Pub. L. No. 103-433, § 706(a), 108 Stat. 4471 (1994). This includes five wilderness areas in the vicinity of the Project — Cadiz Dunes Wilderness Area, Clipper Mountains Wilderness Area, Old Woman Mountains Wilderness Area, Sheephole Valley Wilderness Area, Trilobite Wilderness Area. These reserved rights have a priority date of October 31, 1994. In addition the Act requires the Secretary of the Interior and all other officers of the United States to "take all steps necessary" to protect these rights. Id. § 706(b). Similarly, units of the National Park System, including Mojave National Preserve are federal reservations that implicitly have federal reserved rights as of the date of the reservation.

G42-48

These reservations include surface and groundwater. The NPS and BLM have jointly agreed to "participate in local government proceedings that authorize nonfederal parties to withdraw percolating groundwater where such withdrawals may impact water sources within their respective jurisdictions to which federally reserved water rights are attached." Principles Governing Federal Water Rights Under the California Desert Protection Act 2 (1995) (memorandum of understanding signed by representatives of NPS and BLM). In addition, NPS and BLM have agreed to "vigorously defend federally reserved water rights through the state of California process." Id. at 1. Therefore, NPS and BLM are obligated to defend surface and groundwater rights for both the Mojave National Preserve and the BLM wilderness areas.

G42-49

However, neither the draft or supplemental EIR/S have recognized the existence of federal reserved water rights in these areas or have addressed the impacts of a potential drawdown of the aquifer on these rights. There is no discussion of the impact on the natural storage basins underlying the Cadiz dunes. In addition, rather than addressing the impacts of the Project on springs in the Mojave National Preserve and the federally designated wilderness areas, the SEIR/S concludes that the potential impacts to springs are less than significant because the Management Plan contains a program for monitoring and preventing adverse impacts. However, as discussed previously, the actual impacts may take years to observe through monitoring and at that point, it will be to late to mitigate the effects.

G42-50

Further, the impact to reserved water rights in the national park units would violate the National Park Service's Organic Act, which provides for unimpairment of park resources. The National Park Service's Organic Act, in part, charges the Service to "conserve the scenery and natural and historic objects and the wildlife therein . . . in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." All of the alternatives considered are likely to withdraw groundwater supplies to the detriment of the protection of park flora and fauna. The monitoring system in place to prevent such impacts from occurring is

G42-51

inadequate and the public land managers are not permitted to provide the oversight necessary to ensure the protection of federal resources.

3. The DEIR/S and SEIR/S Fail to Adequately Assess the Project's Cost-Effectiveness

Despite the fact that both the DEIR/S and the SEIR/S declare that the cost-effectiveness of water supply programs is a central concern of MWD, neither document contains an examination of the Project's cost-effectiveness. DEIR/S 2-1. Rather they merely assume that the Cadiz Project is a cost-effective program. SEIR/S 1-1. The complete failure to consider this fundamental issue undermines the DEIR/S's and SEIR/S's assumption of the Project's feasibility. While MWD documents relating to draft principles for the agreement with Cadiz, Inc. speak of a melded cost of approximately $205 per acre-foot of water from the Project, nowhere is the actual present cost per acre-foot to MWD analyzed.

As Professor Charles Howe, of the University of Colorado, shows in the attached analyses of the Project's basic costs, the actual cost to MWD for water from the Cadiz Project will be far higher than the indicated "melded cost." This is due in part to the fact that the Project is premised on a financial arrangement whereby MWD will provide half of the construction costs ($75 million) and payment for 500,000 acre-feet of indigenous water (approximately $115 million) up front before a drop of Colorado River water is stored and years before any indigenous water is anticipated to be extracted.

All of Professor's Howe's economic scenarios are distinctly conservative in at least two regards. First, all of them assume that MWD will in fact be able to extract the large volume of native groundwater that were projected in the DEIR/S and which were assumed for purposes of the cost-effectiveness and feasibility analyses of the project. Were the project to be prevented by the proposed monitoring and management plan from taking out as much native groundwater as has been assumed in the DEIR/S's and SEIR/S's feasibility assessment, the costs per acre-foot would, of course, go up dramatically.

Neither the DEIR/S or the SEIR/S discusses the substantial risk that $150 million will have to be sunk in construction costs for the Project and $115 million will be paid up front for indigenous groundwater that might not be extracted at all if the monitoring and management plan confirms the lower recharge rate that is supported by the vast majority of the technical literature. The failure to acknowledge and consider this risk is irrational and renders the feasibility assessment of the Project fatally deficient under CEQA and NEPA.

Second, Professor Howe's projections do not factor in the additional costs that will have to be incurred to treat the extracted groundwater for chromium 6 and arsenic under the new standards that have been recommended by California's Environmental Protection Agency's Office of Environmental Health Hazard Assessment and the U.S. EPA, respectively. While these recommended new standards may take a few years to be implemented, they certainly are a

reasonably foreseeable circumstance, or constraint, that will affect project operations and significantly raise the cost per acre foot of the water to MWD. This has significant implications for the cost-effectiveness, and thus the feasibility, of the Cadiz Project. But neither the SEIR/S or the DEIR/S even identify, let alone evaluate, these foreseeable developments early in the life of the Project or their implications for the Project. G42-56

Even without factoring in those additional foreseeable costs, the analyses that most closely approximate the storage and extraction pattern suggested by the DEIR/S and SEIR/S (namely substantial storage in early years followed by extraction in later years) generate costs ranging from approximately $361 to $785 per acre-foot, far in excess of the cost contemplated in the proposed principles of agreement. See Howe scenarios 1, 1_3, 1_7. G42-57

4. Interim Surplus Criteria for Colorado River Water

The pending Interim Surplus Criteria by the Secretary of Interior will govern how "surplus" water will be declared and diverted for use by the lower basin states (California, Nevada, and Arizona). If there are one or more dry years that lower the reservoirs (which currently is the case) California will receive surplus water, but it will be limited to municipal use and cannot be stored. Therefore, it is not at all certain that they will be able to store the water (or what quantities they would be able to store), undermining the justification for this project. Furthermore, the ISC are only in effect, if promulgated for the next 15 years, and thus 35 years of future storage are even more uncertain. G42-58

Neither the DEIR/S nor the SEIR/S makes any mention whatsoever of the pending Interim Surplus Criteria and the potential for those criteria to prevent storage of surplus Colorado River water. Without considering this reasonably foreseeable barrier to Cadiz Project operations, the Agencies and the public are unable to make a reasoned, informed determination regarding the Cadiz Project's feasibility, and thus its ability to fulfill its purported purpose.

5. Funding Requirements Under Water Quality Bond Issue

Neither the DEIR/S or the SEIR/S consider whether the Project complies with the requirement of section 79181 of the California Bond Issue that is a source of necessary public funds for the Project to be implemented. For instance, there has been no demonstration that the Project will in no way diminish either the quantity or quality of any other overlying landowner's groundwater supplies, as required by section 79181(a). Further, section 79181(b)(2) has the effect of expressly subordinating the extraction of groundwater for the Project to all other existing laws, including the California law and federal reserved water rights discussed above. Thus, the existence of conflicting rights or legal constraints under state and/or federal law regarding the native groundwater in this aquifer raises a serious potential barrier to the allocation of California bond money to this project, which the Agencies have failed to address. G42-59

6. Financial Viability of Cadiz, Inc. G42-60

The feasibility of the Cadiz Project is also thrown in doubt by the fact that the financial solvency of Cadiz, Inc. appears to be extremely tenuous. As shown in Cadiz's own SEC filings, including its 10K and 10Q filings, the company has a debt-equity ration of 84% debt to 16% equity. This demonstrates Cadiz's financial instability, as does the fact that the company has been losing money for some time now. This indicates that Cadiz's agricultural operations are unsuccessful and that the company is hoping to save itself with windfall profits from the Cadiz Project. This impression is reinforced by the fact that Cadiz has never taken any step to carry out its purported plan to expand its agricultural operations in the Cadiz Valley. Rather, since obtaining initial approval to extract water for that expansion in 1993, Cadiz has assiduously sought to export that water from the basin at great profit.

The Agencies should be hesitant to rely on such a financially unsound company to operate a Project that requires such substantial public investment up-front and that contains considerable unascertained risks of potentially expensive harmful environmental impacts. Certainly, Cadiz appears to be completely unable to bear any of the additional substantial costs that may necessarily be incurred to mitigate the Project's potential impacts. Because it does not contain any consideration of Cadiz's tenuous financial status, the Agencies' assessment of the Cadiz Project's feasibility is uninformed and unreasoned.

F. The DEIR/S and SEIR/S Fail to Consider a Reasonable Range of Alternatives to the Cadiz Project

The California Supreme Court has described the alternatives and mitigation sections as "the core" of an EIR. Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 564 (1990). The DEIR must analyze alternatives to the proposed project. "[A]n EIR for any project subject to CEQA review must consider a reasonable range of alternatives to the project or to the location of the project." Id. at 566; CEQA Guidelines § 15126.6. "The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives." CEQA Guidelines § 15126.6(a). The key is "whether the selection and discussion of alternatives fosters informed decisionmaking and *informed public participation*." Laurel Heights, 47 Cal.3d at 404 (emphasis in original).

CEQA also requires the public agency to consider feasible alternatives to the project which would lessen any significant adverse environmental impact. Cal. Pub. Resources Code § 21002, 21081; Planning and Conservation League, 100 Cal. Rptr.2d at 188. "It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which would substantially lessen or avoid the significant environmental effects of such projects." Cal. Pub. Resources Code § 21002; CEQA Guidelines § 15021(a). The CEQA Guidelines specifically prohibit the lead agency from approving a project unless all feasible mitigation and project alternatives have been adopted. CEQA Guidelines § 15091

The discussion of alternatives in the DEIR/S and SEIR/S fails to consider a reasonable range of alternatives to the Cadiz project. Thus, the discussion is inadequate for the purpose of providing for informed decision making. In addition, the alternatives discussed fail to avoid significant environmental effects, and therefore violate CEQA. As discussed above in the purpose and need section, the DEIR/S and SEIR/S have failed to include such reasonable alternatives as conservation, water recycling and groundwater recovery, and storage alternatives. Instead, all of the alternatives analyzed are just basic variations of the same project. This narrow focus does not constitute a reasonable range of alternatives.

G42-63

In addition, the DEIR/S and SEIR/S fail to consider the Ward Valley alternative. Ward Valley has a storage capacity of 14 million acre feet and is 10 miles closer to the Colorado River Aqueduct than the Cadiz Project site. According to the technical feasibility report prepared for MWD in May 1998, a Ward Valley alternative would be comparable in pretty much all other respects. It was summarily disqualified because it was the proposed site for the low-level radioactive waste disposal site. But that proposal appears to be in the process of dying due to the fact that the proposed site is in an area that is sacred to local Indian tribes. Because it appears likely that the nuclear waste site for Ward Valley is in the process of being dropped, it is unreasonable for the Agencies to exclude it from their consideration of Colorado River water storage alternatives.

G42-64

G. The DEIR/EIS and SEIR/EIS Fail to Evaluate Fully the Impacts of the Cadiz Project

Under NEPA, an agency must honestly address the various uncertainties surrounding the scientific evidence upon which it relies in its environmental evaluations. The agency has a duty to respond to credible opposing points of view, and it may not ignore reputable scientific opinion. See, e.g., Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704 (9th Cir. 1993); Public Service Co. v. Andrus, 825 F. Supp. 1483, 1496-99 (D. Idaho 1993); see also Sierra Club v. Watkins, 808 F. Supp. 852, 864-69 (D.D.C. 1991). An agency's NEPA analysis must expose scientific uncertainty regarding the risk of a proposed action and inform decisionmakers of the full range of responsible scientific opinion on the environmental effects of the proposed action. Friends of the Earth v. Hall, 693 F.Supp. 904, 926, 934 (W.D. Wash 1988). Also, federal agencies are responsible for overseeing and ensuring the accuracy of environmental impact statements produced by contractors. 40 C.F.R. § 1506.5(c).

G42-65

The CEQA Guidelines provide that, in discussing the environmental effects of a project, the EIR must include "a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences." CEQA Guidelines § 15151. When the failure to include relevant information precludes informed decision-making and informed public participation, the certification of the EIR constitutes a prejudicial abuse of discretion. Id.; Kings County Farm Bureau v. City of Hanford, 221 Cal.App.3d 692, 712 (5th Dist. 1990). "Certification of an EIR which is legally deficient

G42-66

because it fails to adequately address an issue constitutes a prejudicial abuse of discretion regardless of whether compliance would have resulted in a different outcome." Citizens to Preserve the Ojai v. County of Ventura, 176 Cal. App. 3d 421, 428 (1985).

"[T]he CEQA process demands that mitigation measures timely be set forth, that environmental information be complete and relevant, and that environmental decisions be made in an accountable arena." Oro Fino Gold Mining Corporation v. County of El Dorado, 225 Cal.App.3d 872, 884-885 (3d Dist. 1990). "Mitigation measures must be *fully* enforceable through permit conditions." CEQA Guidelines § 15126.4(a)(2) (emphasis added).

"Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified." CEQA Guidelines § 15126.4(a)(1)(B). "A legally adequate EIR must contain sufficient detail to help ensure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug." Kings County, 221 Cal.App.3d at 733.

An agency violates CEQA if it approves a project as proposed when there are feasible mitigation measures available that would substantially lessen any significant environmental effects of the project. Pub. Res. Code § 21002; CEQA Guidelines § 15021(a)(2). A finding of infeasibility cannot be supported simply because the alternative is more costly. "The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical." Citizens of Goleta Valley v. Board of Supervisors, 197 Cal.App.3d 1167, 1181 (2d Dist. 1988).

1. The DEIR/S and SEIR/S Impermissibly Defer the Identification and Evaluation of Potential Environmental Impacts and the Measures to Mitigate Such Impacts

The Groundwater Monitoring and Management Plan (GMMP) proposed in the SEIR/S is inadequate because it impermissibly defers the identification and evaluation of environmental effects and potential environmental effects from the Project to some future date. Such a deferral is inconsistent with the reviewing agencies' duties under NEPA and CEQA. In addition, the GMMP is ineffective for several reasons. First, this approach taken does not take into account the long term response of the groundwater system to the Project. Second, the two committee procedure set up for addressing mitigation is fundamentally flawed. Finally, the proposed remedial actions are illusory.

a. Deferral of Environmental Analysis

Rather than address any of the potential environmental impacts of the Cadiz Project or modify the Project to eliminate or lessen those impacts, the Agencies have deferred any actual consideration of potential environmental impacts until they manifest themselves during the life of

the Project. The SEIR/S proposes that the fundamental issue of recharge rate be left unresolved and that potential impacts be addressed as they occur by two committees under a "monitoring and management plan." This deferral of actual consideration of environmental impacts and establishment of the critical issue of recharge violates CEQA and NEPA.

G42-71

Deferring assessment of environmental impacts to a future date runs counter to the policy of CEQA that requires environmental review at the earliest feasible stage in the planning process. Cal. Pub. Resources Code § 21003.1; Sundstrom v. County of Mendocino, 248 Cal.Rptr. 352, 358 (Cal. App. 1988). Environmental problems should be considered at a point in the planning process "where genuine flexibility remains." Mount Sutro Defense Committee v. University of California, 143 Cal.Rptr. 365 (1978). Studies conducted after approval of a project will inevitably have a diminished influence on decision making and, even if subject to administrative approval, such studies are "analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA." Sundstrom, 248 Cal.Rptr. at 358; No Oil, Inc. v. City of Los Angeles, 118 Cal.Rptr. 34 (1974).

G42-72

Similarly, it is improper for a lead agency under CEQA to defer formulation of mitigation programs by simply requiring some other body to conduct future studies to determine if mitigation is necessary and feasible. Fairview Neighbors v. County of Ventura, 82 Cal.Rptr.2d 436 (1999). Therefore, the deferral of analysis of environmental impacts to the mitigation plan is not allowed under CEQA.

G42-73

The postponement of gathering essential information for an evaluation of the Project's potential adverse impacts thwarts public review and also violates NEPA's fundamental commitment to "prevent or eliminate damage to the environment by focusing government and public attention of the environmental effects of proposed agency action." Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989). NEPA requires the federal agency to "consider every significant aspect of the environmental impact of a proposed action" Vermont Yankee Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 553 (1978), and to ensure "that the agency will inform the public that it has indeed considered environmental concerns in its decision making process." Baltimore Gas and Electric Company v. NRDC, 462 U.S. 87, 97 (1983).

G42-74

NEPA requires that mitigation measures be reviewed in the NEPA process -- not in some future decision shielded from public scrutiny. "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the `action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989). Appellate Courts have explicitly struck down EISs that rely on unspecified future actions to mitigate or avoid environmental impacts. Oregon Nat. Resources Council v. Marsh, 52 F.3d 1485 (9th Cir. 1995) (Elk Creek Dam III); Oregon Nat. Resources Council v. Marsh, 832 F.2d 1489, 1493 (9th Cir. 1987) (Elk Creek Dam I), rev'd on other grounds, 490 U.S. 360 (1989); California v. Block, 690 F.2d 753 (9th Cir. 1982).

G42-75

b. Long Term Effects

The persistent dynamic response of the groundwater system to drawdown has profound implications for the monitoring and management scheme proposed in the SEIR/S. Indeed, it strongly indicates that the monitoring and management system will not work. As discussed previously, the Project is estimated to result in an overdraft of 1,400,000 acre feet. Yet, there has been no analysis of the long term impacts on the groundwater system in the DEIR/S or SEIR/S.

The likely long-term response to the groundwater system to the proposed extraction of native groundwater has been analyzed by Dr. John Bredehoeft (study attached). He concludes that once the groundwater system is perturbed the effects of the perturbation from pumping will ripple outward though the system slowly with great persistence. The drawdown from pumping will migrate slowly outward from the area of the pumping wells and will continue to decline at some distance from the wells for many years, even after pumping has stopped. Thus, the adverse impacts will persist for well over a century even if groundwater extraction is stopped after 50 years or earlier. Consequently, even subtle indications of adverse impacts will not be observed for several decades. As a result, once an adverse impact to the system is observed by the proposed monitoring system, it will be too late to reverse the impact by stopping the pumping.

An analysis of the groundwater system's long term response to the proposed pumping, by Dr. Bredehoeft, reveals that the impacts from the drawdown will persist well beyond 100 years.

At 100 years the drawdown beneath Bristol Lake will be twice as severe as it was at year 50 when the Project is stopped. This drawdown will reduce or eliminate groundwater discharge from major parts of Bristol Lake, which will tend to dry out the lakebed and lead to increased generation of dust from the lake area. The drawdown from the Project operations will also cause the brine to move from under Bristol Lake toward the cone of depression and the project site. This will take time to occur because the cone of depression moves slowly outward from the Project, but once the brine starts moving it will be extremely difficult, if not impossible, to stop.

Thus, at a monitoring well halfway between the lake and the project site only a slight increase in dissolved solids will be observed after 30 years of project operations, and by year 50 when operations stop the water would still be useable. By 100 years, long after project operations and monitoring has stopped the concentration of dissolved solids will have risen to 7,500 mg/l, *and it will still be increasing.*

At a monitoring well near Danby there would be almost no drawdown after 40 years of project operations. When the project ends, after 50 years, the drawdown would only be about 3 feet. But, as Dr. Bredehoeft has illustrated, that is only the beginning. In 100 years, long after projected operations and monitoring have stopped, the drawdown will have more than tripled to 10 feet and the water level will still be continuing to decline. Thus, it is clear that at 100 years the

drawdown will be continuing to migrate up Fenner Valley to the north. G42-77

The slow migration of the drawdown from the Project may also impact springs in the surrounding mountains, with the Marble Mountains most likely to be impacted. These mountains are home to the largest population of bighorn sheep in this region of the Mojave, a population that plays a critical role in sustaining other small sheep populations in the surrounding mountain ranges. G42-78

In addition, even if the extraction is stopped, the drawdown beneath the northern part of Cadiz Lake in the vicinity of the Cadiz Dunes Wilderness Area will continue to increase for many years. The drawdown in this area will greatly reduce or eliminate groundwater discharge to the wilderness area. G42-79

The long term nature of the impacts also suggests that the early warning signs will be subtle. However, the considerable up front investment in the Project makes it unlikely that subtle early warning signs will be heeded.

The Cadiz Project entails a substantial investment of public funds to build the required facilities and for an up front advance payment by MWD to Cadiz, Inc. for 500,000 acre-feet of native groundwater before project operations have even commenced. All told, $150 million will have been invested in the construction of facilities and approximately $115 million will have been paid up front by MWD for future deliveries of extracted native groundwater. G42-80

Close monitoring of water levels and quality in the groundwater system may provide some early warning that the project is creating adverse environmental impacts even though these impacts may be impossible to stop. However, early warning signs of adverse impacts will be very subtle and small drawdowns due to the Project could easily be confused with impacts of nearby pumping or unusual climatic events. Because of the potential for long lasting effects, the Project would have to be halted very early on in order to prevent the significant adverse impacts discussed above. Given the enormous investment of funds necessary before project operations even begin, it is implausible to expect that the Cadiz Project would be shut down early in its life where indications of impacts are subtle.

c. Monitoring Committees

The SEIR/S sets up a system where mitigation decisions are made by two committees. SEIR/S 3-70 to 3-72. Before any action could be taken to remedy or mitigate an environmental impact, the first committee, the "Technical Review Team," would have to determine by consensus that such an impact had occurred or was beginning to occur. SEIR/S 3-70 to 3-71. Then, that committee would report to the second committee, the "Basin Management Group," which would consider whether to accept the first committee's report, whether to take any kind of remedial action, and what kind of remedial action to take. The second committee also is to reach its decisions by consensus. SEIR/S 3-71 to 3-72. This procedure alone would guarantee delay in recognizing and responding to any environmental harm caused by the Cadiz Project's depletion of G42-81

the aquifer.

Even worse, the make-up of the committees virtually guarantees that no meaningful remedial action would ever be taken. Both committees are to have representatives from Cadiz, the MWD, the County of San Bernardino, and the BLM. SEIR/S 3-70, 3-71. However, the BLM's role is limited to that of a passive observer. Thus, of the three voting members on each committee, two are wielded by the Project's proponents: Cadiz, the company with a direct financial interest in maximizing the amount of water that is extracted and sold to the MWD; and the MWD, which will have invested close to $200 million in the Project before operations even commence. The only voting member of each committee that will not have a financial interest in maximizing the extraction of native groundwater will be the County's representative, who will always be outnumbered. Thus, the committees that control the entire process of acknowledging environmental impacts and deciding how to respond to such impacts have been structured so as to favor continued extraction of indigenous groundwater.

d. Remedial Actions

For each potential impact that is recognized, but not analyzed, the monitoring and mitigation plan provides for the same four vaguely defined potential remedial actions. SEIR/S 3-51 to 3-68. These potential remedial actions are clearly illusory and will not provide for adequate mitigation.

One of the potential remedial actions would be moving the extraction wells. This action plainly would do nothing to alleviate the environmental impacts from depletion of the aquifer because the relocated wells would continue to extract water from the same aquifer. Although it might alleviate the immediate impacts in a particular area, this "solution" would just move the impacts to another area and would do nothing to mitigate against long term impacts.

Another potential remedial measure, which is consistently presented as the ultimate solution to any genuinely problematic impact, would be to pump Colorado River water into the aquifer. This purported solution plainly would be impossible under the terms of the proposed Project. By definition under the terms of the proposed Project, as long as there is "excess" Colorado River water available it will be stored in and withdrawn from the aquifer as needed. When there is not enough Colorado River water, then native groundwater will be extracted. Further, the draft and supplemental EIR/S both state that, starting in the near future and for the bulk of the Project's life, southern California will not have enough Colorado River water to satisfy its demands. It is under these circumstances that the extraction of native groundwater and the depletion of the aquifer and the harmful impacts from such depletion will occur. It is transparently disingenuous to suggest that in such a situation, where the MWD already has inadequate Colorado River water for its own needs, massive quantities of Colorado River water would be pumped into this desert groundwater basin at great cost. Again, deep in the life of the project, when the impacts will be the most apparent, the availability of surplus water for California is totally unpredictable and much less likely, given the expiration of the interim criteria and the

lower reservoir levels predicted in the ISC FEIS. G42-85

The other two potential remedial measures are, in fact, one: to reduce or halt extraction of native groundwater from the aquifer. Unlike simply moving the extraction wells around, this measure would at least slow or halt continued depletion of the aquifer. Although this measure is at least theoretically possible, it is not plausible that Cadiz and the MWD would vote to discontinue pumping unless they were legally compelled to do so, given their enormous up-front investment in the Project. Further, as the vast majority of the scientific studies make clear, the rate at which the aquifer would replenish itself is extremely slow. Thus, realistically, the best remedial action offered by the "monitoring and management plan" would do nothing better than allow nature to take centuries or millennia to reverse the harm caused by the project's depletion of the aquifer. (As an added note, even over the course of millennia, the aquifer will not be able to undo the effects of ground subsidence that may be caused by extracting so much native groundwater.) G42-86

Thus, it is clear that the so-called "monitoring and mitigation plan" is structured so as minimize the chance of harmful impacts being acknowledged, let alone responded to, and that the purported remedial measures that could be implemented are illusory. G42-87

2. The DEIR/S and SEIR/S Fail to Address Adequately Potential Impacts to the Aquifer/Groundwater Basin Underlying the Project

As discussed in previous sections, the DEIR/S and SEIR/S inadequately address the relevant recharge rate for the groundwater system. Thus, there is tremendous potential for drawdown of the aquifer, the effects of which will be felt throughout the area. For example, as discussed above, there may be brine movement toward the Project site. In addition, the water resources of surrounding wilderness areas, national park units, and mountain areas may be affected. The DEIR/S and SEIR/S fail to adequately address these impacts. G42-88

3. The DEIR/S and SEIR/S Fail to Adequately Evaluate Potential Impacts on Air Quality

As detailed in the attached review by Dr. John Gillies of the Desert Research Institute the DEIR/S and the SEIR/S do not contain sufficient data or analysis to allow critical decisions to be made regarding the potential impacts to air quality from the Cadiz Project. Critical areas of concern that have not been adequately addressed are: 1) the potential for drawdown of the brine layer beneath Bristol and Cadiz lakes that will lead to increased dust emissions; 2) the failure to consider the potential for dust emissions from the spreading basins; and 3) the failure to recognize that the impacts to sand and dune areas are likely to expand and result in sand blowing onto the playas of Cadiz and Danby lakes causing increased potential for dust emissions. G42-89

Further, the proposed monitoring system and mitigation measures are inadequate to accurately detect dust emission processes or mitigate such impacts because: 1) the instrumentation and measurements proposed are inadequate, 2) the time period for proposed monitoring is too short to reveal potential impacts or compliance with National Ambient Air Quality Standards, 3) the proposed plan for dealing with dust emissions, namely the assumed ability to manipulate the level of the brine layer, is completely ineffective as a dust control measure; 4) the management and monitoring program fails to explore other types of control strategies to mitigate the potential dust problem or to address the associated costs, and 5) the monitoring plan is insufficient to address the impacts on the Mojave National Preserve.

a. Inadequacy of analysis of dust emissions

The DEIR/S and SEIR/S fail to adequately assess the potential for dust emissions from Bristol and Cadiz lakes caused by the Cadiz Project. For instance, an analysis of the surface sediment characteristics and the brine water chemistry of Bristol and Cadiz lakes is necessary for an understanding of the potential for the lake beds to become susceptible to dust emissions. However, there is no information regarding the chemical composition of the brine beneath Bristol and Cadiz lakes or the surface crust on the lake beds. Similarly, a comparison with conditions at Owens Lake, where the drying out of the lake bed has caused enormous dust emissions, would be the most logical method of ensuring better informed predictions regarding potential dust emissions form Bristol and Cadiz lakes, but no such comparison has been considered.

The DEIR/S and SEIR/S also completely fail to address potential dust emissions from the Project's spreading basins. The DEIR/S makes the conclusory assertion that the spreading basins will not contribute significantly to dust emissions in the surrounding environment. In fact, as Dr. Gilles has explained for at least two reasons, there is a high probability of emissions from the spreading basins at levels significantly greater than the DEIR/S and SEIR/S suggest. First, the basins will regularly accumulate substantial amounts of sediment. The removal and handling and storage of these large amounts of fine-grained sediments would produce significant amounts of dust and raises concerns about how this material would be stored to prevent it become an additional source of dust.

Thus, estimates for the sediment yield in the spreading basins are critical to determine the impacts on air quality based on the scale of the removal and handling operations and the actions required to safely store this material in a manner that does not leave it susceptible to entrainment by the wind. However, neither the DEIR/S or SEIR/S provide any estimate of the amount of sediment that would have to be removed from the spreading basins. Consequently, the assertion regarding the impact of its removal on air quality is highly speculative.

In addition, the statement in the DEIR/S, at 33, that the basins will not contribute higher levels of dust when they are not filled with water than the surrounding desert land is extremely dubious. This is so because the fine-grained sediment that will have accumulated on the surface of the basins will likely be inherently more susceptible to wind erosion and dust emissions than the

surrounding desert lands that are characterized by a degree of surface armoring. The spreading basins also will be devoid of vegetation, which will make them more likely to omit dust at lower wind speeds than surrounding desert surfaces. These factors have not been addressed in either the DEIR/S or the SEIR/S and are directly at odds with the conclusory assertion in those documents that the basins will not emit significantly more dust than the surrounding desert. G42-93

Finally, it is clear from the DEIR/S that construction of the conveyance facilities for the Project will both temporarily and permanently disturb significant areas within the Cadiz Dunes. These sandy soil types are extremely sensitive to wind erosion and their disturbance can create significant degradation of the local and regional environments. There is a high probability that the disturbance will expand beyond the initial zone of disturbance as sand is blown by the winds. Because neither the DEIR/S nor the SEIR/S provide any information about what criteria were used or how they were applied to determine the size of disturbed sandy areas, neither the Agencies nor the public can have any certainty about the reliability of the estimates presented. G42-94

The disturbed sandy areas pose a second potential problem beyond the degradation of the dunes themselves. The disturbed sand will be susceptible to being blown onto the Cadiz and Danby lakebeds where it could cause significantly increased dust emissions. Both the DEIR/S and the SEIR/S completely fail to address this potential adverse impact to air quality.

b. Inadequacy of Monitoring Plan

The monitoring plan proposed in the SEIR/S is deficient because the mitigation measures are inadequate to accurately detect dust emissions or mitigate such impacts.

First, the proposed instrumentation for the monitoring network is plainly inadequate. As Dr. Gilles points out the proposed exclusive use of nephelometers would assure high levels of uncertainty in assessing particulate matter loading. Because compliance with air quality standards depends on actual measurement of particulate matter, the plan should use of instrumentation in accordance with Federal Reference Method, or accepted equivalent, to ensure that it adequately monitors relevant conditions on the playas. G42-95

In addition, the monitoring plan does not provide for any measurement of saltation activity on the lake beds. Yet saltation is the key component of the dust emission process, effectively driving most of the dust emissions. G42-96

Another deficiency of the air quality monitoring and management program is that it is proposed for approximately 5 years. This short time period makes no sense because data from the first five years of project operations will not reveal trends in air quality resulting from impacts of the Cadiz Project. The 5 year time period is too short to reveal potential project impacts for several reasons: 1) short-lived effects from the construction phase could be misconstrued as being representative of future conditions; 2) cyclical weather patterns such as the El-Nino- Southern Oscillation (ENSO), which can bring increased precipitation levels to the Mojave, may G42-97

temporarily ameliorate or mask Cadiz Project effects through several years; and, most importantly; 3) the long-term impacts of the drawdown of the brine layer beneath Bristol and Cadiz lakes that may result in increased dust emissions almost certainly will not manifest themselves until after the first 5 years of the Project.

Further, the limited corrective measures proposed in the SEIR/S to ameliorate potential impacts that lead to dust emissions are not adequate. None of the proposed mitigation measures can provide the means to control a weather driven process like dust emissions.

As Dr. Gilles points out, in order to use the brine layer to mitigate the dryness of the lakebeds and dust emissions, a management plan would have to be developed that would ensure the brine layer was effectively contributing sufficient moisture to the surface layer when the lakebeds were most susceptible to wild erosion. Gilles, at 4. This has not been done. Further, the brine layer cannot be effectively manipulated via the groundwater system to mitigate potential dust emissions because the groundwater system cannot respond quickly enough. Even if pumping were stopped or fresh water were pumped into the groundwater system, there almost certainly would be a time lag of months or years before the desired response in the brine layer could be expected. Thus, these measures plainly would not be effective in responding to weather conditions likely to cause increased dust emissions, which would require responses within hour or a few days at the longest. Moreover, given the demands for water extraction from the Project and the economics of maintaining the cost-effective water delivery schedule, it is implausible that thee corrective measures would be implemented.

Before the Cadiz Project is initiated, the Agencies must design concrete mitigation actions desired to minimize dust emissions from Cadiz and Bristol lakes. The actions presently being carried out at Owens Lake appear to be the best and most obvious model for appropriate measures to control dust emissions from the playas. The costs associated with an effective dust control system on a playa are quite substantial; the cost of a pilot system at Owens lake for a much smaller area that the potentially affected are of Bristol and Cadiz lakes is in the vicinity of $60 million. The DEIR/S and SEIR/S have failed to consider the large potential costs involved in developing and implementing an effective system for the management and control of potential dust emissions, or who will bear those costs.

Finally, the SEIR/S, at 3-11, recognizes that the air quality in the Mojave National Preserve is a critical resource. However, the monitoring under the plan is geared towards Joshua Tree National Park and not the Mojave National Preserve. This inconsistency in the monitoring and mitigation plan must be corrected.

Until these concerns are adequately addressed, the Agencies cannot make a reasoned, informed determination of the Cadiz Project's potential to cause significant adverse impacts to air quality and the potential future costs associated with the mitigation of those problems.

4. <u>The DEIR/S and SEIR/S Fail to Adequately Assess Impacts to the Desert</u>

Tortoise Population in the Vicinity of the Project

The draft and supplemental EIR/S fail to adequately address the impacts of the Project on the desert tortoise, a Federal and State listed endangered species, as discussed in the January 4, 2001 comments of Dr. Michael Connor, executive director, Desert Tortoise Preserve Committee. In addition, neither document adequately addresses the implications of § 7 and § 9 of the Endangered Species Act.

G42-102

Neither the draft or supplemental EIR/S mention the potential for increased predation of the desert tortoise due to the addition of water sources that will attract ravens. Ravens are a significant predator for juvenile tortoises. Desert Tortoise (Mojave Population) Recovery Plan 6 (1994). The Project will result in the addition of 390 acres of spreading basins in the project area. The Fish and Wildlife Service has recognized that "artificial sources of food and water help sustain more individuals during times of resource shortage." Id. at App. D, pg. 34. Thus, the addition of these water sources will lead to increased raven populations in the Project area. In addition, the recovery plan recognized that raven populations are already increasing in the Fenner Valley. Id. at App. F., pg. 11. The increase in raven populations and the resulting increased predation on juvenile tortoises is a significant impact that has not been addressed through the NEPA/CEQA process.

The supplemental EIR/S includes new proposals for construction of observation wells that are not evaluated for their impacts on the desert tortoise or its designated critical habitat. Many of the proposed observation wells are within or along the boundary of designated critical habitat. The proposed observation wells to the east of the spreading basin lie within the Chemehuevi Critical Habitat Unit. In addition, many of the observation wells proposed to the north of the basin lie in and along the Fenner Valley within the Piute-El Dorado Critical Habitat Unit of the Eastern Mojave Desert Tortoise Recovery Unit. The failure to consider the impacts on the desert tortoise is particularly troubling considering a recent survey by the U.S.G.S. in a study plot in the Fenner Valley. The survey indicated that the population of the desert tortoise has undergone a severe decline and only ten to fourteen percent of tortoises registered in prior surveys remained.

G42-103

5. The DEIR/S and SEIR/S Fail to Adequately Address Potential Impacts on Bighorn Sheep Populations in the Vicinity of the Project

The DEIR/S and SEIR/S contain inadequate consideration of potential impacts to bighorn sheep from the Project. Indeed, the DEIR/S considered only potential direct impacts to bighorn sheep from the construction of facilities for the Project and in the specific areas where these facilities would be located. The DEIR/S failed to acknowledge potential impacts from the Project drawdown of native groundwater on springs in the mountains with the vicinity of the Project. Consistent with that failure, the DEIR/S contained no discussion of how potential impacts to those springs will affect local populations of bighorn sheep.

G42-104

The SEIR/S nominally acknowledges the potential for impacts to the mountain springs but

defers any substantive discussion of such impacts or potential mitigation measures to ameliorate such impacts to some future date and to the committees that will implement the Monitoring and Management Plan. Thus, neither the DEIR/S or the SEIR/S actually considers the potential impacts to bighorn sheep from the Project's potential to lower or eliminate the water flow from surrounding mountain springs.

Surface water is extremely scarce in the Mojave Desert and consequently the bighorn sheep are heavily dependent for survival on the few existing springs in the mountains surrounding the Cadiz Project. Consequently, the potential impact of the Project on the groundwater system that supports those springs has significant implications for the bighorn sheep metapopulation in the region surrounding the Project site and possibly the adjacent metapopulation to the north.

As noted by Dr. Bredehoef, the mountain springs most likely to be impacted by the Project are those in the Marble Mountains. Dr. John Wehausen, of the white Mountain Research Station, has explained that the mountains surrounding the project site contain a system of interacting bighorn sheep populations that partially make up the South Central metapopulations. The largest of the populations in the Marble Mountains. This population plays a critical role in sustaining other local populations in the bighorn sheep metapopulation surrounding the Project site.

If the extraction of indigenous groundwater from the basin causes the springs in the surrounding mountain ranges to dry up, or greatly reduces their flow, bighorn sheep populations in those ranges can be expected initially to shrink to small numbers. The probability of extinction increases with declining populations size. Eventually, this is likely to head the collapse of at least this portion of the South Central Metapopulation of bighorn sheep in the Mojave Desert as the small local populations go extinct and are not recolonized because of the small number of total sheep in the region.

6. <u>The DEIR/S and SEIR/S Fail to Adequately Evaluate Potential Impacts on Wilderness Areas and Mojave National Preserve and Joshua Tree National Park</u>

If the drawdown of groundwater dries out the lake beds and causes large scale dust emissions, this is likely to cause dramatic adverse impacts to air quality in some or all of the five wilderness areas that surround the project site, the Mojave National Preserve, and possibly Joshua Tree National Park. The DEIR/S failed to acknowledge, let alone address, these potential air quality impacts. Although the SEIR/S contains a cursory mention that concerns have been expressed regarding such potential impacts, it too fails to engage in any substantive discussion of the nature and level of such impacts and the specific measures that would be implemented to mitigate them. Rather, the SEIR/S defers meaningful discussion of such potential air quality impacts and their mitigation to the future and delegates decisions regarding the likelihood, severity, and appropriate response to such impacts to the two committees that will be responsible for implementing the monitoring and management plan. This deferral and delegation by the Agencies violates both CEQA and NEPA and runs counter to those statutes' fundamental goal of

ensuring informed decision making by Agencies before a projects is implemented. G42-106

In addition, the Project is likely to cause impacts to water resources in these wilderness areas and park units as discussed above. G42-107

7. The DEIR/S and SEIR/S Fail to Adequately Address Potential Water Impacts Related to Water Quality

a. Inconsistencies in addressing water quality impacts

In discussing the water quality impacts to the native groundwater associated with introducing Colorado River water, the draft and supplemental EIR/S both state that the additional total dissolved solids (TDS) and perchlorate that will be added to groundwater will not have significant impacts because mixing will not occur and most of it will be pumped back out during extraction operations. DEIR/S, at 5-94, 5-95; SEIR/S, at 6-2, 6-3. However, the DEIR/S indicates that the quality of the indigenous groundwater will be improved for nitrate through mixing and dilution with the Colorado River water. DEIR/S, at 5-96. The documents fail to explain how mixing and dilution will occur with respect to pollutants that exist in lower levels in the Colorado River water than in the native groundwater, but will not occur for pollutants that exist in higher levels in the Colorado River water than in the native groundwater. G42-108

b. Required Report Concerning Waste Discharges to Groundwater under California's Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, CA Water Code §§ 13020-13983, requires any person discharging or proposing to discharge waste that could affect either surface or ground water quality to file a report with the appropriate Regional Water Quality Control Board. Id. §§ 13260, 13050(e). The Act defines waste as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." CA Water Code § 13050(d). G42-109

Because Colorado River Water contains substances that would be considered waste under the Porter-Cologne Act, MWD/Cadiz should be required to file a report with the Regional Board. The Cadiz Project will increase the TDS in the native groundwater in two ways. First, the infiltration of Colorado River water will dissolve salts in the upper parts of the unsaturated zone and transport them to the indigenous groundwater. DEIR/S, at 5-94; SEIR/S, at 6-2. Second, Colorado River water contains twice the concentration of TDS as native groundwater and is expected to contribute 1,015,532 tons of TDS over the life of the Project. DEIR/S, at 5-95, 5-96; SEIR/S, at 6-3. Finally, the Project would introduce perchlorate, found in Colorado River water, to the indigenous groundwater. DEIR/S, at 5-95; SEIR/S, at 6-3. Because the project will result in discharge of these wastes to groundwater of the state, MWD must file a report with the

Regional Board.

There is no evidence in either the draft or supplemental EIR/S that MWD has filed or intends to file this report. The section of the draft EIR/S that discusses permits and/or approvals does not mention this requirement and is therefore incomplete.

c. The Project will lead to impermissible degradation of the water quality of native groundwater under the Porter-Cologne Act.

The Porter-Cologne Water Quality Control Act, CA Water Code §§ 13020-13983, establishes a coordinated statewide program of water quality control overseen by the State Water Resources Control Board and administered by nine regional boards. The Cadiz basin falls within Region 7—the Colorado River Basin. The Colorado River Basin Regional Water Quality Control Board has adopted a Water Quality Control Plan ("Basin Plan"). The proposed discharges of Colorado River water into the Cadiz basin violates this Plan and the policy of the State Water Resources Control Board.

The State Water Quality Control Board has adopted a policy, which has been incorporated in the Basin Plan, to protect waters that are of a better quality than required by existing policies. The resolution states:

> 1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
>
> 2. Any activity which produces or may produce a waste or increased volume of concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

State Water Resources Control Board, Resolution No. 68-16 (1968). In addition, the Basin Plan states that "[i]deally, the Regional Board's goal is to maintain the existing water quality of all nondegraded ground water basins." Basin Plan, at 3-9.

Thus, the State and Regional Boards have an obligation to protect high quality waters. It is clear that the native groundwater is of a higher quality with respect to TDS and perchlorate than the Colorado River water. Therefore, the Regional Board cannot allow the Project to cause degradation of the native groundwater source with respect to these wastes. In addition, the

Regional Board should impose waste discharge requirements that result in the best practical treatment or control. Neither the draft or supplemental EIR/S address the need to prevent degradation of the groundwater or the implementation of best practical treatment or control methods. G42-110

H. The DEIR/S and SEIR/S Fail to Consider Cumulative Impacts

NEPA and the CEQ regulations require the discussion of cumulative impacts in EISs. 40 C.F.R. § 1508.7; Thompson v. Peterson, 753 F.2d 754-758 (9th Cir. 1985); LaFlamme v. Federal Energy Regulatory Comm'n, 852 F.2d 398, 402 (9th Cir. 1988) (individual project cannot be considered in isolation without considering the net impact that all projects in an area may have on the environment). The regulations define a "cumulative impact" as: G42-111

> The impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

The Ninth Circuit has held that 40 C.F.R. § 1508.7 requires an agency to "consider cumulative impacts of the proposed actions which supplement or aggravate the impacts of past, present, and reasonably foreseeable actions. Oregon Natural Resources Council v. Marsh, 832 F.2d 1489, 1497-98 (9th Cir. 1987), rev'd on other grounds, 109 S.Ct. 1851 (1989). G42-112

The Fifth Circuit, in a well-cited opinion, set a five-prong standard for what constitutes a "meaningful cumulative effects study." Fritiofson v. Alexander, 772 F.2d 1225, 1245 (5th Cir. 1985); see also City of Carmel-By-The-Sea v. U.S. Dept. Of Transp., 95 F3d 892, 902 (9th Cir. 1996) (adopting the Fritiofson standard). The standard requires the EIS to identify: G42-113

1) the area in which effects of the proposed project will be felt;
2) the impacts that are expected in the area from the proposed project;
3) other actions — past, proposed, and reasonably foreseeable — that have had or are expected to have impacts in the same area;
4) the impacts or expected impacts from these other actions; and
5) the overall impact that can be expected if the individual impacts are allowed to accumulate.

City of Carmel-By-The-Sea, 95 F.3d at 902. The standard requires that "probable impacts be identified and considered." Fritiofson, 772 F.2d at 1245 n15.

In this instance, the Agencies have failed completely to undertake a meaningful cumulative effects analysis because they have made no attempt to quantify the level of ground water used or needed to fulfill the purposes of the reservation on the wilderness areas or other BLM lands in the Project vicinity. G42-114

In addition, the cumulative impacts discussion in both the DEIR/S and SEIR/S lacks meaningful detail regarding other reasonably foreseeable water uses on private land. They also fail to recognize or address the existence of significant paramount water rights in Chambless and the existing plans of the owner of Chambless Station to use those rights both to establish a local water company and residential complex.

I. The Recent Disclosure that the Indigenous Groundwater Contains Chromium 6 at Levels Greatly in Excess of Recommended State Health Levels Requires Preparation of a Supplemental EIR/S

The presence of chromium 6 in the indigenous groundwater at concentrations up to twenty times higher than the California OEHHA's recommended new standard was not disclosed at all in either the DEIR/S or SEIR/S. The revelation in November 2000 that the native groundwater contains chromium 6 at levels that may cause public health impacts and that are likely to require expensive treatment of the groundwater before it can be used by MWD's customers constitutes significant new information that requires the preparation of a further supplemental EIR/EIS under CEQA and NEPA.

Because its presence was not even recognized in the DEIR/S and SEIR/S, the potential health impacts from this chemicals have not been adequately addressed. Nor has there been any consideration of the additional costs for water treatment that is likely to become necessary within a few years, or who will bear those costs.

J. The Public Participation Process for Comment on the DEIR/EIS and SEIR/EIS Is Inadequate

The Public Participation Process for comment on the draft and supplemental EISs was inadequate to provide for meaningful public participation. The Cadiz Water Project presents complex and highly controversial issues of great public import. The complexity of the issues that the public must consider and comment on within the time period provided is shown by the fact that it took Cadiz, the BLM, the MWD, and other cooperating agencies over six months and approximately $600,000 to produce the SEIR/S. To provide the public with a reasonable opportunity to address these issues, the BLM should have provided the public with enough time to carefully consider the SEIR/S and to consult with people possessing the necessary expertise to independently evaluate the issues, particularly considering the fact that the public must do this without access to the awesome resources of Cadiz, the BLM, and the other state and federal agencies that contributed to the preparation of the SEIR/S. Thus, the public comment period should have been at least 90 days for the SEIR/S.

III. THE DEIR/S AND SEIR/S FAIL TO SATISFY THE REQUIREMENTS OF FLPMA

A. BLM has failed to consider adequate alternatives to the proposed right-of-way in violation of the Federal Land Policy Management Act.

The BLM has indicated that the draft and supplemental EIR/S are to provide the required environmental review of the decision to grant a right-of-way to MWD and to amend the California Desert Conservation Area Plan (CDCA Plan). However, this effort by the BLM is inadequate because it has failed to analyze adequate alternatives to the proposed right-of-way. G42-118

When amendment of a resource management plan under FLPMA requires the preparation of an EIS, the amending process is to follow the same procedure that is required for the initial preparation and approval of the plan. 43 C.F.R. § 1610.5-5. FLPMA requires that the BLM "consider the relative scarcity of the values involved and the availability of alternative means . . . and sites for realization of those values." 43 U.S.C. § 1712(c)(6). Thus, as a part of the planning procedure, the BLM must consider "all reasonable resource management alternatives . . . and several complete alternatives [must be] developed for detailed study." 43 C.F.R. § 1610.4-5. The plan must also "note any alternative identified and eliminated from detailed study and shall briefly discuss the reasons for their elimination." Id. G42-119

Additionally, "in order to minimize adverse environmental impacts and the proliferation of separate rights-of-way," the BLM has an obligation to "utiliz[e] rights-of-way in common . . . to the extent practical." 43 U.S.C. § 1763. The CDCA Plan also emphasizes the need to utilize existing utility corridors. The decision criteria include "minimiz[ing] the number of separate rights-of-way by utilizing existing rights-of-way" and "encourag[ing] joint use of corridors for . . . canals [and] pipelines." CDCA Plan, at 93. The Plan also indicates that BLM managers should "encourage the use of designated [utility] corridors." Id. at 95. Finally, the Plan requires that the BLM District Manager "determine if alternative locations within the DCA are available which would meet the applicant's needs without requiring . . an amendment to any Plan element." Id. at 121. G42-120

The draft and supplemental EIR/S contain no evidence that the BLM has considered an alternative that would allow construction within existing utility corridors or rights-of-way. The draft EIR/S concludes that the "BLM must consider an amendment to the CDCA Plan, since the various water conveyance alignments evaluated . . . do not fall within existing designated utility corridors." This forgone conclusion ignores the obligation of the BLM to consider a reasonable resource management alternatives, specifically alternatives that would fall within existing corridors or rights-of-way, which might avoid routes through sensitive Class L lands. At the very least, the BLM has an obligation to discuss why particular alternatives utilizing existing corridors or rights-of-way were not included for analysis in the EIR/S. G42-121

B. BLM has failed to adequately analyze the environmental impacts associated with granting of the right-of-way and amending the CDCA Plan in violation of FLPMA.

Under FLPMA, the BLM has an obligation to protect the environment when making G42-122

decisions about public lands. FLPMA requires the BLM to "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards" when engaging in land use planning. 43 U.S.C. § 1712. The legislation authorizing the CDCA Plan indicates that the purpose of the section is "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." Id. § 1781. Additionally, the CDCA Plan specifically requires the BLM District Manager to consider the environmental effects of amending a plan, CDCA Plan, at 121, and to "avoid sensitive resources wherever possible." Id. at 93.

Congress has specifically recognized that the California Desert Conservation Area contains unique "historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources" that must be protected. 43 U.S.C. § 1781. In addition, the California desert is an "ecosystem that is extremely fragile, easily scarred, and slowly healed." Id. These resources "including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use." Id. Thus, Congress required the BLM to engage in planning in order to protect these valuable resources.

As discussed in the NEPA section of these comments, the BLM's analysis of the environmental impacts associated with granting the right-of-way and amending the CDCA Plan are inadequate. These inadequacies constitute a violation of FLPMA as well as NEPA. In addition, the DEIR/S and SEIR/S fail to avoid Class L lands, which under FLPMA are protected from "unnecessary or undue degradation" and "undue impairment" of their resources.

C. BLM has failed to adequately evaluate the impact to adjacent wilderness areas in violation of FLPMA.

The CDCA Plan requires the BLM to "consider wilderness values" when making decisions about the Plan. CDCA Plan, at 93. As discussed in the NEPA/CEQA discussion, the draft and supplemental EIR/S have failed to adequately address the impacts to the wilderness areas in the vicinity of the Project. This failure is a violates the CDCA Plan as well as NEPA and CEQA.

IV. CONCLUSION

As stated above, the DEIR/S and SEIR/S are lacking the kind of detailed description and analysis required under CEQA and NEPA. The Agencies must recognize the clear weight of expert opinion in the technical literature demonstrating that the extraction of native groundwater under the proposed Cadiz Project will exceed the natural rate of recharge and have significant impacts on the aquifer/groundwater system underlying the Project and its vicinity.

The Agencies must acknowledge, discuss, and analyze these potential impacts, including

cumulative impacts in their Final EIS. In addition, the Agencies must comply with the requirements of the Endangered Species Act, the Porter Cologne Act, and the Federal Land Policy and Management Act before proceeding with any action. G42-126

Dated: January 8, 2001

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ATTACHMENT TO
COMMENT LETTER
G42

COMMENTS ON DRAFT & SUPPLEMENTAL EIR/EIS

CADIZ GROUNDWATER STORAGE PROJECT
CADIZ & FENNER VALLEYS
SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for: Western Environmental Law Center
Taos, New Mexico

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December, 2000

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INTRODUCTION

The Cadiz Valley Groundwater Storage Project is proposed to serve three functions: 1) store water from the Colorado River Aqueduct during periods when water is available, and 2) pump both the stored water, 3) and pump a significant quantity of indigenous native groundwater from the Cadiz and Fenner Valleys when Colorado River water is deficient.

The project facilities consist of pipeline (approximately 35 miles long) through Cadiz Valley from the Colorado River Aqueduct, at least one pumping station for the pipeline, recharge ponds, a well field. The recharge ponds are used to infiltrate Colorado River water into the underlying alluvial aquifer where it is stored. The well field is used both to pump out stored water as well as the native groundwater in the area. The facilities are designed to recharge as much 145,000 acre-feet of water per year (ac-ft/yr). Similarly the well field is designed to pump 145,000 ac-ft/yr of groundwater. G42-127

The project is proposed both to store water and pump groundwater. The proposal is to extract more groundwater than that which is stored. One scenario of development indicates the project will extract 1,700,000 acre-feet of groundwater in excess of the amount stored during a 50-year period. Under this scenario 1,100,000 acre-feet of Colorado River water will be stored during the 50-year period; however, the total groundwater extracted will be 2,800,000 acre-feet during the period.

The argument put forward in the Draft EIR/EIS is that the 1,700,000 acre-feet of indigenous groundwater pumped is somewhat less than the cumulative recharge to the aquifers in the area during the 50-year period of project operation, and therefore will have no adverse impacts on the groundwater system. The Draft EIR/EIS indicates that the annual recharge is in the range of 40,000 to 50,000 acre-feet per year. It is on this basis that the report suggests little or no adverse impact on the groundwater system. It is the analysis of the impacts of pumping the native groundwater that creates great concern.

In this report I will show that: G42-128

1. ***the estimate of annual recharge used in the Draft EIR/EIS is an order of magnitude too high-it is probably only 5,000-6,000 ac-ft/yr;***
2. ***using a more realistic recharge rate there will be adverse impacts to the groundwater system and the environment; and***
3. ***that once development has proceeded for a period of several decades simply stopping the project, as implied in the Supplemental EIR/EIR, will not halt the adverse environmental impacts-in other words, the groundwater system once perturbed has sufficient persistence that adverse impacts will persist well beyond 100 years, even though the project is stopped after 50 year or earliers.***

THE GEOGRAPHIC/GEOLOGICAL SETTING

The Cadiz and Fenner Valleys are typical valleys within the Great Basin geographical province. The valleys are situated between mountain ranges. The mountain ranges are composed of older bedrock that ranges in age from PreCambrian through Mesozoic. The mountain ranges were uplifted by the basin and range tectonics of the region. The valleys are underlain by alluvial material that was eroded from the mountain ranges. Often the alluvial valley fill is quite thick, commonly in the more open parts of the valleys several thousand feet thick. The alluvial deposits beneath the valleys are good aquifers.

The valleys and surrounding mountain ranges are often closed topographic basins; the closed topographic basins form closed watersheds. Precipitation that falls in the watershed remains in the watershed. The discharge of water from these closed watersheds occurs either as evaporation or as plant transpiration. This is a desert; the precipitation ranges from a low of the 3 to 4 inches per year in Cadiz Valley to a high of 11 to 12 inches in the higher parts of the Granite Mountains west of Fenner Valley.

Commonly a playa forms in the lowest parts of the valleys in the area. These playas are ephemeral lakes. During periods of unusually high rainfall the runoff from the surrounding area is sufficient that the playas become lakes for a period; however, these events are infrequent. Most times runoff from the surrounding mountains is insufficient to reach the playa. Typically the runoff from winter snowfall and from summer thunderstorms 1) evaporates, 2) is held in the shallow soil where the plants transpire the moisture, or 3) infiltrates to the underlying groundwater table (the ***water table***).

Freshwater is supplied to the playas either as surface runoff in infrequent runoff events, or by underlying groundwater flow. The water evaporates from the playa; as it evaporates it leaves behind dissolved salts. The salts buildup naturally over time in the groundwater associated with the playas. There is highly saline groundwater underlying both Bristol Lake Playa and Cadiz Lake Playa; under Bristol Lake the groundwater is 7 times higher in dissolved salt than seawater. There are commercial salt works associated with both these playas.

The Hydrology of Valleys in the Basin And Range

Under natural conditions the alluvial aquifers that underlie the valleys are full of groundwater. These systems have existed for geologic time. There were periods of higher rainfall in the area during the Pliestocene ice ages. Under natural (virgin) conditions before any development the recharge to the aquifers is balanced by the discharge from the aquifers, or:

Recharge = Discharge (under virgin conditions)

As suggested above, the discharge from the aquifers occurs in many of the closed valleys in the Basin and Range as either evaporation from the playa, or from plants in the lower parts of the valleys that draw their water from the water table. (Plants that draw water from the water table are referred as ***phreatophytes***.) Common plants that draw groundwater from the water table are creosote bush, giant sage, and rabbit brush. Very few of these plants are present in Cadiz Valley; groundwater in this area is thought to discharge, before development, as evaporation from the local playas.

Pumping groundwater in one of these valleys constitutes an additional withdrawal from a system that was in the natural state in balance under virgin conditions. In order for such a groundwater system to reach a new equilibrium (a state indefinite ***sustainability***) two things must occur: 1) the pumping must increase the recharge, and/or 2) the pumping must decrease the discharge. Usually groundwater pumping has no impact on the recharge; recharge is determined by climatic conditions-precipitation, etc. On the other hand the pumping can decrease the discharge. For example, in Cadiz Valley pumping groundwater can lower the water table beneath Bristol Lake playa and either reduce or eliminate groundwater discharge there.

G42-130

In the parlance of the hydrogeologist, pumping can capture groundwater discharge. *In order for a groundwater system to be indefinitely sustainable the pumping must be balanced by an equal capture of discharge.* If the pumping exceeds the total amount of the natural discharge from the system the system cannot be brought into a new balanced state; in other words one will be mining groundwater-such a system is not indefinitely sustainable.

One rarely hears the discussion of groundwater sustainability put in terms of the capture of virgin discharge. The usual statement is that *pumping must not exceed the recharge (in order for the system to be sustainable)*. Remember from the discussion above the virgin rate of discharge in these systems equals the virgin rate of recharge. The statement *pumping must not exceed recharge* is a round about way of saying that the pumping must not exceed the virgin discharge-the presumption is that all the virgin discharge can be captured.

Nevada Groundwater Law

The Cadiz and Fenner Valleys are more like the closed Basin and Range Valleys in Nevada; they are untypical of much of the rest of California. For this reason it is worth looking at how Nevada treats groundwater in similar valleys.

G42-131

Nevada recognized in the early1900s that the water supply for many of the valleys within the state would have to come totally from groundwater. The Nevada decision was to attempt to make that the groundwater supply within these valleys sustainable. The discharge in many of the valleys in Nevada is similar to Cadiz Valley where the

groundwater discharge is by evaporation from the playas and from plants that tap the water table-the phreatophyte plants mentioned above. Nevada was willing to let the groundwater pumping capture both the evaporation and the groundwater that went to support the phreatophyte plants. This thinking led to the Nevada doctrine *that groundwater pumping must not exceed the recharge.*

As an aside, it has been difficult for the water managers in Nevada to administer this doctrine, even though it is codified by Nevada law, in places of heavy urbanization such as Las Vegas.

Nevada has systematically surveyed the entire state in an effort to investigate the recharge in each of its many valleys. Many of the techniques of estimating recharge in the Basin and Range Province have stemmed from efforts in Nevada. One of the widely used methods of estimating recharge is the Maxey/Eakin Method. This is an empirical procedure devised by Burke Maxey and Tom Eakin (1949) working for the U.S. Geological Survey (USGS) in cooperation with the state of Nevada.

Even though the Maxey/Eakin Method is more than 50 years old it is still in widespread use. It applicability has been evaluated in recent years. Avon and Durbin (1994) published an evaluation of the method in which they showed that it gave good estimates of recharge for valleys in the Basin and Range. I will show below that the Maxey/Eakin Method along with other methods yield a much lower rate of recharge for Cadiz and Fenner Valleys than the method used in the Draft EIR/EIS.

VIRGIN RECHARGE IS OVERESTIMATED

As discussed above, whether a groundwater system can be brought into a state of indefinite sustainability depends upon whether the system can ultimately capture sufficient natural discharge to balance the pumping. I indicated that under virgin conditions, before development, in these systems the recharge is balanced by an equal amount of discharge. If a proposed development is much larger than the amount of potential discharge that can be captured the system will never be brought into a new equilibrium-one will be continuing to mine groundwater. G42-132

Let's state these ideas in anther way. Remember the virgin recharge equals the virgin discharge. If the proposed development is much larger than the recharge (or in other words the virgin discharge since it is equal) one can never capture sufficient natural discharge to bring the system to a new balance. Therefore one hears the common statement the *development must not exceed the recharge if the development is to be sustainable.*

The estimate of recharge becomes critical in any analysis of how a groundwater system will perform. If the estimate of recharge is in error then predictions of system performance will also be in error. I wish to examine the various estimates of recharge for the Fenner and Cadiz Valleys that arose out of the Draft EIR/EIS and the comments on the document.

Draft EIR/EIS

The Draft EIR/EIS has estimates made by GeoScience (1999); these estimates range from 20,000 to 70,000 acre-feet per year. In the GeoScience model of the groundwater system they used an annual recharge rate of 50,000 ac-ft/yr; their analysis of impacts is based upon this number. In making this estimate GeoScience used a watershed model that was originally designed for the County of San Bernardino to size storm-water facilities within the county. This model when used to estimate groundwater recharge greatly overestimates the recharge. G42-133

USGS (2000)

The USGS commented on the Draft EIR/EIS. In their comments they applied the Maxey/Eakin Method to estimate the recharge to the Fenner and Cadiz Valleys. They used two relationships for precipitation versus elevation. Using the two relationships they estimated the recharge using a modified Maxey/Eakin method as 2,550 and 11,800 ac-ft/yr. G42-134

The USGS also pointed out that most of the recharge to Cadiz Valley must come through Fenner Gap. Several authors have estimated the amount of groundwater flowing through G42-135

Fenner Gap by applying Darcy's Law. In their comments on the Draft Eir/Eis the USGS estimated the groundwater flow through the gap as ranging from 2,600 acre-feet per year to 4,300 acre-feet per year depending upon hydraulic conductivity one chooses. Friewald (1984) had estimated the groundwater flow through the gap as 270 acre-feet per year. P.E. LaMoreaux and Associates (1995) estimated the same flow at 3,700 acre-feet per year.

Several investigators have shown that the accumulation salt in infiltrating groundwater when compared to the salt content of the associated precipitation can be used to independently estimate recharge rates (Dettinger1989; Wood and Sanford, 1995). The USGS indicated that the method had been misapplied in the Draft Eir/Eis Report; the application in the Draft Report violated a basic assumption of the method. Using the method correctly the USGS estimated the recharge to the area to range from 1,700 to 9,000 acre-feet per year.

The USGS also suggested that the age of the water could be estimated from the Carbon-14 content of the water. They provided corrections to the Carbon-14 dates that indicated the local groundwater ranged in age from 5,500 to 10,600 years before present.

Durbin (2000)

Durbin commented on the Draft Eir/Eis on behalf of San Bernardino County. He too indicated that the recharge used in the Draft Report was grossly overestimated. He applied the Maxey/Eakin Method and derived a recharge to the Fenner and Cadiz valleys of 5,000 acre-feet per year. Durbin also suggested that when the chloride method is correctly applied it yields a recharge of 2,000 acre-feet per year.

Boyle Engineering Corp. (1996)

Boyle Engineering examined the drawdown associated with the pumping for irrigation of the Cadiz Land Co. They noted that water levels in the vicinity of the pumping were declining. They indicated that the decline could be attributed either to a change in climate or an overdraft of the local groundwater. They analyzed climate records in the area and showed that the decline was unlikely to be caused by a change in precipitation. The attributed the continuing decline in water levels to an overdraft of groundwater caused by the pumping. They stated: " *the data suggests strongly that the perennial yield of the Cadiz groundwater basin is less than 4,000 acre-feet per year.*" The pumping for irrigation by the Cadiz Land Co. has averaged 4,700 acre-feet per year; it has gone since 1984.

Summary of the Recharge Estimates

Table 1 summarizes the various estimates of recharge to the Fenner/Cadiz Valleys.

Table 1. A summary of the recharge estimates.

Methodology/Author	Estimate (ac-ft/yr)
Watershed Runoff Model-MWD & BLM (1999)	20,000-70,000
(GeoScience Groundwater Model)	(50,000)
Maxey/Eakin Method	
USGS (2000)	2,550-11,200
Durbin (2000)	5,000
Fenner Gap Groundwater Flow	
Friewald (1984-USGS)	270
LaMoreaux (1995)	3,700
USGS (2000)	2,600-4,300
Chloride Method (correctly applied)	
USGS (2000)	1,700-9,000
Durbin (2000)	2,000
Drawdown Associated with Cadiz Land Co. pumping	
Boyle Engineering (1996)	4,000

G42-140

Looking at the data in Table 1 the only investigator that estimated the recharge as high as 50,000 acre-feet per year was GeoScience in their work reported in the Draft EIR/EIS Report. All the others using a variety of proven methods indicated that the annual recharge is less than approximately 10,000 acre-feet per year. While there is a range in the estimates the most probable value for the annual recharge is 5,000 to 6,000 acre-feet per year-an order of magnitude lower than that used in the Draft EIR/EIS.

The Supplemental EIR/EIS did not address this issue. It was side stepped by proposing a monitoring and control scheme. The idea is that the project operations would be modified to control adverse impacts as they were observed. This proposal has two fatal flaws:

1. The future impacts of the project cannot be projected at all accurately without a good estimate of the recharge,
2. By the time an adverse impact is detected by the monitoring the groundwater system will be sufficiently perturbed that even stopping the project will not ameliorate the impacts.

G42-141

THE IMPLICATIONS OF SMALLER RECHARGE

The implications of an order of magnitude lower rate of recharge are easy to see by examining a water budget for 50 years of operation of the Cadiz Project:

Table 2. Water budget for 50 years of operation of the Cadiz Project.

	Draft EIR/EIS	this report
Stored Colorado River water	1,100,000 ac-ft	1,100,000 ac-ft
Pumping of stored water	-1,100,000	-1,100,000
Pumping of native groundwater	-1,700,000	-1,700,000
Recharge	2,500,000 (50,000/yr)	300,000 (6,000/yr)
Total	800,000 ac-ft	-1,400,000 ac-ft

One can see that if the recharge is 6,000 acre-feet per year the project creates a large overdraft of groundwater during 50 years of operation. At an annual recharge rate of 6,000 acre-feet per year the overdraft of 1,400,000 acre-feet would take 233 years to balance-assuming there was no other discharge from the system. There are other discharges from the basin-other pumping, and evaporation from Cadiz Lake that has not been impacted by the project. The simple budget analysis suggests that the impact of a more realistic recharge rate on the project will be long lived; and produce impacts that persists for several centuries, even though the project is stopped after 50 years. But this is not the entire story.

The dynamics of groundwater system response are unlike surface water reservoirs; groundwater systems, especially water table aquifers, respond slowly. Once the system is perturbed the effects of a perturbation, such as the impact of pumping, moves outward through the system slowly. The perturbations once started have great persistence; for example the drawdown associated with pumping a well migrates slowly outward from the pumping well. At some distance from the well water levels will continue to decline even though the pumping has been stopped.

This slow but persistent dynamic response of groundwater systems has implications for the monitoring and control of such systems such as is proposed in the Supplement Draft EIR/EIS. I will show that the monitoring and implied control as proposed in the Supplemental Report is unlikely to work. The persistence in the dynamic response of a groundwater system resembles momentum; once perturbed the disturbance migrates slowly through the entire system. I will illustrate this phenomenon in the Fenner and

Cadiz Valleys below. I will show that once an adverse impact is observed by monitoring it will be too late reverse the impact by stopping the project. G42-143

I have made the assumption that halting the project is the ultimate remedial action. One could bring surface water from Colorado River Aqueduct and infiltrate it into the aquifer to restore the aquifer-for example, to refill the aquifer with fresh water. I consider such remedial action has highly unlikely. For this reason I consider only one remedial action-halting the project. One could envision halting the project at any time; I am presenting results only for stopping the project after 50 years. Many of my comments would be equally valid after 30-years of project operation; the impacts would be somewhat smaller. G42-144

Because the impacts of pumping and recharge on an aquifer happen slowly hydrogeologists are occupied by studying the dynamics of groundwater systems. The methodology most widely used to investigate the dynamics of groundwater systems are the flow and transport computer models. GeoScience used both a flow and a transport model to analyze the response of the system. Durbin (2000) in commenting on the Draft EIR/EIS Report also used a groundwater flow model to examine the impacts of the proposed project. I too am modeling the groundwater system much as Durbin did; I want to extend his analysis in time. The major difference in the three models is in the recharge rate used-Geoscience used a recharge rate of 50,000 ac-ft/year; Durbin (2000) used 5,000 ac-ft/yr, and I am using 6,000 ac-ft/yr. G42-145

Groundwater Flow Model of Cadiz and Fenner Valleys.

I first wish to model the entire alluvial aquifer that underlies Fenner and Cadiz Valleys. My model is much like Durbin's (2000) model. Both Durbin and I modeled a larger area than GeoScience. I do not think the difference in the area modeled plays a large role in the results. As suggested above, the major difference is in the recharge rate used in the several models. G42-146

The point of my model is not to provide a detailed analysis of the system that could be used to manage the aquifer; rather the point of my model is to indicate how the system will respond through time. The model is used in a feasibility type analysis to suggest the response of the aquifer. I start with a flow model to show the magnitude of the drawdown created by the project. Later I will introduce a solute transport model to investigate how the brine beneath Bristol Lake playa will move under the influence of the project. I am extending the model projections to 100 years, something neither GeoScience nor Durbin did.

I am using the model Bredehoeft (1990) that was published by the USGS. This model was benchmarked against the more widely used USGS model MODFLOW. All the various codes do essentially the same job of solving the appropriate mathematical equations. The choice of which flow or transport code to use is only a matter of personal

preference on the part of the analyst.

In order to model the aquifer I need to specify the aquifer properties and boundaries. The model area with my model grid superimposed is shown on Figure 1. I treat the mountain ranges that bound the valleys as impermeable. I adopted Durbin's (2000) transmissivity distribution-shown on Figure 2. I modeled groundwater in only the alluvial aquifers within the Fenner-Cadiz watershed-the area indicated on Figure 2. Table 3 lists the parameters in my flow model.

Table 3. Model parameters.

Grid	60 x 60	grid blocks are 1 mile square
Transmissivity		Figure 2 (initially from Durbin, 2000)
Specific yield	0.15	(effective porosity 0.15)
Mountain blocks		impermeable
Recharge	5,000 ac-ft/yr	distributed in Clipper Valley east of Granite Range
	1,000 ac-ft/yr	distributed in upper parts of Cadiz Valley
Cadiz Project		
Recharge	1,100,000 ac-ft in 50 years	
Pumping	2,800,000 ac-ft in 50 years	
Cadiz Land Co.		
Irrigation	0	irrigation terminated at start of project
Other pumping	0	no other pumping in area
Discharge	6,000 ac-ft/yr	distributed beneath Bristol and Cadiz Lake playas

I have assumed that the irrigation by the Cadiz land Co. will cease once the project begins operation, and I have assumed that there is no other significant pumping in the area.

Under virgin conditions all the groundwater discharge from the model occurs as evaporation from Bristol Lake and Cadiz Lake playas. As drawdown occurs in the areas of the two lakes the model will try to reverse the groundwater flow and obtain recharge from the playas. I used a simple boundary condition to eliminate the evaporative discharge. As soon as the groundwater gradient is reversed, so that a cell that originally discharged is no longer discharging groundwater, the discharge boundary at this cell is eliminated.

Flow Model Results

I calibrated the steady state model. The steady-state water levels in the model are presented in Figure 3. In calibrating the model I reduced Durbin's transmissivity values in Fenner Valley and Fenner Gap by 50%; otherwise I used the Durbin's (2000) values of transmissivity-see Figure 2.

Figure 4 shows the pattern of recharge and pumping used to model 50 years of project operation. I used the total storage an pumping of groundwater suggested by Scenario 2 in the Draft EIR/EIS. Figure 5 is a contour map of the drawdown after 50 years of operation; this result resembles that of Durbin (2000). I simulated stopping the project after 50 years of operation. I want to project the response of the groundwater system out to 100 years-50 years after the project is stopped. The long-term responses were not examined by the previous investigators or the by those who commented on the either the Draft or the Supplemental EIR/EIS.

G42-147

GROUNDWATER SYSTEM RESPONSE-100 YEARS

It is the response of the system after the project is stopped that shows the persistence of impacts. Figure 6 is a contour map of the drawdown at 100 years-50 years after the project is stopped. The system has recovered in the area of the project. The drawdown in this area at year 50 was more 200 feet now it is only approximately 50 feet. Figure 7 is a plot of drawdown near the project.

Of greater interest are the drawdowns up Fenner Valley, and in the vicinity of Bristol Lake playa. At 100 years the 1-foot drawdown contour is several miles further north in Fenner Valley. Where the drawdown beneath Bristol Lake was 10 feet at 50 years it is now 20 feet at 100 years. (Remember we stopped the project after year 50.)

Figure 8 is a location map for three hypothetical observation wells: 1) a well directly beneath Bristol Lake, 2) well SCE 5 about halfway between the project and Bristol Lake, and a well near Danby in Fenner Valley. Figure 9 is a plot of the drawdown at each of these locations. Of interest is the well at Danby where the drawdown was only approximately 3 feet at 50 years, however the drawdown is more than 10 feet at 100 years, and is still continuing to decline. At observation well SCE-5 we have approximately 20 feet of recovery at 100 years from a maximum drawdown of 50 feet at 60 years.

Figure 7 is the drawdown immediately beneath the recharge pond and at 1 mile from the center of the recharge pond. The water levels beneath the facility recover, but the recovery at 100 years still leaves a drawdown beneath the facility of 50 feet. The 50 feet of remaining drawdown is largely the result of the large overdraft that the project imposes on the groundwater system. As suggested above, if the recharge to the Fenner/Cadiz valley is 5,000 to 6,000 ac-ft/yr the cone of depression will take several hundreds of years to totally refill after stopping the project.

Environmental Implications of Water Table Drawdown

The environmental impacts of drawdown in the alluvial aquifers are hard to predict on the adjoining mountain ranges. The mountain ranges are composed of older bedrock that tends to be much less permeable. To the extent that the drawdown in the valleys migrates into the mountain ranges springs can be impacted in the mountains. Looking at the cone of depression created by the project the Marble Mountains will be most impacted, especially the southeast tip of the Marble range that forms the west side of Fenner Gap.

The drawdown also migrates up Fenner Valley. The drawdown is much smaller but there could be impacts on the Clipper Mountains.

The drawdown beneath the norther part of Cadiz Lake in the vicinity of the Cadiz Dunes

Wilderness Area ranges from 30 to 5 feet after 50 years, and increase in area by 100 years. The drawdown in this area will greatly reduce, or eliminate groundwater discharge to the wilderness area. Stopping the project after 50 years does not eliminate the drawdown or restore groundwater discharge at year 100-the impacts persist well beyond 100 years.

G42-149

The same impact is true for Bristol Lake. Drawdown under the lake is significant at 50 years and is larger to 100 years. This reduces or eliminates groundwater discharge under major parts of Bristol Lake. This has the tendency to dry out the lakebed. This in turn may lead to more dust from the lake area.

Brine Impacts

Beneath Bristol Lake is a body of highly saline groundwater. As drawdown occurs beneath the recharge facility the brine will move toward the cone of depression. The movement of the brine will be slow. It will take time to occur because the cone of depression moves slowly out from the project toward Bristol Lake. However once the brine starts moving it will be hard to stop. As we have seen, water levels beneath the lake continue to decline to 75 years; the water levels do not recover in 100 years-the cone of depression remains at 100 years-see Figures 6 and 7. Since the gradients are still toward the project brine will move in this direction. The movement of the brine is more difficult to predict since the brine is at its densest 7 time more concentrated than seawater.

G42-150

Even so we can use a solute transport groundwater model to investigate the motion of the brine beneath Bristol Lake. I used the USGS model MOC (Konikow and Bredehoeft, 1978) to project the movement of the brine. The MOC model does not take into account the differences in density between the brine and freshwater; the results are therefore only approximate. Even so, much of the water of interest has only modest concentrations of salt. In the more dilute regions of most interest the difference in groundwater flow velocity caused by differences in water density are small, and the MOC model will provide reasonable estimates of the brine movement.

Figure 10 is a plot of total dissolved solids at the observation well SCE 5. Changes in dissolved solids do not occur at this location until the project has operated for 30 years. The total dissolved solid content reaches 1,000 milligrams per liter (mg/l) at approximately year 50. From year 50 to year 100 the dissolved solids continue to increase, at year 100 they are approximately 7,500 mg/l. The dissolved solids are continuing to increase at year 100. Figure 11 is a contour map of the simulated Bristol Lake brine distribution at year 100. One can see that the brine has migrated toward the project from beneath the lake. Again, I would caution as stated above this simulation neglects the impact of the brine density on the groundwater flow and should only be considered approximate; however, it indicates the direction of continued brine movement.

INFEASIBILITY OF MONITORING & CONTROL

The Cadiz project entails a substantial investment in public funds to build the infrastructure-pipeline, pumping station, recharge basin, and well field. Monitoring the groundwater system by observing water levels and water quality will provide some early warning that the project operation is creating adverse environmental impacts. However as we have seen above the early warning signs are subtle, at best.

The Supplemental EIR/EIS-Monitoring and Control

A number of individuals in commenting on the draft EIR/EIS suggested that the recharge indicated the Draft Report was much too large-approximately an order of magnitude too large. The Suplemental Draft EIR/EIS did not address this issue directly; a different tack was taken. The Supplemental Report proposed extensive monitoring with the idea that adjustments could be made to the project operation that would ameliorate adverse impacts.

The idea put forward in the Supplemental REIR/EIS is that early signs of adverse impacts will trigger modifications in the project operations. Exactly how the operations will be changed is not specified; however one obvious option is to halt the project. The problem with this idea is that once the project has operated for several decades the groundwater system will be sufficiently perturbed that stopping the project will not stop the adverse impacts.

Once the groundwater system is perturbed that perturbation will work its way through the system at a rate dictated by the response time of the groundwater system. It is much like a freight train put into motion; once it has started moving it will difficult, if not impossible to stop the system from responding.

If one is sufficiently alert there will be subtle early warning signs of trouble ahead. However the early warning will sufficiently obscure as to not halt the project. As suggested above, once the project has operated for several decades it will be impossible to halt the adverse impacts even if the project is stopped. Let me try to illustrate my point with results from the modeling.

Water Levels in Selected Observation Wells

Using the groundwater flow model I projected the drawdown at several observation wells to illustrate the point about the difficulty associated with monitoring and control of the Cadiz Project. Consider for example the drawdown in Fenner Valley as observed in the observation well near Danby-see Figure 9. This well has almost no drawdown in 40 years of project operation. The drawdown is approximately 3 feet in 50 years, but this is only the beginning. The drawdown is 10 feet in 100 years, 50 years after the project was shut

down, and the drawdown at Danby is continuing to decline. At 100 years the drawdown is continuing to migrate up Fenner Valley to the north.

The monitoring situation is a bit clearer beneath Bristol Lake-see Figure 9. There is no decline in the water table beneath the center of the lake out to 20 years. By 30 years the drawdown is approximately 7 feet and by 50 years it is approximately 12 feet. Again this is only the beginning, the drawdown goes to 20 feet in 80 years and remains at 20 feet to 100 years. Even though the project was stopped after year 50, there is virtually no recovery in water levels beneath the lake in 100 years.

G42-153

Water Quality in Observation Well SCE 5

I ran the groundwater transport model to simulate the movement of the brine beneath Bristol Lake. Observation well SCE 5 is situated approximately halfway from the proposed project and Bristol Lake playa-see Figure 8. The total dissolved solids, as observed in this observation well, are plotted in Figure 10 above. Notice that the dissolved solids start to increase slightly in year 30. By year 45 it increases to 1,000 milligrams per liter (mg/l); by year 50 the concentration is 1,300 mg/l. This water is still useable; but again this is only the beginning. The concentration increases to more than 7,500 mg/l by 100 years, and it is still increasing.

G42-154

The point shown especially by the brine movement is that we would have to halt the project very early on in order for there not to be a very significant degradation in water quality at this location. I selected only one location to make my point, but this is not an isolated location; the degradation in water quality between Bristol Lake and the project will be widespread and continuing out to at least 100 years. The groundwater flow into the cone of depression will still be significant at 100 years.. The groundwater flow from the region of Bristol Lake will bring with it brine from beneath the lake.

CONCLUSIONS

There are several conclusions to be drawn from this analysis:

1. The Draft EIR/EIS overestimated the recharge by approximately an order of magnitude. The recharge rather than being 50,000 ac-ft/yr is approximately 5,000-6,000 ac-ft/yr.
2. Pumping native groundwater at rates proposed in the project will create a large overdraft on the system. If the recharge is as suggested above, approximately 6,000 ac-ft/yr, the overdraft in 50 years of project operation will be of the order of 1,400,000 acre-feet. The overdraft will take 233 years to balance without any other pumping or natural discharge from the system.
3. The large overdraft creates a deep cone of depression that creates adverse environmental impacts-large and widespread water table drawdown, and a movement of brine from beneath Bristol Lake toward the project.
4. Although the project is terminated after 50 years of operation the impacts on the groundwater system will persist well beyond 100 years. In many locations the largest impacts of project operation will occur well after the project is stopped.

I have looked at what might be viewed as a worst-case scenario-the project operates for 50 years and then is terminated. The impacts of the project are larger after 50 years of operation. For example, the drawdown associated with the project will persist and at more distant locations be larger after the project is stopped. The same ideas apply to shorter periods of project operation. Stopping the project after several decades of operation will create adverse impacts well after the project is stopped.

The early warning signs of adverse impacts will be subtle in many, if not most, of the monitoring. For example, small drawdowns due to the project can be obscured by the impacts of nearby pumping or unusual climatic events. Imagine trying to identify an impact of the project in the monitoring well at Danby; this well only starts to have a project impact at year 40. Even so, the drawdown at Danby is more than 10 feet at year 100.

Even though the Supplemental EIR/EIS suggests otherwise, it will be difficult to stop the Cadiz Project that took a major public investment when the warning signals are subtle. Stopping the project does not stop to the adverse impacts. Again, once the groundwater system is perturbed significantly the impacts will migrate slowly through the system at a rate dictated by the physics of groundwater response.

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Figure 1.
Geologic Map
showing model area and grid.

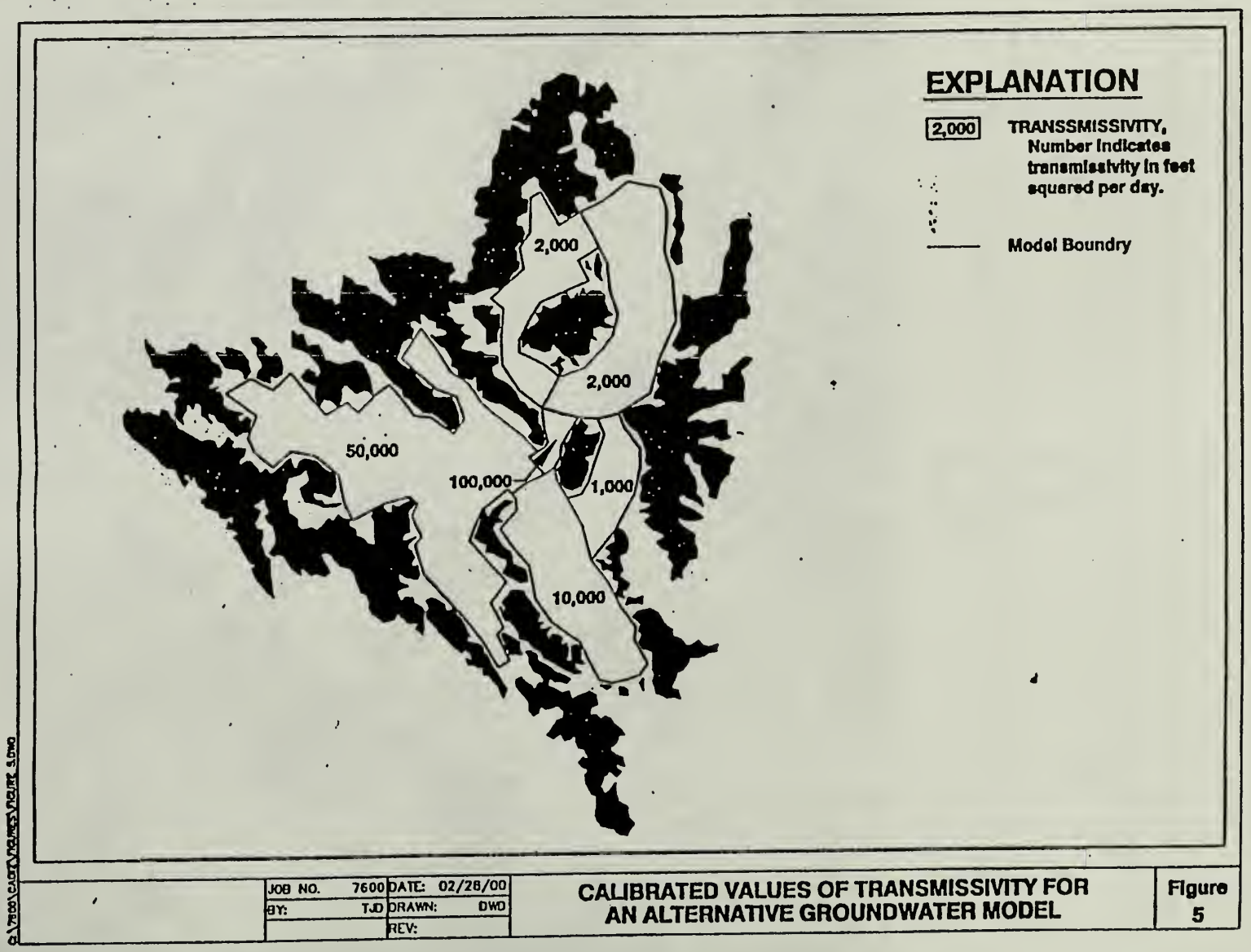


Figure 2. Transmissivity distribution map (from Durbin, 2000).

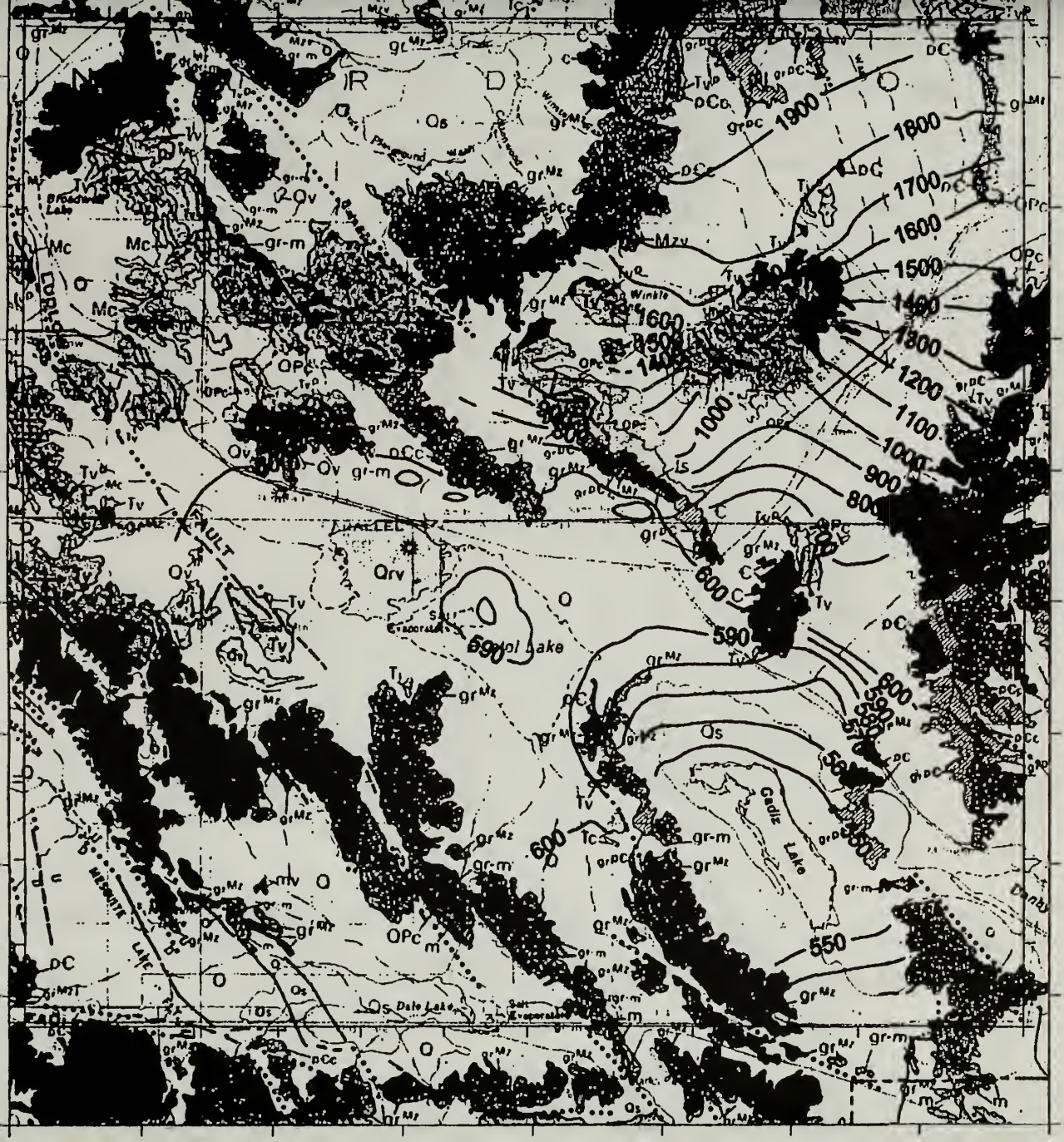
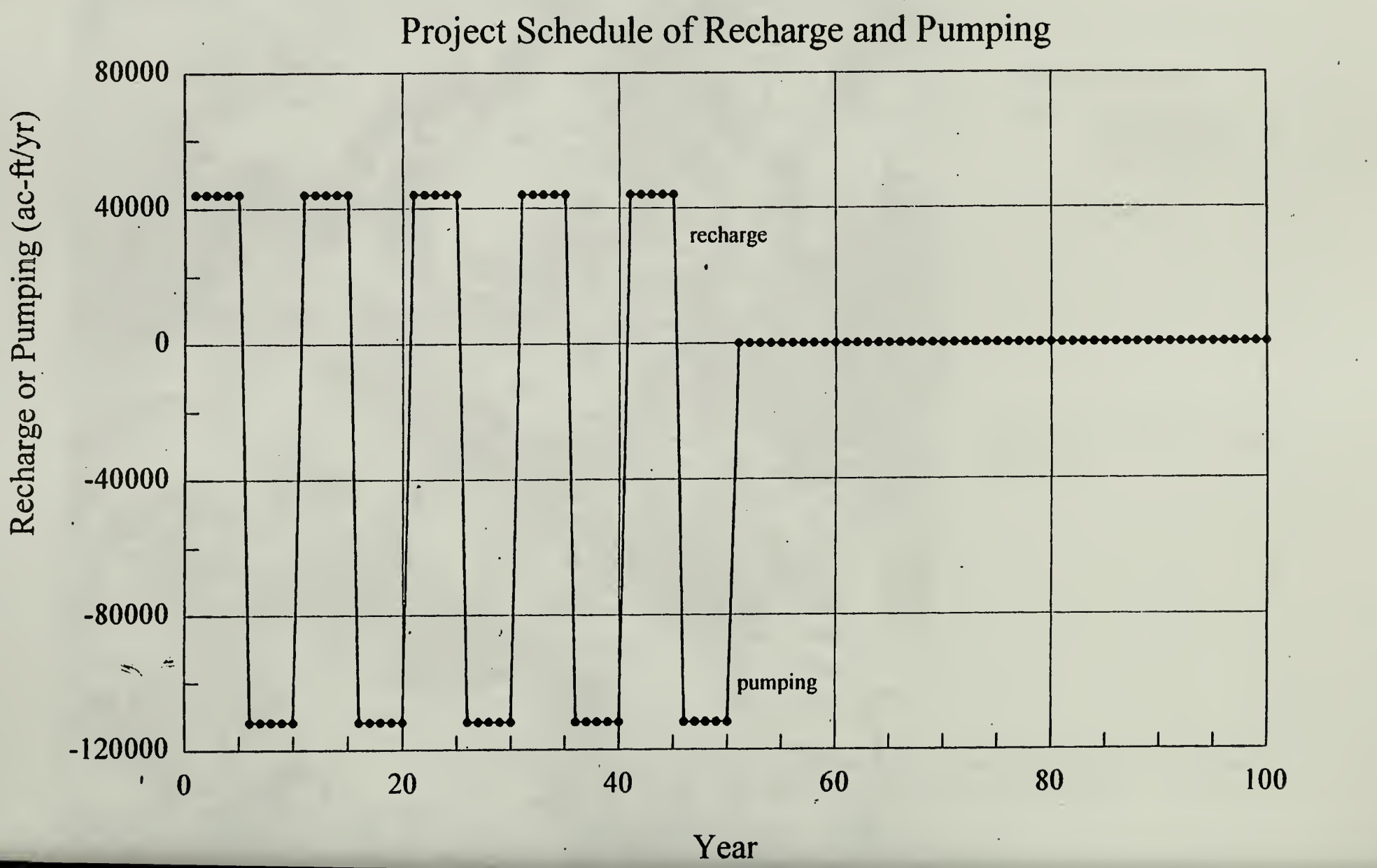


Figure 3.
Simulated initial head (ft)


Project Schedule of Recharge and Pumping
Recharge or Pumping (ac-ft/yr)
80000
40000
0
-40000
-80000
-120000
recharge
pumping
0
20
40
60
80
100
Year

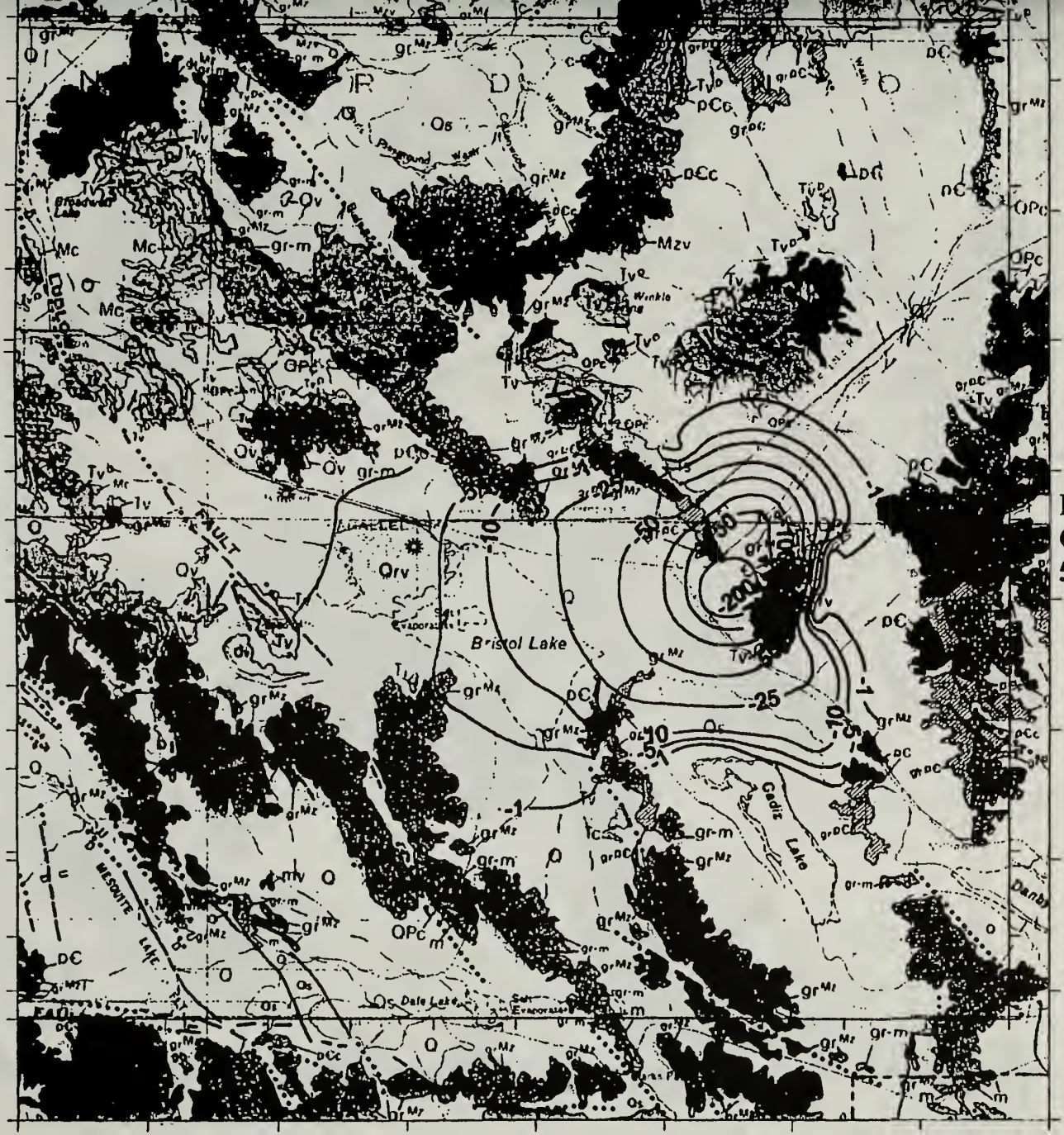


Figure 5.
Computed drawdown (ft)
50 years of project operation

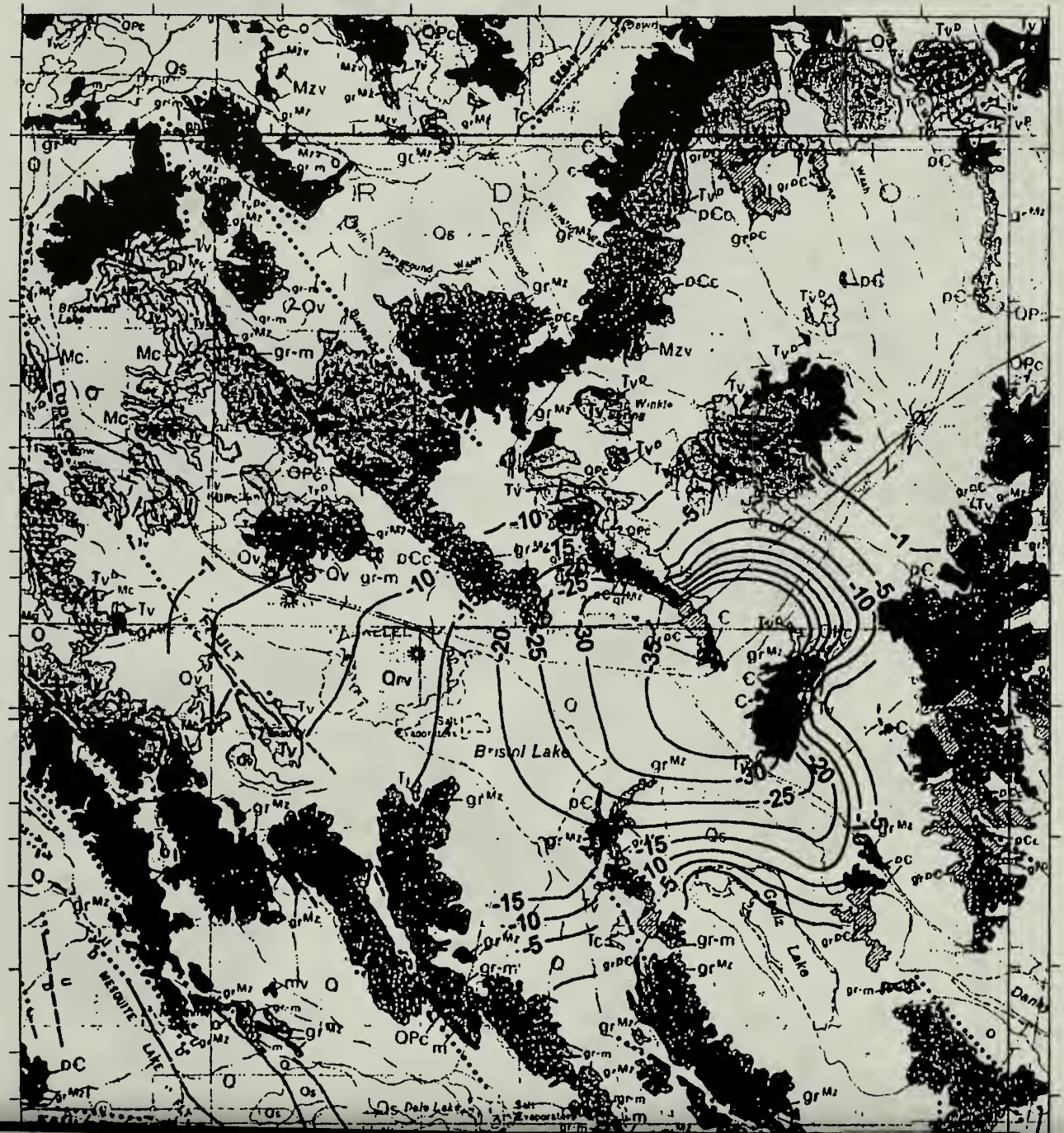


Figure 6.
Computed drawdown (ft)
at year 100
Project halted after year 50

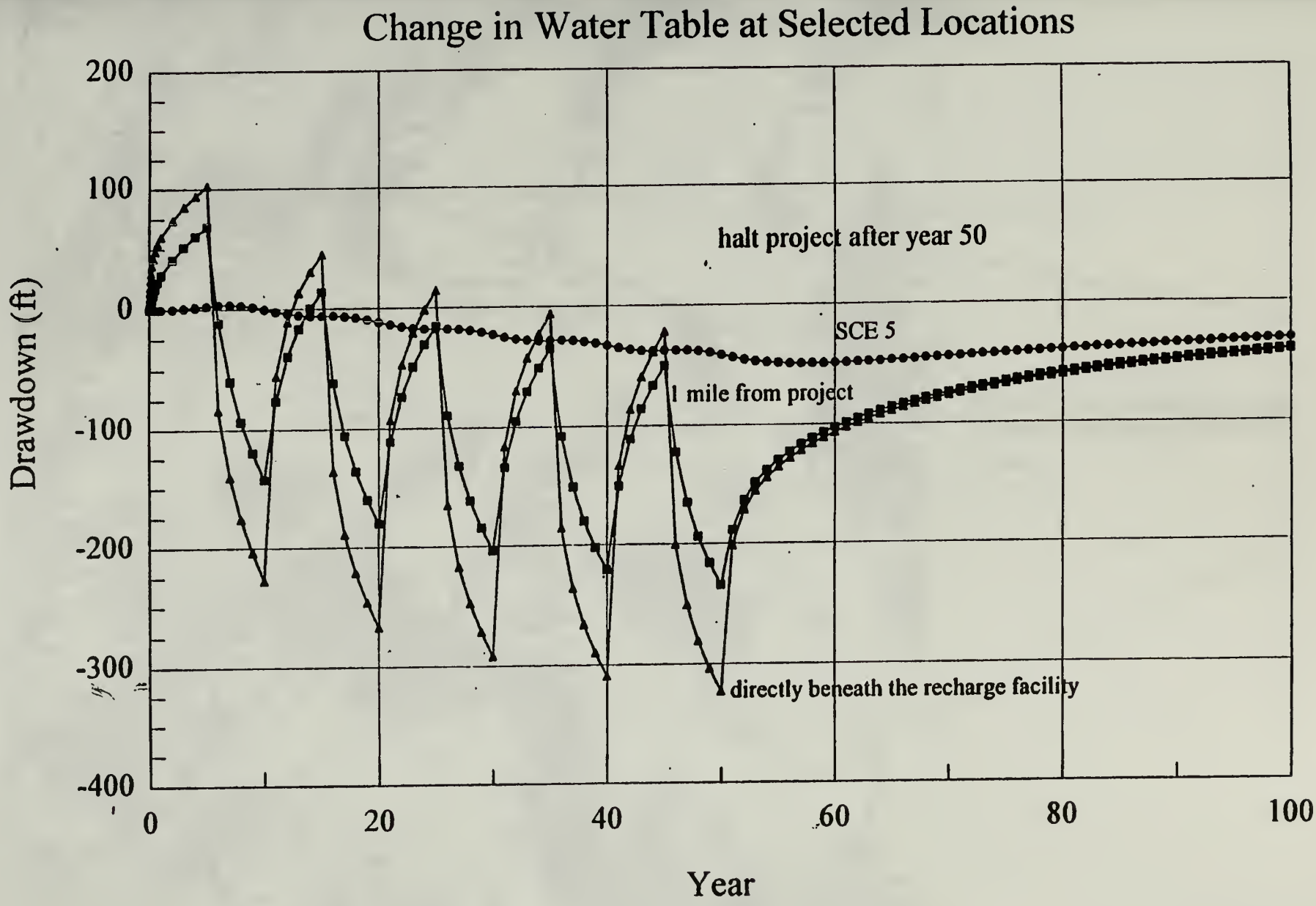


Figure 7. Computed drawdown near the project.

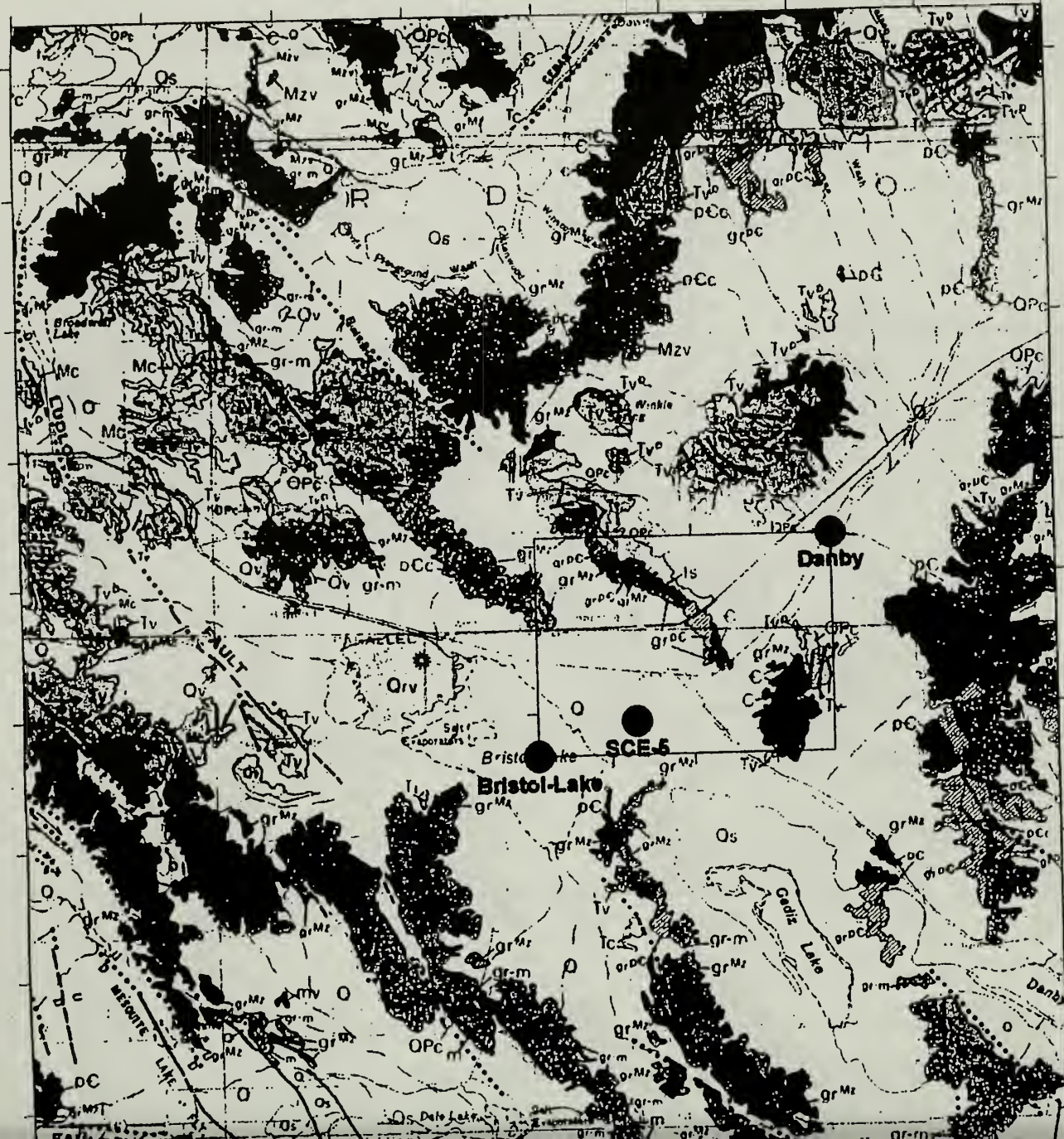


Figure 8.
Location map of three hypothetical observation wells.

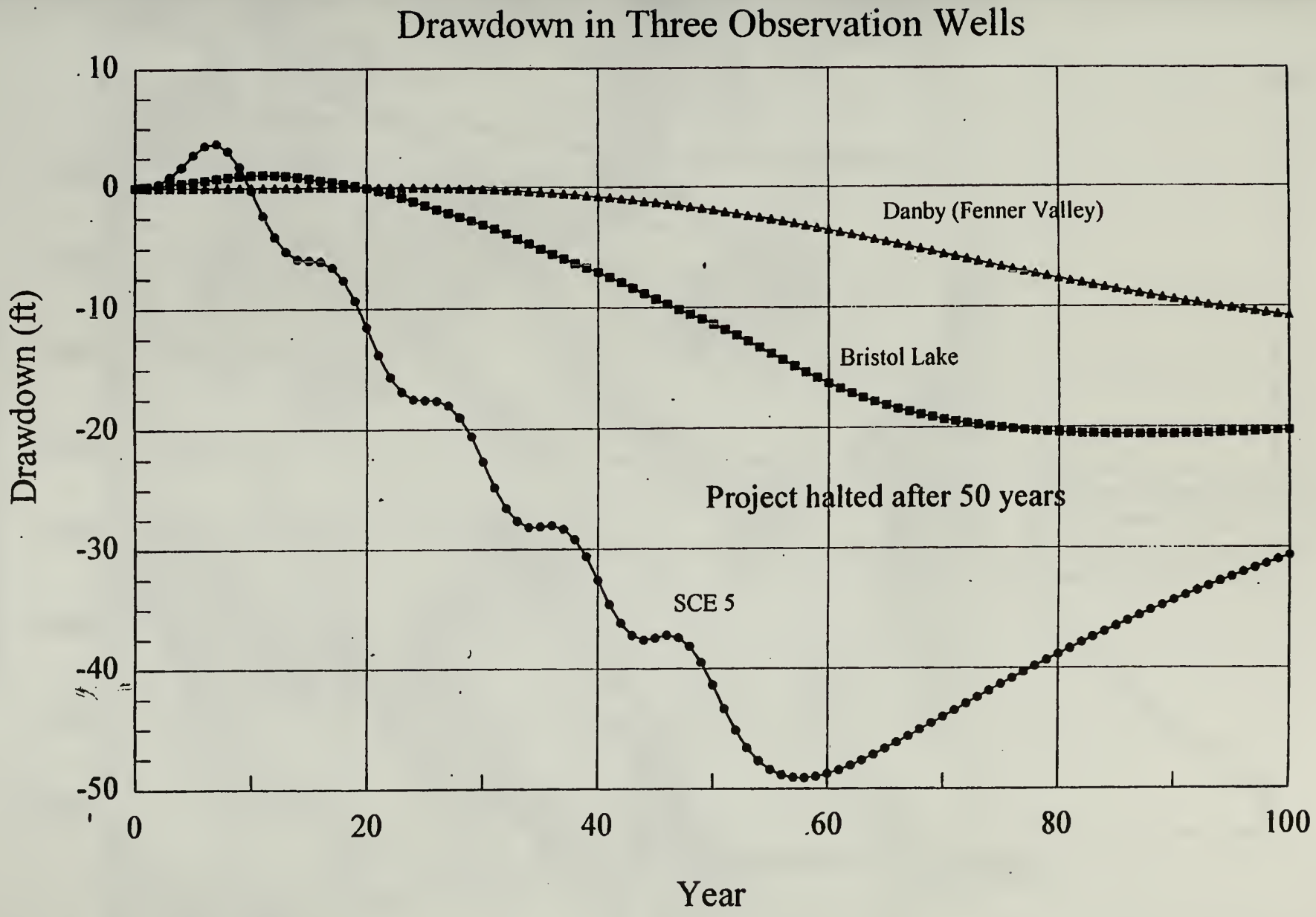
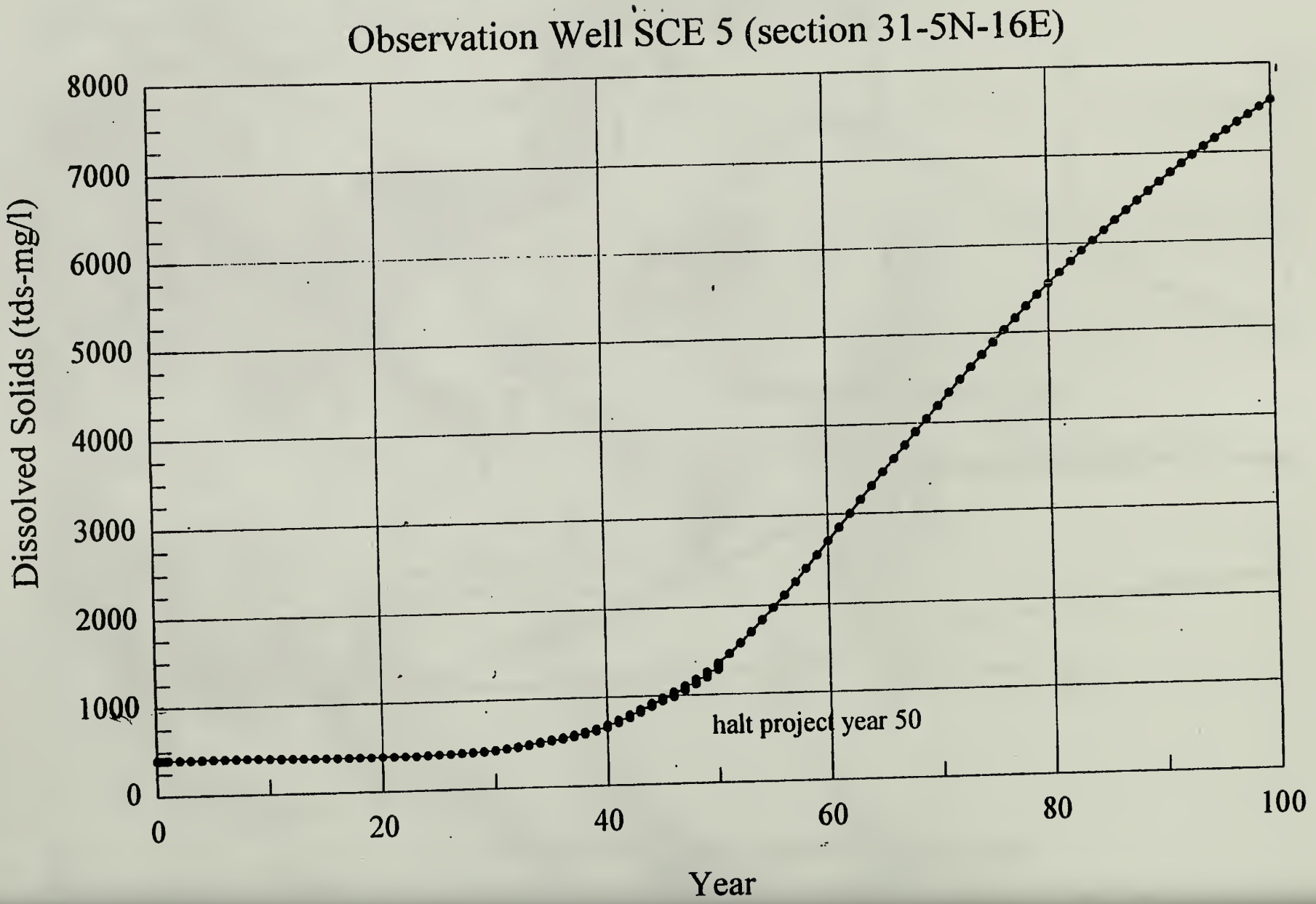


Figure 9. Computed drawdown in three hypothetical observation wells.


Observation Well SCE 5 (section 31-5N-16E)
Dissolved Solids (tds-mg/l)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
20
40
60
80
100
Year
halt project year 50

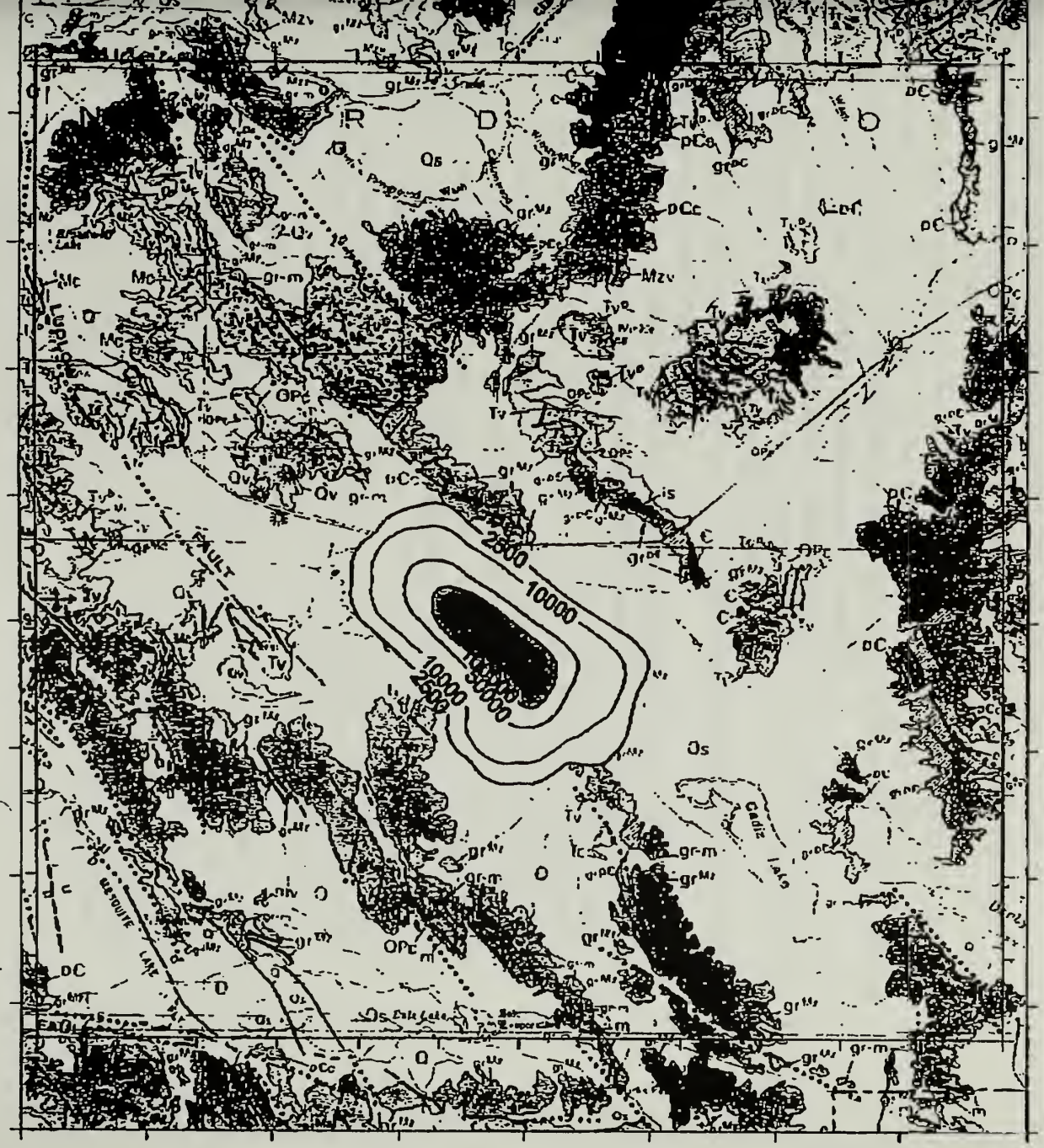


Figure 11.
Simulated Brine Distribution from Bristol Lake at year 100
Project Halted after year 50
Contours in TDS (mg/l)

ATTACHMENT TO COMMENT LETTER G42

Review of the Draft Environmental Impact Report/Environmental Impact Statement and Supplement to the Draft EIR/EIS (SCH. No 99021039)

Cadiz Groundwater Storage and Dry-Year Supply Program

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January 7, 2001

Review

The Cadiz Groundwater Storage and Dry-Year Supply Program (the Cadiz Project) has been proposed as a means to store Colorado River water imported from the Colorado River Aqueduct in the groundwater basins underlying a portion of the Cadiz and Fenner valleys in California's Mojave desert. The mixed source water would then be extracted to provide water to the customers of the Metropolitan Water District of Southern California.

A review of the Draft Environmental Impact Report/Environmental Impact Statement and Supplement to the Draft EIR/EIS (SCH. No 99021039) Cadiz Groundwater Storage and Dry-Year Supply Program was undertaken to specifically evaluate the potential for this project to impact upon the air quality environment in this region of the Mojave desert. Air quality will be affected by the construction, maintenance, and by long-term impacts on the environment brought about by this project. G42-162

This review foremost raises questions concerning potential adverse impacts to the air quality, and in particular mineral dust contributions to particulate matter loading. This report identifies components in the EIR/EIS and its supplement where there appears to be insufficient data to allow critical decisions to be made regarding the potential levels of impact to the air quality environment that could be brought about by the Cadiz Project and its proposed management plan.

Specifically, there is a lack of information concerning the following aspects of the project and management plan, which may have greater environmental degradation effects beyond the claims of the EIR/EIS and its supplement:

The potential impacts of drawdown of the brine layer below Bristol and Cadiz Dry Lakes on dust emissions.

The discussion in the draft EIR/EIS and its supplement recognize that the brine water under Bristol and Cadiz Lakes is hydraulically connected with the freshwater aquifer adjacent to the lakes. The freshwater aquifer would be directly impacted by the Cadiz project. Information presented in the EIR/EIS estimates that drawdowns of between 10" and 25" are possible under the dry lakes during the lifetime of the project (EIR/EIS pgs. 5-100 to 5-103). These estimates of drawdown levels are also disputed; see Bredehoeft (2000) for a more detailed account of this potential impact created by the Cadiz Project. The lakebeds can respond to the lowering of the brine layer in several ways. However, sufficient knowledge is lacking to be certain which response may occur. If near-surface brine water sustains the salt-crusted surface, a drawdown of this magnitude might cause its destabilization making it increasingly susceptible to entrainment by the wind. This would result in an increase in dust emissions. The actual response of the surface to a lowering of the brine layer is not known at this time.

The response of the surface crust will depend in part on its composition as well as the dissolved load in the brine water. For example, at Owens Lake, CA, the surface crust becomes extremely susceptible to entrainment by the wind when hydration of the sodium carbonates and similar salts occurs, creating highly erodible conditions on the lakebed surface. If the playa crusts in question are sodium chloride or some other salt that does not effloresce in a hydrated state, then altering the groundwater may not change its G42-163

inherent susceptibility to wind erosion. An analysis and comparison of the surface sediment characteristics and the brine water chemistry of Bristol and Cadiz lakes to Owens Lake conditions would allow for a better understanding of the potential for Bristol and Cadiz lakes to become more susceptible to dust emissions.

Even if the salt crust does not change its chemistry or its physical structure as a result of drawdown it must still be noted that any drying of the surface will result in the potential for increased wind erosion and dust emissions. Reducing water content in the pore spaces of the sediments increases the susceptibility to entrainment by wind. The loss of moisture from the surface sediments may also result in an increase in the amount of loose sand-sized particles that were once held in place by moisture. If large amounts of loose sand become available it will upon mobilization by the wind provide the most effective mechanism for liberating dust from the surface.

Potential impacts to air quality due to dust mobilization at Bristol and Cadiz dry lakes.

The monitoring plan to measure groundwater levels beneath the lake, soil moisture, evapotranspiration, wind speed, and wind direction at the lake surfaces described in the supplement to the EIR/EIS (pg. 6-10) is necessary and would have to be in place during the lifetime of the project to provide the information required to maintain an effective management strategy for the control of dust emissions. The drawdown of the brine layer is not projected to occur until 15 years into the project (EIR/EIS Fig. 5-15, pg. 5-104). In addition to the environmental parameters that have been identified in the supplement to the EIR/EIS (pg. 6-11) a recommendation is made here to include measurements of the saltation activity on the lakebed.

Saltation, the bouncing of sand-sized particles as they are moved by the wind is the key component of the dust emission process. The saltating particles effectively drive most of the dust emission process as they impact upon the surface, ejecting fine grained particles as they do so and also abrading dust-sized particles from larger particles. If more sand-sized particles become available for transport by wind due to a drying out of the surface, dust emissions from the lake surfaces can increase. The amount of dust injected into the air-stream during saltation scales approximately to the third power of the horizontal saltation flux (Shao *et al.*, 1993). An increase in the supply of sand that is susceptible to entrainment by wind will result in increased dust emissions.

Saltation activity can be monitored with commercially available instrumentation. The SENSIT, an instrument designed to measure saltation activity should be an integral part of an instrumentation network designed to monitor dust emissions from the dry lakebeds. The Great Basin Unified Air Pollution Control District, Bishop, CA, uses these instruments extensively to monitor saltation activity on Owens Lake, CA. They use the saltation activity data to infer the magnitude of the PM10 flux from Owens Lake. It offers a direct indication that the dust is being generated locally and is not being transported from more distant sources. A network of SENSITs on the lakebeds would provide an effective method to monitor on-lake saltation and dust emission activity through time and over the space occupied by the lakebeds.

The corrective measures proposed to ameliorate Cadiz-project impacts that lead to

dust emissions from Bristol and Cadiz lakes are not adequate to deal with the short time scales associated with dust emission processes. The proposed mitigation activities include one or more of the following options: 1) reduction in pumping from project wells, b) revision of pumping locations within the project wellfield, c) stoppage of groundwater extraction for a duration necessary to correct the predicted impact, or d) delivery of Colorado River water, if available, to the project spreading basins. None of these actions can provide the means to control a synoptically (weather) driven process like dust emissions. If it is dry and winds exceed the threshold value required for entrainment, dust emissions are likely to occur if there is a supply of available materials. Forecasting the occurrence of such an event beyond the scale of 24 to 48 seems unlikely. The brine groundwater system cannot respond to increased additions of Colorado river water in the project spreading basins, or by reduced pumping in the wellfields by rising to the surface (or near enough to the surface) to increase moisture content to levels sufficient to bind particles together in a time frame that could halt the dust emission process effectively. G42-168

A probabilistic approach could offer a better opportunity to use the brine layer as an effective control measure. This would be based on an understanding of the dust climatology of the area and the responsiveness of the brine layer to manipulation via increased water delivery to the spreading basins and/or decreased groundwater extraction. A management plan would have to be developed that would ensure the brine layer was effectively contributing sufficient moisture to the surface layer during periods when the lakebeds were most susceptible to wind erosion. This would most likely occur during periods of the year with the highest wind speeds and the greatest likelihood for dry surface conditions. The response of the brine layer to manipulation via the fresh groundwater system likely involves time lags on the order of weeks, months or years, but definitely not hours or a few days. The manipulation of the level of the brine layer to meet the requirement that the surface be resistant to wind erosion during the periods of highest erosive conditions (e.g., high winds, low humidity) may be at odds with the demands for the extraction of water and the logistics of managing a profitable water delivery schedule. G42-169

Before initiation of the Cadiz Project, further consideration must be given to mitigative actions that are designed to ensure dust emissions from Cadiz and Bristol lakes do not exceed levels of compliance for Federal and State air quality standards. At this time the actions being carried out at Owens Lake, CA, serve as a model for the development of control measures and a management plan for controlling dust emissions from a playa in order to meet Federal and State air quality standards. Key control methods being tested at Owens Lake, CA include the addition of water to the surface sediments using shallow flooding techniques, and the establishment of vegetation to control dust emissions. Both methods require the use of a readily available supply of water. The costs associated with a dust control system on a playa are not inconsequential. Who would bear the costs of such a system should be considered in the context of the Cadiz Project. G42-170

Air quality analyses related to mobilization of lakebed dust.

The views expressed by the NPS concerning the monitoring of air quality to determine degradation of the visibility and air quality in Critical Resource Areas are also G42-171

supported in this review. This review also levels several criticisms at the proposed monitoring plan in general. Two deficiencies are noted in particular. The first deficiency is in the proposed instrumentation for the monitoring network. The second deficiency is the plan to operate an air quality monitoring network for only a limited time span compared with the life of the project and with respect to the time frame in which air quality impacts may occur.

The EIR/EIS proposes the establishment of an air quality monitoring network consisting of four sites (Refer to Fig. 3-4 EIR/EIS Supplement) with meteorological instruments to measure wind speed and direction, light scattering with nephelometers, and digital cameras. The use of open-air nephelometers can be useful to provide an indication that dust emissions are occurring. However, the exclusive use of open-air nephelometers to estimate particulate matter loading from dust emissions that may originate from Bristol and Cadiz lakes is questionable. The nephelometer is an instrument that provides a measure of light-scattering. This measurement is dependent on the amount, size distribution, and scattering coefficient of aerosols in suspension. The units of light scattering (inverse megameters) can be converted to a mass concentration making assumptions for particle shape, size, and composition. This method of assessing particulate matter loading has high levels of uncertainty associated with it due to the assumptions made with respect to the properties of the suspended aerosol. It is recommended in this review that a Federal Reference Method (FRM) or accepted equivalent method be used to measure PM10 at the monitoring sites in addition to the measurement for light scattering. The actual measurement of particulate matter concentration is the basis for determining compliance with air quality standards, not a measure inferred from an indirect method. Collocation of the instruments does present the opportunity to calibrate the more cost-effective nephelometer instrument to a mass based standard. If a calibration relationship is established it may be feasible to remove the FRM instrument at some later time from the monitoring network. In addition, there is a need for measuring saltation activity on the lake, this is a key process affecting dust emissions and will provide data that clearly indicates wind erosion and dust emissions are occurring on the lakebeds. Please refer to the above discussion on potential impacts to air quality due to dust mobilization at Bristol and Cadiz dry lakes regarding monitoring of saltation activity on the lakebeds.

The EIR/EIS and its supplement propose an initial air-quality monitoring program of approximately 5 years. There seems little foresight in having a five-year air quality monitoring program for a project expected to last 50 years. In the first five years of the monitoring program the data would not reveal trends in air quality that result from impacts caused by the Cadiz project. This time period is too short to reveal potential project impacts for several reasons: 1) short-lived effects from the construction phase could be misconstrued as being representative of future conditions, 2) cyclical weather patterns such as the El Niño-Southern Oscillation (ENSO), which can bring increased precipitation levels to the Mojave, may ameliorate or mask Cadiz Project effects through several years, and 3) long-term impacts from the drawdown of the brine layer beneath Bristol and Cadiz Lakes that may result in increased dust emissions may not manifest themselves until after

the first five years of the project.

Potential for emissions from the spreading basins.

The EIR/EIS states during operations of the Cadiz Project, there would be occasions during annual periods of maintenance of the spreading basins when localized PM10 emissions would exceed standards (pg. ES 33). In addition, the report states that when the spreading basins are not undergoing maintenance, and are not being used for water recharge they would not contribute at levels significantly different from those of the surrounding desert environment. Two arguments can be raised to question the veracity of these claims. There is a high probability of emissions at levels significantly greater than the EIR/EIS and its supplement suggest.

The size of an individual spreading basin cell is reported to be 10-15 acres in size with the dimensions described as approximately 400'1,700 to 2,100'. This is an area of between 680,000 to. 840,000 square feet. No information is provided in the EIR/EIS or its supplement as to the amount of sediment that can be expected to be deposited annually in a cell. Conservatively estimating a deposition of only a fraction of an inch (e.g., 0.0254" [1 mm]) of silt and clay material and assuming an average cell area of 760,000 square feet, would result in the need to remove 2,493 cubic feet of silt and clay material from each cell. Assuming 40 cells are in operation then each a total of 99,712 cubic feet of silt and clay material would be removed from the spreading basins. Assuming a bulk density of 93 lbs/ft3, the mass of this material would 4,637 tons. If the deposition of atmospheric dust is taken into account the total amount would be 4,672 tons. The contribution from atmospheric fallout is based on an average deposition rate of 0.002 lbs/ft2 for this area (M. Reheis, pers. comm.). The removal and handling of 4,672 tons of silt and clay material could result in the release of significant amounts of PM10. This could be estimated with an emission inventory approach using emission factor values from AP-42 the U.S. EPA's emission inventory guidebook, and estimates of the activity levels required to remove and handle this material. It is recognized here that actually removing 0.0254" of sediment from a spreading basin is not feasible. There will more likely be a critical deposit thickness that would necessitate maintenance to remove it. Assuming that the critical thickness for maintenance is 0.25" of sediment, the total volume of sediment increases to 638,400 ft3, or a mass of almost 30,000 tons. The handling and storage of this amount of fine-grained sediments would produce significant amounts of dust and raises questions concerning its storage such that it would not represent an additional source of dust.

The storage of this material is of considerable importance. Once it has been removed from the spreading basins it will be in a loose disaggregated state and highly susceptible to entrainment by wind. Estimates of the amount of sediment that would have to be removed from the spreading basins are not provided in the EIR/EIS or its supplement, and so the impact of its removal on air quality is highly speculative. However, it must be recognized that even a conservative estimate of only 0.0254" of deposit yields a considerable amount of sediment when the total area of the spreading basins is taken into consideration. Estimates for the sediment yield in the spreading basins are critical to determine the impact on the air quality environment based on the scale of the

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removal and handling operations and the actions required to safely store this material in a manner that does not leave it susceptible to entrainment by the wind.

The EIR/EIS supplement also states that the spreading basins would not contribute to PM10 levels any more than the surrounding open desert land (pg. ES-33). However, there are critical differences between spreading basin surfaces and typical Mojave desert surfaces.

Typical Mojave desert surfaces will have attained some degree of armoring of the surface over time due to the winnowing of loose erodible material, the formation of a desert pavement, or through the establishment of cryptogamic crusts (i.e., crusts of biologic origin). All these processes result in a reduction in the susceptibility of the surface to wind erosion. The settling basins will be areas where fine-grained materials sediment onto the underlying surface and subsequently dries out when the basins are not being utilized. Depending on the textural quality of the material and its ability to form a durable crust, these smooth surfaces of fine-grained material may be inherently more susceptible to wind erosion and dust emissions than the surrounding deserts. In addition due to the fine-grained texture of the material it will be a much richer source of dust-sized particles than the surrounding desert soils.

The settling basins will be devoid of vegetation and will be subjected to the full force of the wind unlike the surrounding desert environment that has a sparse vegetative cover. Research has shown that even a sparse cover of plants can be extremely effective in controlling wind erosion and dust emissions (Gillies *et al.*, 2000). Plant cover between 6-19% can significantly reduce or eliminate wind erosion depending on the species, the size of the plants, and their distribution (Gillies *et al.* 2000). Without vegetation on the surface the spreading basins may begin to emit dust at lower wind speeds than the surrounding desert surfaces due to a lack of protection from the wind and because of their fine-grained nature.

Disturbance of the Cadiz Dunes.

The EIR/EIS states that due to the construction of the conveyance pipeline, for which three alternative routes are proposed, sensitive dune sands and sand deposits will be temporarily and permanently disturbed. Depending on the routing for the pipeline between 130 to 177.8 acres and 16.5 to 35.2 acres of dunes and sand fields will be temporarily and permanently disturbed, respectively. The disturbance of these soil types that are extremely sensitive to erosion by the wind can create a potentially significant degradation of the local and regional environment. The reasons for this are twofold. Upon initiation of a disturbance in a sand dune community there is a high degree of probability that the disturbance will expand beyond the zone of impact as the sand is transported by the wind along the dominant wind direction vectors. There are many well-documented cases of dune disturbances expanding in areal extent following localized impacts (e.g., Lancaster, 1986; Jungerius and van der Muelen, 1989). How the EIR/EIS has determined what proportions of the dunes and sand fields will be temporarily disturbed or what criteria were applied to determine the size (and hence containment area) of permanently disturbed sandy areas is not provided, and therefore subject to considerable uncertainty.

The disturbed sand areas present a second potential problem beyond the immediate degradation of the dune areas themselves. The mobilized sand can become available for transport onto the Cadiz and Danby dry lakebeds where it may cause increased dust emissions as it is transported across the lakebed surfaces. According to the climate data presented in the supplement to the EIR/EIS (Figure 2-8, 2-9, pgs. 215-216), there exists significant opportunity for winds above the threshold for sand-sized particles (typically around 15 mph measured at 30 feet above the surface) to transport it onto the lakebeds of Cadiz and Danby. The project weather station wind velocity and wind frequency data (Fig. 2-8) shows NE winds occur up to 25% of the time at speeds often in excess of 10 mph. Winds of this magnitude and from this direction could move sand out of the Cadiz dune area, especially if disturbed by the alternative conveyance alignment for the pipeline and onto Cadiz dry lake. Other wind directions that would be problematic for this conveyance alignment would be from the north through to the east. If the eastern alternative were to be chosen, almost 2 miles of quaternary dune sands would be disturbed that could potentially be transported by winds from the west onto Danby dry lake. Westerly winds are the prevailing wind direction according to data presented in Figs. 2-8 and 2-9 of the supplement to the draft EIR/EIS. Should disruption of the sands in the vicinity of the pipeline lead to the transport of this sand onto the dry lakebeds there is an increased potential for dust emissions to occur from those surfaces.

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Conclusions

In summary, there appears to be critical areas in the draft EIR/EIS and its supplement that do not adequately address the potential affects of the Cadiz project on air quality impacts at the local and regional scale. There is insufficient data in the draft EIR/EIS and its supplement to make the claims within the documents that the Cadiz project will have minimal or no impact on air quality for the points discussed above. Critical areas of concerns include: 1) the potential for drawdown of the brine layer beneath Bristol and Cadiz lakes could result in an increase in wind erosion processes and dust emissions, 2) the management plan for dealing with this potential problem, that is the expected ability to manipulate the level of the brine layer, is totally ineffective as a dust control measure in light of the water delivery requirements, 3) other types of control strategies to mitigate the potential dust emission problem and the associated costs have not been adequately explored, 4) the proposed monitoring network is insufficient to determine long term affects on air quality and for determining compliance with National Ambient Air Quality Standards, 5) the potential for dust emissions from the unused spreading basins has been understated, and 6) impacts to the sand and dune areas may result in transport of the sand by the wind onto Cadiz and Danby dry lakes resulting in increased potential for dust emissions.

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For the above stated reasons, the draft EIR/EIS and its supplement do not adequately address the potential impacts of the Cadiz Project on air quality in this region of the Mojave desert. Until these concerns are addressed, this project carries a high degree of uncertainty in terms of its potential to impact the air quality environment and the potential future costs associated with the mitigation of these problem.

References

Gillies, J.A., N. Lancaster, W.G. Nickling, and D. Crawley (2000). Field determination of drag forces and shear stress partitioning effects for a desert shrub (*Sarcobatus vermiculatus*, Greasewood). *Journal of Geophysical Research, Atmospheres* **105** (D20): 24871-24880.

Jungerius, P.D. and F. van der Muelen (1989). The development of dune blowouts, as measured with erosion pins and sequential air photographs. *Catena* **16**: 369-376.

Lancaster, N. (1986). Dynamics of deflation hollows in the Elands Bay area, Cape Province, South Africa. *Catena* **13**: 1390153.

Shao, Y., M.R. Raupach, and P.A. Findlater (1993). Effect of saltation bombardment on the entrainment of dust by wind. *Journal of Geophysical Research* **98** (D7): 12719-12726.



Review of the Draft EIR/EIS and Supplement for the Cadiz Groundwater Storage and Dry-Year Supply Program

Dr. John A. Gillies, Assistant Research Professor
Division of Atmospheric Sciences
Desert Research Institute, Reno, NV

Critical Issues

- The potential impacts of drawdown of the brine layer below Bristol and Cadiz Dry Lakes on dust emissions.

What is the response of the lakebed surface?

1. The salt-crusted surfaces might destabilize making them increasingly susceptible to entrainment by the wind.
2. Any drying of the surface will result in the potential for increased wind erosion and dust emissions.

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Critical Issues (cont.)

- Potential impacts to air quality due to dust mobilization at Bristol and Cadiz dry lakes.

1. Monitoring would be necessary for the lifetime of the Cadiz project as effects may not be significant until later in the project.
2. None of the proposed actions can provide the means to control a weather-driven short time-scale process like dust emissions.

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Critical Issues (cont.)

- Air quality analyses related to mobilization of lakebed dust.

1. The exclusive use of open-air nephelometers to estimate particulate matter loading from dust emissions that may originate from Bristol and Cadiz lakes is inadequate, requires FRM (or equivalent) for PM.
2. Requires on-lakebed monitoring of saltation.
3. Requires monitoring through life of the project.

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Critical Issues (cont.)

- Potential for emissions from the spreading basins.

The emissions of PM_{10} (dust) from the spreading basins is greater than suggested in the EIR/EIS.

1. How much is the annual sediment production? A 0.04" (1 mm) thick layer represents 4,637 tons of fine-grained silts and clays.
2. The material in the dry spreading basins is more susceptible to wind erosion and at much higher emission rates than the native Mojave desert soils.

G42-184

Desert Torto
Committee, I

James Williams
Bureau of Land Management
Desert District Office
6221 Box Springs Blvd
Riverside, CA 92507

ATTACHMENT T
COMMENT LETT
G42

January 4, 2001

Dear Mr. Williams:

Re: Proposed Cadiz Groundwater Storage Project

I am the Executive Director of the Desert Tortoise Preserve Committee, a nonprofit organization that has been devoted to promoting the welfare of the desert tortoise, *Gopherus agassizii*, and its habitat throughout its range in the desert Southwest since 1974. On behalf of the Committee and other tortoise interest groups such as the Desert Tortoise Council that I represent on the Bureau of Land Management's desert planning efforts, I thank you for providing this additional opportunity to review and provide comment on the proposed Cadiz Groundwater Storage Project. As you will see below, we are deeply concerned that the Supplemental Draft EIR/EIS includes new proposals that may have significant negative environmental impacts on both the desert tortoise and its designated critical habitat. These impacts are not addressed in the Supplement or in the original Draft EIR/EIS.

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Page 1-4 of the Supplement states, the "Supplement to the Draft EIR/EIS is focused on water resources and related air quality issues" and further "The Draft EIR/EIS addressed issues such as potential effects on endangered species, wildlife habitat, and cultural resources; these issues are not revisited in this Supplement." These statements are of concern in and of themselves; since by implication any relevant new data on other affected resources has been ignored. In particular, a new federally-funded study has determined that local desert tortoise populations have undergone a recent decline of such magnitude that we feel that a complete reevaluation of the potential impacts of the project to this resource may be warranted. Of even greater concern, however, is that the Supplement to the Draft EIR/EIS includes new proposed actions such as the construction of a series of "observation wells" that are not evaluated for their environmental impacts on the tortoise or its designated critical habitat.

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Although the Cadiz landholdings lie immediately adjacent to designated desert tortoise critical habitat (in fact according to Figure 3-5, Cadiz owns Section 5 of T5N R15E which was designated as critical habitat in the February 8, 1994 determination) neither the original Draft EIR/EIS nor the Supplement include a single map depicting critical habitat boundaries. If this had been done, it would have been quite clear that most of the newly proposed locations for the observation wells are within or along the boundary of designated critical habitat.

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Desert Tortoise Preserve Committee, Inc.

Nowhere in the Supplement are the direct or indirect environmental impacts to the tortoise or its critical habitat of these newly proposed constructions addressed. Indeed, a footnote on page 3-29 states "Installation of any new monitoring facilities would be subject to approval by the applicable regulatory agencies." This is troubling in that the EIR/EIS process appears to have failed to evaluate both the specific impacts of certain proposed actions and the cumulative impacts of the project to a Federal- and state-listed species.

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The proposed actions will impact on critical habitat in two separate desert tortoise recovery units. The proposed spreading basins and those production wells northeast of the basins lie on the southwestern edge of the Chemehuevi critical habitat unit (CHU), which is part of the Northern Colorado Desert Tortoise Recovery Unit. The proposed observation wells to the east of the spreading basin lie within the Chemehuevi CHU. In addition, many of the observation wells proposed to the north of the basin lie in and along the Fenner Valley within the Piute-El Dorado CHU of the Eastern Mojave Desert Tortoise Recovery Unit.

G42-188

The Fenner Valley forms a significant link between the Chemehuevi and Piute-El Dorado critical habitat units. In the Fenner Valley lies the Goffs Permanent Study Plot, which was established in 1977 for the Bureau of Land Management and is one of 15 plots in the California desert where tortoise populations have been surveyed every 4 years or so. This site was surveyed in spring 2000 by a team led by Dr. Kristin Berry of the U.S. Geological Survey. The survey results were widely publicized and were featured in several newspaper articles (e.g. Los Angeles Times, 7/16/00; San Bernardino Sun 8/14/00). According to a July 2000 report of the survey, the population has undergone a severe decline and only 10-14% of tortoises registered in prior surveys remain.

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The Fish and Wildlife Service's 1994 *Desert Tortoise (Mojave Population) Recovery Plan*, notes that predation by ravens may significantly impact on recruitment of juvenile tortoises, that raven populations are increasing in the Fenner Valley (Appendix F, page 11) and that "artificial sources of food and water help sustain more individuals during times of resource shortage" (Appendix D, page 34). Clearly, now that the local tortoise population has crashed, recruitment of juvenile tortoises is at premium if recovery is to occur. However, according to the Draft EIR/EIS, the proposed spreading basins will provide a new water source for birds (page 5-164). We were pleased to see that the original Draft EIR/EIS included a series of proposed mitigations for impacts to non-critical tortoise habitat caused by construction of 35 miles of pipeline. However, the ongoing impact to the tortoise afforded by subsidizing one of its known predators by providing a ready source of water for ravens was not considered in the original EIR/EIS. Given that new data shows a major decline in the local tortoise population, appropriate mitigations must be provided to offset this impact.

G42-190

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According to page ES-3 of the Draft EIR/EIS the purpose of the EIR/EIS is to provide "a detailed project description and an analysis which fully evaluates the potential environmental impacts and mitigation measures for the proposed project. CEQA and NEPA specifically require that an EIR/EIS identify any potential adverse impacts determined to be significant after mitigation." Clearly, given the issues we have identified above, this purpose has not yet been fulfilled and the EIR/EIS process is incomplete since the proposed actions have not been fully evaluated for their impacts on the threatened desert tortoise and its habitat. Obviously, appropriate mitigations cannot be developed without this evaluation.

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Again, we thank you for providing the opportunity to comment on the Supplemental Draft EIR/EIS and we look forward to seeing your response. If we can be of any additional information or assistance please feel free to contact me by telephone at (909) 683-3872 or by e-mail at <dtpc@pacbell.net>.

G42-192

Sincerely,

Michael J. Connor

Michael J. Connor, Ph.D.
Executive Director

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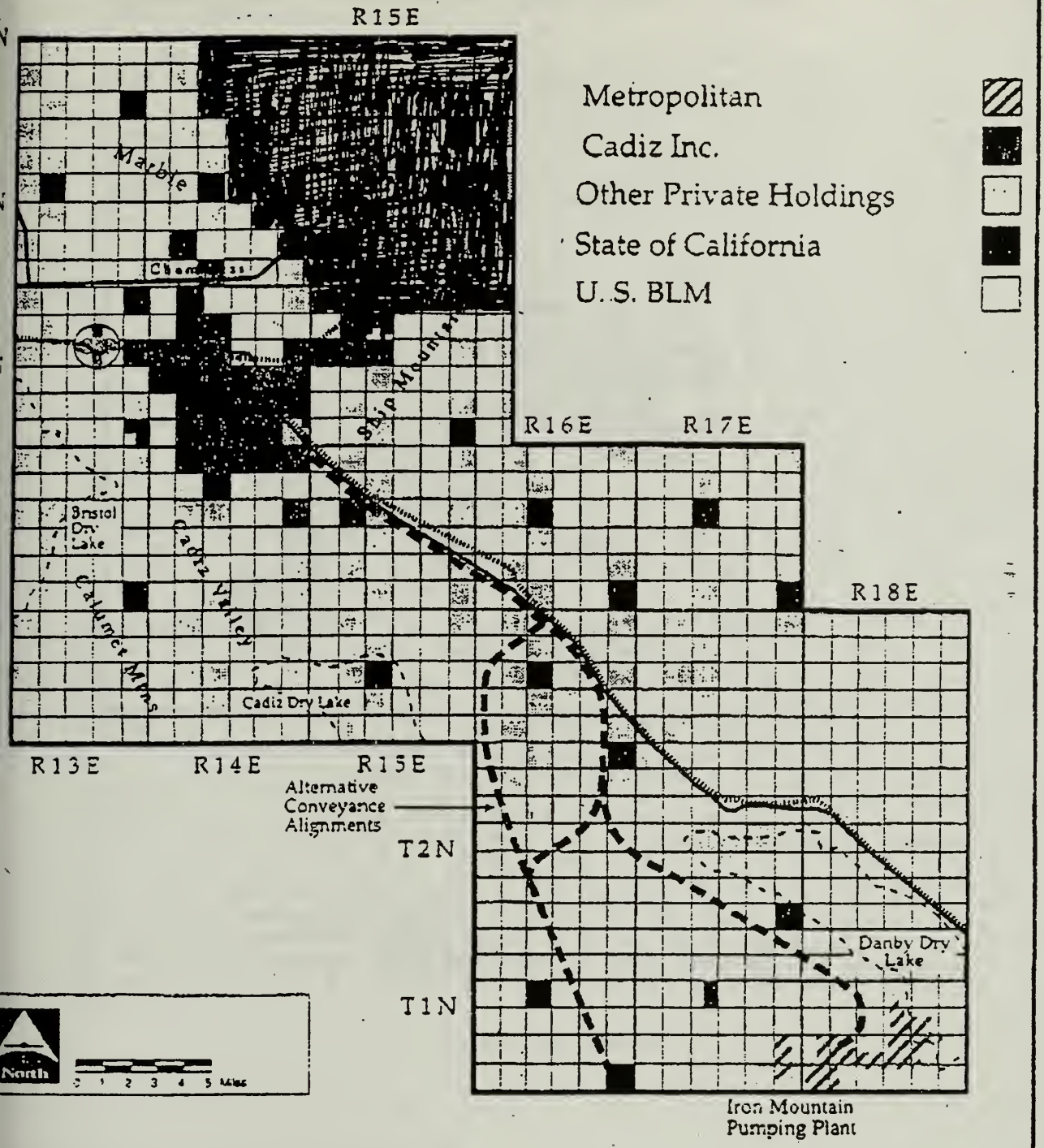


Figure 5.2-1

Cadiz Groundwater Storage & Dry-Year Supply Program

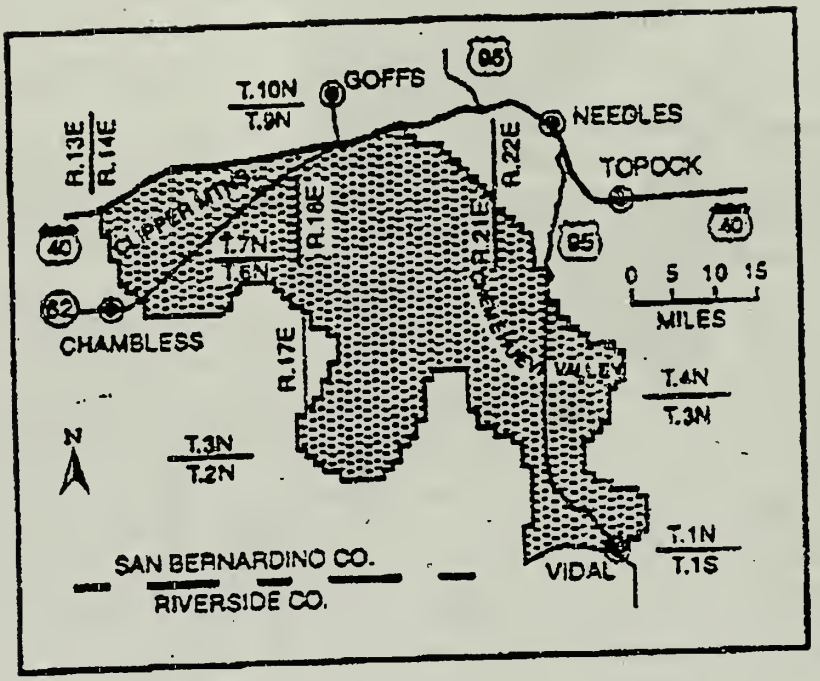
EIR/EIS

Land Ownership in Relation to the Cadiz Project Facilities

OCATION
MAP

F

CHEMEHUEVI



2/8/94

6. Chemehuevi Unit. San Bernardino County. From Bureau of Land Management Maps: Sheep Hole Mts. 1978, Parker 1979, Needles 1978, and Amboy 1991. (Index map location F).

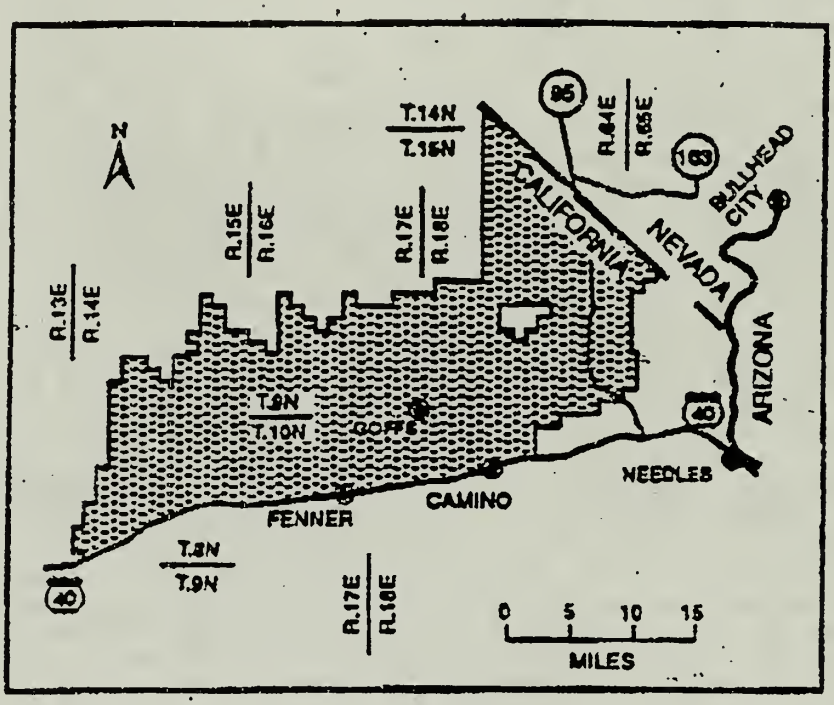
San Bernardino Meridian: T. 1 S., R. 22 E., that portion of secs. 3-5, lying northwesterly of the Atchison Topeka and Santa Fe Railroad; T. 1 S., R. 23 E., that portion of secs. 1-3 lying northerly of the Atchison Topeka and Santa Fe Railroad, except that portion of sec. 1, lying easterly of U.S. Highway 95; T. 1 N., R. 22 E., secs. 1-4, 9-16, 20-29, and 32-36, except that portion of secs. 34-36 lying southerly of the Atchison Topeka and Santa Fe Railroad; T. 1 N., R. 23 E., secs. 1-36, except that portion of secs. 31-34 lying southerly of Atchison Topeka and Santa Fe Railroad; T. 1 N., R. 24 E., secs. 4-9, 16-21, and 29-31; T. 2 N., R. 18 E., secs. 1-5, and 9-14; T. 2 N., R. 19 E., secs. 2-10, and 15-18; T. 2 N., R. 22 E., secs. 1-5, 8-16, 21-28, and 33-36; T. 2 N., R. 23 E., secs. 5-8, 17-21, and 26-36; T. 2 N., R. 24 E., secs. 31 and 32; T. 3 N., R. 17 E., secs. 12, 13, 24, and 25; T. 3 N., R. 18 E., secs. 1-36; T. 3 N., R. 19 E., secs. 1-35; T. 3 N., R. 20 E., secs. 5-8, 18, and 19; T. 3 N., R. 21 E., secs. 1-5, 9-16, 23, and 24; T. 3 N., R. 22 E., secs. 1-36 except sec. 31; T. 3 N., R. 23 E., secs. 2-11, 14-22, and 28-32; T. 4 N., R. 18 E., secs. 1, 2, 10-15, 21-28, and 32-36; T. 4 N., R. 19 E., secs. 1-36; T. 4 N., R. 20 E., secs. 1-12, 16-20, and 29-32; T. 4 N., R. 21 E., secs. 1-17, 20-29, and 32-36; T. 4 N., R. 22 E., secs. 1-35; T. 4 N., R. 23 E., secs. 1-35; T. 4 N. R. 24 E., Secs 6, 7, 18, and 19; T. 5 N., R. 15 E., secs. 1-6; T. 5 N., R. 16 E., secs. 4-6; T. 5 N., R. 18 E., secs. 1-6, 8-17, 22-26, 35, and 36; T. 5 N., R. 19 E., secs. 1-36; T. 5 N., R. 20 E., secs. 1-36; T. 5 N., R. 21 E., secs. 1-36; T. 5 N., R. 22 E., secs. 2-36; (Unsurveyed) T. 5 N., R. 23 E.; protracted secs. 19, and 29-33; T. 6 N., R. 14 E., secs. 1-3, 10-15, and 23-25; T. 6 N., R. 15 E., secs. 1-36; T. 6 N., R. 16 E., secs. 1-23, and 27-34; T. 6 N., R. 17 E., secs. 1-18, 22-26, and 36; T. 6 N., R. 18 E., secs. 1-36; T. 6 N., R. 19 E., secs. 1-36; T. 6 N., R. 20 E., secs. 1-36; T. 6 N., R. 21 E., secs. 1-36; T. 6 N., R. 22 E., secs. 3-10, 15-23, and 26-35; T. 7 N., R. 14 E., secs. 1-5, 8-17, 21-28, and 33-36; T. 7 N., R. 15 E., secs. 1-36; T. 7 N., R. 16 E., secs. 1-36; T. 7 N., R. 17 E., secs. 1-36; T. 7 N., R. 18 E., secs. 1-36; T. 7 N., R. 19 E., secs. 1-36; T. 7 N., R. 20 E., secs. 1-36; T. 7 N., R. 21 E., secs. 1-36; T. 7 N., R. 22 E., secs. 18-20, and 28-34; T. 8 N., R. 14 E., secs. 13, 23-28, and 31-36, except that portion of secs. 13, 23, 24, 26, 27, 28, 31, 32, and 33 lying northwesterly of Interstate Highway 40; T. 8 N., R. 15 E., secs. 9-36, except that portion of secs. 9-12, 17, and 18 lying northwesterly of Interstate Highway 40; T. 8 N., R. 16 E., secs. 1, 2, and 7-36, except that portion of secs. 1, 2, and 7-10 and 11 lying northerly of Interstate Highway 40; T. 8 N., R. 17 E., secs. 1-36, except that portion of secs. 1-6 lying northerly of Interstate Highway 40; T. 8 N., R. 18 E., secs. 1-36, except that portion of sec. 6 lying northerly of Interstate Highway 40; T. 8 N., R. 19 E., secs. 1-36; T. 8 N., R. 20 E., secs. 1-36; T. 8 N., R. 21 E., secs. 7, 17-21, and 27-35; T. 9 N., R. 18 E., that portion of secs. 31-36 lying southerly of Interstate Highway 40; T. 9 N., R. 19 E., secs. 23-29, 31-36, except that portion of secs. 23, 24, 26-29, 31, and 32 lying northerly of Interstate Highway 40; T. 9 N., R. 20 E., secs. 19, 20, and 29-33, except that portion of secs. 19 and 20 lying northerly of Interstate Highway 40 and S 1/2 S 1/2 sec. 27, SW 1/4 SW 1/4 sec. 26, and W 1/2 W 1/2 sec. 35..

[Insert Map 7 here]

LOCATION MAP

H

PIUTE-ELDORADO, CALIFORNIA



2/8/94

8. Piute-Eldorado Unit. San Bernardino County. From Bureau of Land Management Maps: Amboy 1991, Needles 1978, and Ivanpah 1979. (Index map location H).

San Bernardino Meridian: T. 8 N., R. 14 E., secs. 1-4, 8-17, 19-24, 26-30, 32, and 33, except that portion of secs. 13, 23, 24, 26-28, 32 and 33 lying southeasterly of Interstate Highway 40; T. 8 N., R. 15 E., secs. 1-12, 17, and 18, except that portion of secs. 1, 8-12, 17, and 18 lying southeasterly of Interstate Highway 40; T. 8 N., R. 16 E., secs. 1-10, except that portion of sections 1-3 and 6-10 lying southerly of Interstate Highway 40; T. 8 N., R. 17 E., that portion of secs. 1-6, lying northerly of Interstate Highway 40; T. 9 N., R. 14 E., secs. 1-3, 10-15, 22-28, and 33-36; T. 9 N., R. 15 E., secs. 1-36; T. 9 N., R. 16 E., secs. 1-36; T. 9 N., R. 17 E., secs. 1-36, except that portion of sec. 36 lying southerly of Interstate Highway 40; T. 9 N., R. 18 E., secs. 1-36, except that portion of secs. 31-36 lying southerly of Interstate Highway 40; T. 9 N., R. 19 E., secs. 1-24 and 26-32, except that portion of secs. 26-29, 31, and 32 lying southerly of Interstate Highway 40; T. 9 N., R. 20 E., secs. 3-8 and 17-20, except that portion of secs. 19 and 20 lying southerly of Interstate Highway 40; T. 10 N., R. 14 E., secs. 11-14, 22-27, and 34-36; T. 10 N., R. 15 E., secs. 1-3, 9-16, and 19-36; T. 10 N., R. 16 E., secs. 1-36; T. 10 N., R. 17 E., secs. 1-36; T. 10 N., R. 18 E., secs. 1-36; T. 10 N., R. 19 E., secs. 1-36; T. 10 N., R. 20 E., secs. 1-36; T. 10 N., R. 21 E., secs. 3-10, 15-22, and 28-31; T. 11 N., R. 15 E., secs. 9, 15, 16, 21, 22, 25-29, and 33-36; T. 11 N., R. 16 E., secs. 9, 15, 16, 21-23, 25-28, 31, and 33-36; T. 11 N., R. 17 E., secs. 8, 12-17, and 19-36; T. 11 N., R. 18 E., secs. 1-4 and 7-36; T. 11 N., R. 19 E., secs. 1-13, 18, 19, 23-27, and 29-36; T. 11 N., R. 20 E., secs. 1-11, 14-23, and 26-35; T. 12 N., R. 19 E., secs. 1-36; T. 12 N., R. 20 E., secs. 3-11 and 13-36; T. 12 N., R. 21 E., secs. 19, 30, and 31; T. 13 N., R. 19 E., secs. 3-11 and 13-36; T. 13 N., R. 20 E., secs. 19 and 29-33; T. 14 N., R. 19 E., secs. 19 and 29-33.

(Insert Map 9 here)

ATTACHMENT TO COMMENT LETTER G42

COMMENTS REGARDING POTENTIAL IMPACTS TO BIGHORN SHEEP FROM THE PROPOSED CADIZ GROUNDWATER STORAGE PROJECT

Prepared by

John Wehausen, Ph.D.
White Mountain Research Station

Surrounding the Cadiz Dry Lake Basin are numerous mountain ranges occupied by populations of bighorn sheep (*Ovis canadensis nelsoni*) that. The closest of these are part of on of several systems of interacting populations in California labeled the South Central Metapopulation (Torres et al. 1996) and include the Granite-Palen Mountains, Old Woman Mountains, Clipper Mountains, Marble Mountains, Granite Mountains, S. Bristol Mountains, Bullion Mountains, Sheephole/Calumet Mountains, and Coxcomb Mountains. The most recent population estimates for these ranges total about 300 sheep (Torres et al. 1996). Some of these populations have been the subject of intensive demographic research (Wehausen 1992). The largest current population among these ranges is in the Marble Mountains – a population that ha been used as a source of reintroduction stock in desert mountain ranges of California (Bleich et 1990). The populations in the Old Woman and Marble Mountains both are currently recovering form a past disease problem that caused high lamb mortality (Wehausen 1992) and have the potential to become large populations (J. D. Wehausen, pers. comm.). Sheep from the Marble Mountains also have recently colonized the S. Bristol Mountains (Bleich et al. 1996), where a small population is showing steady growth (J. D. Wehausen, pers. comm.).

Surface water is scarce in this region of the Mojave Desert and occurs as point sources. Where they occur in appropriate habitat, these springs are heavily utilized by bighorn sheep dur the hot months to help maintain their water balance. Physiological studies concluded that surfa

vater is essential for the survival of desert bighorn sheep during the heat of summer (Turner 973). While it has been shown that under some circumstances desert bighorn sheep can survive n the absence of surface water (Krausman et al. 1985), such populations appear to survive only in mall numbers. There are no documented cases of large populations of desert bighorn sheep ersisting in the absence of surface water. This has potentially significant implications for bighorn he sheep metapopulation in the region surrounding Cadiz Dry Lake and possibly the adjacent one orth of Interstate 40.

G42-194

Extinction probability increases with declining population size (Berger 1990, Wehausen 999). Metapopulations persist only where colonization rates exceed extinction rates and larger opulations that are temporally more stable can be important to metapopulation persistence as dominant sources of colonists (Gyllenberg 1997). The recent colonization of the S. Bristol Mountains by sheep from the Marble Mountains is an example. If the removal of ground water rom this basin results in the disappearance of springs in surrounding mountain ranges, bighorn heep populations in ranges that lose springs can be expected to shrink to small numbers initially. Eventually this is likely to lead to collapse of at least this portion of the South Central Metapopulation as these small populations go extinct and are not recolonized because of the small umber of total sheep in the region and the associated low number of colonists to recolonize these anges.

G42-195

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attachment to comment letter G-42

Description of Cost Analysis Scenarios of the MWD-Cadiz Project

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University of Colorado-Boulder

January, 2001

In order to estimate costs per acre foot, we have relied on the financial terms stated in the "Principles for an Agreement Between the Metropolitan Water District of Southern California and Cadiz Land Company, Inc." as signed on 14 August, 1998. Two stylized scenarios have been used to estimate the cost per acre-foot of water likely to be provided by the Cadiz Groundwater Storage and Dry-Year Supply Program. Each scenario includes some simplifications from the technical details of the Project to facilitate calculations but each captures the main features of the Project. Each scenario is run with 3 different interest rates: 3%,5% and 7%. G42-196

Scenario I corresponds most closely to "Operational Scenario 4" in Section 3 of the Draft EIR, i.e. early recharge and late recovery-stretching the construction and operation out over time. This scenario includes a 5 year construction period, a 10 year period of recharge at a net rate of recharge of 100,000 acre-feet per year, followed by 20 years of recharge recovery at a rate of 50,000 acre-feet per year which , in turn, is followed by 20 years of native water transfers at a rate of 100,000 acre-feet per year. Total water recovery is 3 million acre-feet. G42-197

Scenario II corresponds most closely to "Operational Scenario 6", i.e. a 2 year construction period, early storage and much more rapid recovery of water than in Scenario I. It includes a 10 year period of recharge at 50,000 acre-feet per year, followed by 20 years of combined pumping, i.e. 50,000 acre-feet of recharged water plus 100,000 acre-feet of native water transfer. Total water recovery is 3 million acre-feet. G42-198

Both scenario analyses are presented in Excel format. The captions used in G42-199

that format are defined below. The base year for the analysis is 2001 and standard discounting at 3%, 5% and 7% is used to calculate present values of costs to MWD and quantities of water-as appropriate for economic cost analysis. Alternative discount rates are used to exhibit the sensitivity of estimated cost per acre-foot to the assumed interest rate.Constant dollars are assumed throughout. The items below correspond to the "Items" at the left margin of the report worksheets.

1. MWD share of EIS costs is $2 million spread over 2 years and compounded to 2001.

2. MWD share of construction costs is $ 75 million, spread over 5 years in Scenario I and over 2 years in Scenario 2. Costs are discounted to year 2001.

3. Gross recharge is 110,000 acre-feet per year for years 2006-2015.

4. Net recharge is 100,000 acre-feet per year for those years.

5. The cumulative recharged groundwater stock increases to 1 million acre-feet at a rate of 100,000 acre-feet per year, then decreases by 50,000 acre-feet per year.

6. Annual "put fees" of $50 per acre-foot are applied to the gross recharge.

7. Annual storage fees of $ 5 per acre-foot are applied to the recharged groundwater stock.

8. Annual "takes" of recharged groundwater are at a rate of 50,000 acre-feet per year for 20 years from 2016-2035.

9. "Take fees" of $40 per acre-foot are applied to the takes.

10. "Prepaid native water" refers to the first 500,000 acre-feet for which payment is made in part following regulatory approval and in part following completion of construction per the "Principles..." document.

11. It is assumed that native water will be extracted at a rate of 100,000 a.f. per year for 20 years, from year 2036 through 2055 in Scenario 1 or from 2016

through 2035 in Scenario 2.

12. Payments for native water, after the prepaid 500,000 a.f. have been extracted, are 95% of $230 or $ 218.50 per a.f., i.e. allowing a 5% discount per "Principles..".

13. An allowance for water quality improvement of $ 5 per a.f. of water recovered is counted as a cost to MWD.

14. Total water recovered is 3 million acre-feet in both scenarios.

15. Total "discounted water" recovered varies according to scenario and discount rate and runs from 312,000 a.f (Scenario 1 at 7 %) to I, 612,000 a.f (Scenario 2 at 3 %). Scenario II. The practice of discounting future physical quantities of water for cost analysis is necessary to distinguish the differences in the times of recovery. It can be shown to be consistent with standard methods of benefit-cost analysis and EPA's just released "Guidelines for Preparing Economic Analyses". A very simple example to illustrate the logic would be to consider 2 projects, each having a present value of costs of $ 100 and each producing 1 unit of water, the first yielding the water in year 2 and the second in year 20. Certainly no one would assert that the cost per a.f is the same for the two projects.

16. The cost analysis consists of discounting (compounding for the EIS costs) all cost items to year 2001 using a discount rates of 3%,5% and 7% (the value of the discount rate could be debated but a non-inflationary rate in this range for a public entity seems reasonable). That is, all cost values are multiplied by 1/(1.0r)*t i.e.1.0r raised to the power t for values occurring (t-1) years in the future from 2001.

17. The cost per acre-foot is calculated by dividing the present value of all costs by the discounted quantity of water yielded.

GH2-200

MWD_Cadiz_scenario1

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.05						
Total EIS Cost (MWD Share), dollars		2,152,500.00	1,102,500.00	1,050,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		68,189,257.56	0.00	0.00	15,000,000.00	14,285,714.29	13,605,442.18
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	0.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	0.00
Annual "Put" Fees, dollars per acre-foot	50.00	34,939,797.40	0.00	0.00	0.00	0.00	0.00
Annual Storage Fees, dollars per acre-foot	5.00	33,658,368.47	0.00	0.00	0.00	0.00	0.00
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	12,588,526.14	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		102,011,569.99	0.00	0.00	55,000,000.00	0.00	0.00
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	33,826,091.81	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	2,759,686.54	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		551,937.31	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		290,125,797.91	1,102,500.00	1,050,000.00	70,000,000.00	14,285,714.29	13,605,442.18
Cost per acre-foot of water taken, present value 2001		525.65					

G42
201

MWD_Cadiz_scenario1

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12,957,563.98	12,340,537.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00
0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00
0.00	0.00	100,000.00	200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00
0.00	0.00	4,309,393.92	4,104,184.68	3,908,747.32	3,722,616.49	3,545,349.04	3,376,522.89	3,215,736.09	3,062,605.80	2,916,767.43	2,777,873.74	0.00
0.00	0.00	391,763.08	746,215.40	1,066,022.00	1,353,678.72	1,611,522.29	1,841,739.76	2,046,377.51	2,227,349.67	2,386,446.08	2,525,339.76	2,284,831.22
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	962,034.20
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	47,011,569.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120,254.27
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,050.85
12,957,563.98	12,340,537.12	51,712,726.99	4,850,400.08	4,974,769.31	5,076,295.22	5,156,871.33	5,218,262.66	5,262,113.60	5,289,955.47	5,303,213.51	5,303,213.51	3,367,119.69

MWD_Cadiz_scenario1

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2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900,000.00	850,000.00	800,000.00	750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00	250,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,061,501.85	1,854,260.92	1,662,082.62	1,484,002.34	1,319,113.19	1,166,562.69	1,025,549.61	895,321.09	775,169.78	664,431.24	562,481.47	468,734.56	382,640.46	303,682.90
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
916,223.04	872,593.38	831,041.31	791,467.91	753,778.97	717,884.73	683,699.74	651,142.61	620,135.82	590,605.54	562,481.47	535,696.64	510,187.27	485,892.64
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114,527.88	109,074.17	103,880.16	98,933.49	94,222.37	89,735.59	85,462.47	81,392.83	77,516.98	73,825.69	70,310.18	66,962.08	63,773.41	60,736.58
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
22,905.58	21,814.83	20,776.03	19,786.70	18,844.47	17,947.12	17,092.49	16,278.57	15,503.40	14,765.14	14,062.04	13,392.42	12,754.68	12,147.32
3,092,252.77	2,835,928.47	2,597,004.09	2,374,403.74	2,167,114.53	1,974,183.01	1,794,711.82	1,627,856.53	1,472,822.57	1,328,862.47	1,195,273.12	1,071,393.28	956,601.14	850,312.12

MWD_Cadiz_scenario1

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2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200,000.00	150,000.00	100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
231,377.45	165,269.61	104,933.08	49,968.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
462,754.90	440,718.95	419,732.33	399,745.08	380,709.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,103,698.16	2,955,903.01	2,815,145.72	2,681,091.16	2,553,420.16
57,844.36	55,089.87	52,466.54	49,968.13	47,588.70	90,645.14	86,328.71	82,217.82	78,302.68	74,573.98	71,022.84	67,640.80	64,419.81	61,352.20	58,430.67
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
11,568.87	11,017.97	10,493.31	9,993.63	9,517.74	18,129.03	17,265.74	16,443.56	15,660.54	14,914.80	14,204.57	13,528.16	12,883.96	12,270.44	11,686.13
751,976.71	661,078.42	577,131.96	499,681.35	428,298.30	90,645.14	86,328.71	82,217.82	78,302.68	74,573.98	3,174,721.00	3,023,543.81	2,879,565.53	2,742,443.36	2,611,850.82

MWD_Cadiz_scenario1

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2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
2,431,828.72	2,316,027.35	2,205,740.34	2,100,705.08	2,000,671.51	1,905,401.43	1,814,668.03	1,728,255.27	1,645,957.40	1,567,578.48
55,648.25	52,998.34	50,474.61	48,071.05	45,781.96	43,601.86	41,525.58	39,548.18	37,664.93	35,871.36
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
11,129.65	10,599.67	10,094.92	9,614.21	9,156.39	8,720.37	8,305.12	7,909.64	7,532.99	7,174.27
2,487,476.97	2,369,025.69	2,256,214.94	2,148,776.14	2,046,453.46	1,949,003.30	1,856,193.62	1,767,803.44	1,683,622.33	1,603,449.84

MWD_Cadiz_scenario1_3pct

G42-202

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.03						
Total EIS Cost (MWD Share), dollars		2,090,900.00	1,060,900.00	1,030,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		70,756,476.04	0.00	0.00	15,000,000.00	14,563,106.80	14,138,938.64
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	0.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	0.00
Annual "Put" Fees, dollars per acre-foot	50.00	41,684,361.05	0.00	0.00	0.00	0.00	0.00
Annual Storage Fees, dollars per acre-foot	5.00	45,682,095.96	0.00	0.00	0.00	0.00	0.00
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	19,671,527.07	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		106,756,527.06	0.00	0.00	55,000,000.00	0.00	0.00
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	82,362,380.58	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	5,181,852.78	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		1,036,370.56	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		374,186,120.55	1,060,900.00	1,030,000.00	70,000,000.00	14,563,106.80	14,138,938.64
Cost per acre-foot of water taken, present value 2001		361.05					

MWD_Cadiz_scenario1_3pct

G42-202

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13,727,124.89	13,327,305.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00
0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00
0.00	0.00	100,000.00	200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00
0.00	0.00	4,744,348.31	4,606,163.41	4,472,003.31	4,341,750.79	4,215,292.03	4,092,516.53	3,973,317.02	3,857,589.34	3,745,232.37	3,636,147.93	0.00
0.00	0.00	431,304.39	837,484.26	1,219,637.27	1,578,818.47	1,916,041.83	2,232,281.74	2,528,474.47	2,805,519.52	3,064,281.03	3,305,589.03	3,048,844.25
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,283,723.89
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	51,756,527.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160,465.49
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32,093.10
13,727,124.89	13,327,305.72	56,932,179.77	5,443,647.67	5,691,640.58	5,920,569.26	6,131,333.86	6,324,798.28	6,501,791.49	6,663,108.86	6,809,513.40	6,941,736.96	4,493,033.63

MWD_Cadiz_scenario1_3pct

G42-202

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900,000.00	850,000.00	800,000.00	750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,804,251.23	2,571,319.89	2,349,578.43	2,138,572.60	1,937,865.14	1,747,035.15	1,565,677.50	1,393,402.31	1,229,834.34	1,074,612.53	927,389.45	787,830.85	655,615.13
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
1,246,333.88	1,210,032.89	1,174,789.22	1,140,572.05	1,107,351.51	1,075,098.55	1,043,785.00	1,013,383.50	983,867.47	955,211.14	927,389.45	900,378.11	874,153.51
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155,791.73	151,254.11	146,848.65	142,571.51	138,418.94	134,387.32	130,473.13	126,672.94	122,983.43	119,401.39	115,923.68	112,547.26	109,269.19
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
31,158.35	30,250.82	29,369.73	28,514.30	27,683.79	26,877.46	26,094.63	25,334.59	24,596.69	23,880.28	23,184.74	22,509.45	21,853.84
4,206,376.84	3,932,606.90	3,671,216.30	3,421,716.16	3,183,635.59	2,956,521.02	2,739,935.63	2,533,458.74	2,336,685.25	2,149,225.06	1,970,702.59	1,800,756.22	1,639,037.82

MWD_Cadiz_scenario1_3pct

G42-202

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250,000.00	200,000.00	150,000.00	100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530,432.95	411,986.76	299,990.36	194,168.52	94,256.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
848,692.72	823,973.52	799,974.29	776,674.07	754,052.49	732,089.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,698,266.97	6,503,171.82	6,313,759.05
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	153,278.42	148,814.00	144,479.61
106,086.59	102,996.69	99,996.79	97,084.26	94,256.56	91,511.22	177,691.70	172,516.21	167,491.47	162,613.08	157,876.77	100,000.00	100,000.00	100,000.00
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	30,655.68	29,762.80	28,895.92
21,217.32	20,599.34	19,999.36	19,416.85	18,851.31	18,302.24	35,538.34	34,503.24	33,498.29	32,522.62	31,575.35	6,851,545.39	6,651,985.82	6,458,238.66
1,485,212.27	1,338,956.97	1,199,961.44	1,067,926.84	942,565.62	823,601.02	177,691.70	172,516.21	167,491.47	162,613.08	157,876.77			

MWD_Cadiz_scenario1_3pct

G42-202

2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
6,129,863.15	5,951,323.45	5,777,983.93	5,609,693.14	5,446,304.01	5,287,673.80	5,133,663.88	4,984,139.69	4,838,970.58	4,698,029.69	4,561,193.87	4,428,343.56
140,271.47	136,185.89	132,219.31	128,368.26	124,629.38	120,999.40	117,475.15	114,053.54	110,731.59	107,506.40	104,375.15	101,335.09
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
28,054.29	27,237.18	26,443.86	25,673.65	24,925.88	24,199.88	23,495.03	22,810.71	22,146.32	21,501.28	20,875.03	20,267.02
6,270,134.62	6,087,509.34	5,910,203.24	5,738,061.40	5,570,933.40	5,408,673.20	5,251,139.03	5,098,193.23	4,949,702.17	4,805,536.09	4,665,569.02	4,529,678.66

MWD_Cadiz_scenario1_7pct

G42-203

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.07						
Total EIS Cost (MWD Share), dollars		2,214,900.00	1,144,900.00	1,070,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		65,808,168.85	0.00	0.00	15,000,000.00	14,018,691.59	13,101,580.92
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	0.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	0.00
Annual "Put" Fees, dollars per acre-foot	50.00	29,470,412.01	0.00	0.00	0.00	0.00	0.00
Annual Storage Fees, dollars per acre-foot	5.00	25,251,893.31	0.00	0.00	0.00	0.00	0.00
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	8,217,082.75	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		97,779,170.77	0.00	0.00	55,000,000.00	0.00	0.00
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	14,220,112.53	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	1,557,997.93	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		311,599.59	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		244,519,738.14	1,144,900.00	1,070,000.00	70,000,000.00	14,018,691.59	13,101,580.92
Cost per acre-foot of water taken, present value 2001		784.72					

MWD_Cadiz_scenario1_7pct

G42-203

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12,244,468.15	11,443,428.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00
0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00
0.00	0.00	100,000.00	200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00
0.00	0.00	3,921,423.99	3,664,882.23	3,425,123.58	3,201,050.08	2,991,635.58	2,795,921.11	2,613,010.38	2,442,065.78	2,282,304.46	2,132,994.83	0.00
0.00	0.00	356,493.09	666,342.22	934,124.61	1,164,018.21	1,359,834.36	1,525,047.88	1,662,824.79	1,776,047.84	1,867,340.02	1,939,086.21	1,721,618.59
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	724,892.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	42,779,170.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90,611.50
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18,122.30
12,244,468.15	11,443,428.18	47,057,087.85	4,331,224.45	4,359,248.19	4,365,068.28	4,351,469.94	4,320,968.98	4,275,835.17	4,218,113.61	4,149,644.48	4,072,081.03	2,537,122.14

MWD_Cadiz_scenario1_7pct

GYZ-203

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900,000.00	850,000.00	800,000.00	750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00	250,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,524,305.69	1,345,441.16	1,183,455.67	1,036,906.25	904,466.51	784,917.53	677,139.50	580,103.93	492,866.55	414,560.65	344,390.99	281,628.14	225,603.32	175,703.52
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
677,469.20	633,148.78	591,727.83	553,016.67	516,838.01	483,026.17	451,426.33	421,893.77	394,293.24	368,498.36	344,390.99	321,860.73	300,804.42	281,125.63
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84,683.65	79,143.60	73,965.98	69,127.08	64,604.75	60,378.27	56,428.29	52,736.72	49,286.65	46,062.29	43,048.87	40,232.59	37,600.55	35,140.70
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
16,936.73	15,828.72	14,793.20	13,825.42	12,920.95	12,075.65	11,285.66	10,547.34	9,857.33	9,212.46	8,609.77	8,046.52	7,520.11	7,028.14
2,286,458.54	2,057,733.54	1,849,149.48	1,659,050.00	1,485,909.27	1,328,321.98	1,184,994.12	1,054,734.42	936,446.44	829,121.30	731,830.85	643,721.47	564,008.30	491,969.85

MWD_Cadiz_scenario1_7pct

G42-203

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200,000.00	150,000.00	100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131,367.12	92,079.76	57,370.56	26,808.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
262,734.23	245,546.01	229,482.26	214,469.40	200,438.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,459,151.33	1,363,692.83	1,274,479.28	1,191,102.13	1,113,179.56
32,841.78	30,693.25	28,685.28	26,808.67	25,054.84	46,831.47	43,767.73	40,904.42	38,228.43	35,727.50	33,390.19	31,205.79	29,164.29	27,256.34	25,473.22
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
6,568.36	6,138.65	5,737.06	5,361.[illegible]	5,010.97	9,366.29	8,753.55	8,180.88	7,645.69	7,145.50	6,678.04	6,241.16	5,832.86	5,451.27	5,094.64
426,943.13	368,319.02	315,538.10	268,086.[illegible]	[illegible]53	46,831.47	43,767.73	40,904.42	38,228.43	35,727.50	1,492,541.52	1,394,898.61	1,303,643.56	1,218,358.47	1,138,652.78

MWD_Cadiz_scenario1_7pct

G42-203

2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
1,040,354.73	972,294.14	908,686.11	849,239.36	793,681.64	741,758.54	693,232.28	647,880.64	605,495.92	565,884.04
23,806.74	22,249.29	20,793.73	19,433.39	18,162.05	16,973.88	15,863.44	14,825.64	13,855.74	12,949.29
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
4,761.35	4,449.86	4,158.75	3,886.68	3,632.41	3,394.78	3,172.69	2,965.13	2,771.15	2,589.86
1,064,161.47	994,543.43	929,479.84	868,672.75	811,843.69	758,732.42	709,095.72	662,706.28	619,351.67	578,833.33

MWD_Cadiz_scenario2

G42-204

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.05						
Total EIS Cost (MWD Share), dollars		2,152,500.00	1,102,500.00	1,050,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		73,214,285.71	0.00	0.00	37,500,000.00	35,714,285.71	0.00
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	110,000.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	100,000.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	100,000.00
Annual "Put" Fees, dollars per acre-foot	50.00	40,447,182.96	0.00	0.00	0.00	0.00	4,988,662.13
Annual Storage Fees, dollars per acre-foot	5.00	38,963,768.80	0.00	0.00	0.00	0.00	453,514.74
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	14,572,792.57	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		109,421,768.71	0.00	0.00	55,000,000.00	0.00	54,421,768.71
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	103,897,644.57	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	5,464,797.21	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		1,092,959.44	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		388,134,740.54	1,102,500.00	1,050,000.00	92,500,000.00	35,714,285.71	59,863,945.58
Cost per acre-foot of water taken, present value 2001		355.12					

MWD_Cadiz_scenario2

G42-204

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00
200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00	900,000.00	850,000.00	800,000.00
4,751,106.79	4,524,863.61	4,309,393.92	4,104,184.68	3,908,747.32	3,722,616.49	3,545,349.04	3,376,522.89	3,215,736.09	0.00	0.00	0.00	0.00
863,837.60	1,234,053.71	1,567,052.33	1,865,538.49	2,132,043.99	2,368,937.77	2,578,435.66	2,762,609.64	2,923,396.45	2,644,977.74	2,386,446.08	2,146,538.80	1,924,068.39
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00	50,000.00	50,000.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,113,674.84	1,060,642.70	1,010,135.91	962,034.20
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417,628.06	397,741.01	378,800.96	360,762.82
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150,000.00	150,000.00	150,000.00	150,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83,525.61	79,548.20	75,760.19	72,152.56
5,614,944.39	5,758,917.32	5,876,446.25	5,969,723.17	6,040,791.31	6,091,554.26	6,123,784.70	6,139,132.54	6,139,132.54	4,176,280.64	3,844,829.79	3,535,475.67	3,246,865.41

MWD_Cadiz_scenario2

G42-204

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00	250,000.00	200,000.00	150,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,717,918.21	1,527,038.41	1,350,442.13	1,187,201.87	1,036,446.08	897,355.91	769,162.21	651,142.61	542,618.84	442,954.16	351,550.92	267,848.32	191,320.23
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
916,223.04	872,593.38	831,041.31	791,467.91	753,778.97	717,884.73	683,699.74	651,142.61	620,135.82	590,605.54	562,481.47	535,696.64	510,187.27
100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	9,533,082.62	9,079,126.31	8,646,786.96	8,235,035.20	7,842,890.67	7,469,419.68	7,113,733.03	6,774,983.84	6,452,365.56	6,145,110.06	5,852,485.77	5,573,795.97
343,583.64	327,222.52	311,640.49	296,800.47	282,667.11	269,206.77	256,387.40	244,178.48	232,550.93	221,477.08	210,930.55	200,886.24	191,320.23
150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
68,716.73	65,444.50	62,328.10	59,360.09	56,533.42	53,841.35	51,277.48	48,835.70	46,510.19	44,295.42	42,186.11	40,177.25	38,264.05
2,977,724.89	12,259,936.92	11,572,250.24	10,922,257.21	10,307,927.36	9,727,338.08	9,178,669.04	8,660,196.73	8,170,289.44	7,707,402.34	7,270,073.00	6,856,916.97	6,466,623.70

MWD_Cadiz_scenario2

G42-204

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121,473.16	57,844.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
485,892.64	462,754.90	440,718.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,308,377.12	5,055,597.25	4,814,854.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
182,209.74	173,533.09	165,269.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150,000.00	150,000.00	150,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36,441.95	34,706.62	33,053.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,097,952.66	5,749,729.60	5,420,843.0[illegible]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MWD_Cadiz_scenario2

G42-204

2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MWD_Cadiz_scenario2_3pct

G42-205

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.03						
Total EIS Cost (MWD Share), dollars		2,090,900.00	1,060,900.00	1,030,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		73,907,766.99	0.00	0.00	37,500,000.00	36,407,766.99	0.00
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	110,000.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	100,000.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	100,000.00
Annual "Put" Fees, dollars per acre-foot	50.00	45,549,626.80	0.00	0.00	0.00	0.00	5,184,277.50
Annual Storage Fees, dollars per acre-foot	5.00	49,918,059.67	0.00	0.00	0.00	0.00	471,297.95
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	21,495,608.76	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		111,555,754.55	0.00	0.00	55,000,000.00	0.00	56,555,754.55
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	162,549,283.34	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	8,060,853.29	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		1,612,170.66	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		475,127,853.40	1,060,900.00	1,030,000.00	92,500,000.00	36,407,766.99	62,211,330.00
Cost per acre-foot of water taken, present value 2001		294.71					

MWD_Cadiz_scenario2_3pct

G42-205

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00
200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00	900,000.00	850,000.00	800,000.00
5,033,279.13	4,886,678.76	4,744,348.31	4,606,163.41	4,472,003.31	4,341,750.79	4,215,292.03	4,092,516.53	3,973,317.02	0.00	0.00	0.00	0.00
915,141.66	1,332,730.57	1,725,217.57	2,093,710.64	2,439,274.53	2,762,932.32	3,065,666.93	3,348,422.62	3,612,106.38	3,331,554.43	3,064,281.03	2,809,750.67	2,567,447.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00	50,000.00	50,000.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,402,759.76	1,361,902.68	1,322,235.61	1,283,723.89
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	526,034.91	510,713.50	495,838.35	481,396.46
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150,000.00	150,000.00	150,000.00	150,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	105,206.98	102,142.70	99,167.67	96,279.29
5,948,420.79	6,219,409.34	6,469,565.88	6,699,874.05	6,911,277.85	7,104,683.11	7,280,958.96	7,440,939.15	7,585,423.40	5,260,349.10	4,936,897.21	4,627,824.64	4,332,568.14

MWD_Cadiz_scenario2_3pct

G42-205

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00	250,000.00	200,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,336,876.02	2,117,557.56	1,909,032.47	1,710,858.08	1,522,608.32	1,343,873.19	1,174,258.13	1,013,383.50	860,884.04	716,408.35	579,618.41	450,189.06
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
1,246,333.88	1,210,032.89	1,174,789.22	1,140,572.05	1,107,351.51	1,075,098.55	1,043,785.00	1,013,383.50	983,867.47	955,211.14	927,389.45	900,378.11
100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	13,219,609.34	12,834,572.18	12,460,749.69	12,097,815.23	11,745,451.68	11,403,351.14	11,071,214.70	10,748,752.14	10,435,681.69	10,131,729.79	9,836,630.87
467,375.20	453,762.33	440,545.96	427,714.52	415,256.82	403,161.96	391,419.38	380,018.81	368,950.30	358,204.18	347,771.05	337,641.79
150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
93,475.04	90,752.47	88,109.19	85,542.90	83,051.36	80,632.39	78,283.88	76,003.76	73,790.06	71,640.84	69,554.21	67,528.36
4,050,585.10	17,000,962.13	16,358,939.82	15,739,894.34	15,143,031.88	14,567,585.38	14,012,813.65	13,478,000.51	12,962,453.95	12,465,505.36	11,986,508.70	11,524,839.83

MWD_Cadiz_scenario2_3pct

G42-205

2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150,000.00	100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
327,807.56	212,173.18	102,996.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
874,153.51	848,692.72	823,973.52	799,974.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,550,127.06	9,271,968.02	9,001,910.70	8,739,719.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
327,807.56	318,259.77	308,990.07	299,990.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150,000.00	150,000.00	150,000.00	150,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65,561.51	63,651.95	61,798.01	59,998.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11,079,895.69	10,651,093.69	10,237,870.97	9,839,683.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MWD_Cadiz_scenario2_3pct

G42-205

2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MWD_Cadiz_scenario2_7pct

G42-206

Report Worksheet							
This sheet reports 2001 present values, where applicable							
ITEMS	Rates	Totals	1999	2000	2001	2002	2003
DISCOUNT RATE (1+r)	1.07						
Total EIS Cost (MWD Share), dollars		2,214,900.00	1,144,900.00	1,070,000.00	0.00	0.00	0.00
Total Construction Cost (MWD Share), dollars		72,546,728.97	0.00	0.00	37,500,000.00	35,046,728.97	0.00
Gross Recharge Rate/Year, acre-feet		1,100,000.00	0.00	0.00	0.00	0.00	110,000.00
Net Recharge Rate, acre-feet (includes "hydrologic loss")		1,000,000.00	0.00	0.00	0.00	0.00	100,000.00
Cumulative Recharged Groundwater Stock, acre-feet			0.00	0.00	0.00	0.00	100,000.00
Annual "Put" Fees, dollars per acre-foot	50.00	36,102,521.94	0.00	0.00	0.00	0.00	4,803,913.01
Annual Storage Fees, dollars per acre-foot	5.00	30,934,655.14	0.00	0.00	0.00	0.00	436,719.36
Annual "Takes" of Recharged Water, acre-feet		1,000,000.00	0.00	0.00	0.00	0.00	0.00
Annual "Take" Fees, dollars per acre-foot	40.00	10,066,279.71	0.00	0.00	0.00	0.00	0.00
"Prepaid" Native Water Taken, acre feet		500,000.00	0.00	0.00	0.00	0.00	0.00
Pymt for "Prepaid" Native Water (500,000 a-f: $110/a-f 2001, $120/a-f after const.)		107,406,323.70	0.00	0.00	55,000,000.00	0.00	52,406,323.70
Native Water Taken (non-prepaid), acre feet		1,500,000.00	0.00	0.00	0.00	0.00	0.00
Payments for Native Water (non-prepaid) @ 95%x$230=$218.50/af	218.50	67,410,868.08	0.00	0.00	0.00	0.00	0.00
Estimated Water Quality Allowance, dollars per a-f of water returned to CRA	5.00	3,774,854.89	0.00	0.00	0.00	0.00	0.00
Total Water Taken		3,000,000.00	0.00	0.00	0.00	0.00	0.00
Total Water Taken, discounted quantity		754,970.98	0.00	0.00	0.00	0.00	0.00
Total Cost to MWD, present value 2001		330,457,132.43	1,144,900.00	1,070,000.00	92,500,000.00	35,046,728.97	57,646,956.07
Cost per acre-foot of water taken, present value 2001		437.71					

MWD_Cadiz_scenario2_7pct

G42-206

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00
200,000.00	300,000.00	400,000.00	500,000.00	600,000.00	700,000.00	800,000.00	900,000.00	1,000,000.00	950,000.00	900,000.00	850,000.00	800,000.00
4,489,638.32	4,195,923.67	3,921,423.99	3,664,882.23	3,425,123.58	3,201,050.08	2,991,635.58	2,795,921.11	2,613,010.38	0.00	0.00	0.00	0.00
816,297.88	1,144,342.82	1,425,972.36	1,665,855.56	1,868,249.23	2,037,031.87	2,175,734.97	2,287,571.81	2,375,463.98	2,109,056.81	1,867,340.02	1,648,223.27	1,449,784.08
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50,000.00	50,000.00	50,000.00	50,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	888,023.92	829,928.90	775,634.48	724,892.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	333,008.97	311,223.34	290,862.93	271,834.51
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150,000.00	150,000.00	150,000.00	150,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66,601.79	62,244.67	58,172.59	54,366.90
5,305,936.20	5,340,266.48	5,347,396.35	5,330,737.79	5,293,372.81	5,238,081.94	5,167,370.55	5,083,492.92	4,988,474.36	3,330,089.69	3,008,492.25	2,714,720.69	2,446,510.63

MWD_Cadiz_scenario2_7pct

G.42-206

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
750,000.00	700,000.00	650,000.00	600,000.00	550,000.00	500,000.00	450,000.00	400,000.00	350,000.00	300,000.00	250,000.00	200,000.00	150,000.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,270,254.74	1,108,010.37	961,557.73	829,525.00	710,652.26	603,782.72	507,854.62	421,893.77	345,006.58	276,373.77	215,244.37	160,930.37	112,801.66
50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
677,469.20	633,148.78	591,727.83	553,016.67	516,838.01	483,026.17	451,426.33	421,893.77	394,293.24	368,498.36	344,390.99	321,860.73	300,804.42
100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
0.00	6,917,150.43	6,464,626.57	6,041,707.08	5,646,455.21	5,277,060.95	4,931,832.66	4,609,189.40	4,307,653.65	4,025,844.53	3,762,471.52	3,516,328.53	3,286,288.34
254,050.95	237,430.79	221,897.94	207,381.25	193,814.25	181,134.82	169,284.87	158,210.16	147,859.96	138,186.88	129,146.62	120,697.78	112,801.66
150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
50,810.19	47,486.16	44,379.59	41,476.25	38,762.85	36,226.96	33,856.97	31,642.03	29,571.99	27,637.38	25,829.32	24,139.56	22,560.33
2,201,774.89	8,895,740.37	8,239,810.07	7,631,629.99	7,067,759.73	6,545,004.65	6,060,398.49	5,611,187.10	5,194,813.44	4,808,903.53	4,451,253.49	4,119,817.40	3,812,696.09

MWD_Cadiz_scenario2_7pct

G42-206

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70,281.41	32,841.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50,000.00	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281,125.63	262,734.23	245,546.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100,000.00	100,000.00	100,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,071,297.52	2,870,371.51	2,682,590.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105,422.11	98,525.34	92,079.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150,000.00	150,000.00	150,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21,084.42	19,705.07	18,415.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,528,126.67	3,264,472.86	3,020,215.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

January 2, 2001

G43

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714
ATT: James Williams

Dear Mr. Williams:

We believe the Cadiz Project is a groundwater grab in the Mojave Desert. It affects wildlife and air quality in the Mojave National Preserve, Joshua Tree National Park, and five BLM wildlife areas. G43-1

The Cadiz Company wants to drain up to 652 billion gallons from an aquifer that has sustained the fragile ecosystems of the western Mojave Desert for millennia, and sell the water to the Metropolitan Water District which supplies Los Angeles and San Diego. We believe this could be called groundwater mining. G43-2

The supplemental environmental impact statement does not fully examine the potential problems that could result from draining a desert ecosystem of its precious and scarce water supply. G43-3

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. G43-4

We urge the Metropolitan Water District and the Bureau of Land Management to make a decision that is informed, reasoned, and promotes the public interest rather than private profit. G43-5

Sincerely,

San Fernando Valley SIERRA CLUB
P.O. Box 370485
Reseda, CA 91337

Chair

Vice Chair
Barry

Conservation Co-Chairs
Melba Simms

Secretary

Treasurer
Betty L. Johnson

cc: MWD Management Group (Jack Safely)

John Hill
25360 Anderson Avenue
Barstow, CA 92311
(760) 253-7691
jhnewtalk@yahoo.com

P18

Cadiz Inc.
100 Wilshire Boulevard
Suite 1600
Santa Monica, CA 90401

October 30, 2000

Dear Cadiz Inc.,

How are you? The Mojave River was dammed a number of years ago and the result was Silverlake. What was a flowing desert river with cottonwoods and abundant life is now a year-round dry path where dust reaches the skies in every high wind. P18-

I drove to a petroglyph site near Daggett, CA to make sketches for the BLM and I saw a female mountain goat running from the mountains across a valley. If your company begins pumping water out of the desert, the springs will cease giving water and the animals will die off. With pumping, the water table will disappear and plant life will also die. P18-

I ask that your company discontinue your bid for this water in the eastern Mojave valley and that the Metropolitan Water District intelligently denies any attempt at draining this resource. P18-

With peace,

John Hill

cc: vice-president, Al Gore
Metropolitan Water District, Southern California

From: Cathy Danzeisen
10 Catalpa Ave. #6
Mill Valley, CA 94941

Re: Draft EIR/EIS
Cadiz Groundwater
Supplement

P19

Nov 2, 2000

The concept of sullying and draining a pristine aquifer, based in an already beleagured Mojave National Park, with the results being, most likely, detrimental to the ecosystem, while benefitting a corporation (Cadiz, Inc.) is unconscionable. That being said, the Supplemental Environmental Report of Oct. 20th, fails to address the flaws existing in the original document, which was poorly executed to begin with. P19-1

Not only are future plans or monitoring addressed, but the entire plan continues to present an environmental threat too great to be patched over by a supplement.

Sincerely,
Cathy Danzeisen

RECEIVED
BUREAU OF ...
00 NOV 28 PM ...
CALIF. DESERT ...
RIVERSIDE, CA

Kate Blair
PO BOX 8
Essex, CA 92332
Nov 21, 2000

P20

TO: James Williams, BLM

RE: Comments on Cadiz Water Project

As a land and water right owner in the East Mojave, I am against the implementation of this project including the pipeline and the raping of our underground aquifer. My main objection is over the principle and the dangerous precedent it sets of extracting water from the Southwest deserts to feed the metropolitan areas served by MWD. The scientists that provided the data for the EIR/EIS sound very sure of their predictions of negligible long term impacts to the desert ecosystem. I do not begin to believe that they can predict the effects of what overdrafting the aquifer will produce. The closest model we have is Mono Valley.

It is my belief that the water requirements of MWD will continue to increase so that we will seldom if ever see any water put back into the Cadiz aquifer. Realistically, there is too much money to be made selling the water versus storing it. Cadiz Land Company is not in this deal to contribute solutions to California's water crises. The bottom line to any private business is profit. They have no responsibility or liability to the land or their neighbors. Whereas, the BLM carries much of the responsibility to protecting our resources. The BLM should take the initiative in protecting our public resources including our water/groundwater dependent ecosystems by denying them right of way across the very desert that may be potentially impacted.

Before the MWD spreads its suckers to any and all unclaimed water, including the Cadiz Aquifer, I think stringent conservation programs should be in place as a prerequisite. To continue supplying water without accountability will just encourage greater consumption and continued wasteful uses. Significant conservation will not happen voluntarily. Then again, if enough hexavalent Chromium is sent to LA maybe that would constitute a conservation effort.

Roger J Armstrong
5253 Duenas
Laguna Hills, CA 92653-1815

CitizenLetter®

An urgent message from a concerned citizen

November 29, 2000

P21

Philip Pace
Chairman of the Board
Metropolitan Water District
700 N. Alameda St., 12th Fl
Los Angeles, CA 90012

Dear Chairman Pace,

-1 I am writing to urge you to cancel the Metropolitan Water District's proposal to drain pristine water from the aquifers beneath the Mojave Desert National Preserve.

-2 The acquifers under the Mojave sustain fragile desert ecosystems featuring a variety of desert plants and animals, including the desert bighorn sheep and threatened desert tortoise. The project puts the desert ecosystem at risk and could create a dustbowl effect several times worse than that at Owens Lake.

-3 The U.S. Geological Survey, the National Park Service and national conservation groups all oppose the project. The plan is particularly distressing given that much of the water -- which has supported desert life for thousands of years -- is destined for nonessential purposes, such as golf courses and swimming pools.

-4 I urge you to stop the Mojave drainage plan, so that the sensitive ecosystems in the Mojave Desert can be preserved. Please tell me what you plan to do about this vitally important issue.

Sincerely,

Roger J Armstrong

718

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LAST NAME	FIRST NAME	ADDRESS	CITY	STATE	ZIP CODE
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Abano	Melanie	717 Vermont St.	San Francisco	CA	94107-2637
Abbott	Bill	3225 Lucas Circle	Lafayette	CA	94549-5524
Abbott	CJ	201 Ada Avenue Apt. 31	Mountain View	CA	94043-4943
Abbott	Penelope	10641 Wheatland Ave.	Sunland	CA	91040-1253
Abbott	Gayle	5207 Carrington St.	Sacramento	CA	95819-1608
Abeles	Keith	4412 Winfield Ln.	Sebastopol	CA	95472-5734
Abigail	Caro	1216 No. Edgemont St. #408	Los Angeles	CA	90029-1557
Abrams	Joan	114 Robinson Ave.	Pittsburgh	CA	94565-4845
Abramson	Shelly M.	765 42nd Avenue	San Francisco	CA	94121-3322
Abramson	David	6317 Monterey Rd., Apt. 309	Los Angeles	CA	90042-4382
Accardo	Brian	31975 King Ridge Rd.	Cazadero	CA	95421-9638
Accusani	Paola	P.O. Box 10193	Truckee	CA	96162-0193
Ackeret	Marge	12691 Rough and Ready Hwy	Grass Valley	CA	95945-8523
Ackerman	Michael	1270 Stromberg Avenue	Arcata	CA	95521-5123
Acosta	Carlos	761 No. Richman Avenue	Fullerton	CA	92832-1104
Acosta	Alberto D.	231 W. Tujunga Ave., Apt. P	Burbank	CA	91502-3119
Adams	Suzanne	119 Francis Cir.	Rohnert Park	CA	94928-1367
Adams	Charles	1046 McConnell Dr.	Decatur	GA	30033-3402
Adams	Ashley	33 Carl St.	San Francisco	CA	94117-3917
Adams	Susan R.	13240 Watsonville Rd.	Morgan Hill	CA	95037-9186
Adelmann	emily	2817 Golden rain Rd., Apt. 4	Walnut Creek	CA	94595-1981
Adler	Lincoln	600 S. Curson Ave., Apt. 636	Los Angeles	CA	90036-5803
Adler	Josiane D.	2745 Stuart St., Apt. 3	Berkeley	CA	94705-1361
Adrich	Judy	965 6th Street	Napa	CA	94559-3407
Afentoulis	Virginia	3900 Sherman Way	Sacramento	CA	95817-1414
Affronti	Elaine	918 Stanyan St.	San Francisco	CA	94117-3807
Aganza	Joaquin	PO Box 1841	Vista	CA	92085-1841
Agens	Lynda M.	131 Graves Ave.	San Luis Obispo	CA	93405-2055
Agigian	Laura M.	3030 Price Court	Palo Alto	CA	94303-4101
Aguirre	Marco	3612 Hoover St.	Redwood City	CA	94063-4503
Aguirre	Kevin J.	924 E. Oceanfront, Apt. E	Newport Beach	CA	92661-1349
Aguliar	Maritza	1813 Lucretia Ave.	Los Angeles	CA	90026-1807
Ahmadian	Kian	3223 Bennett Dr. Apt. C	Los Angeles	CA	90068-1763
Ahnger	Sally	1390 Garthwick	Los Altos	CA	94024
Ahola	Michael	3601 Hansen Ranch Rd.	Garberville	CA	95542-8604
Aidells	Louis	1551 Greenfield Ave. Apt. 201	Los Angeles	CA	90025-3421
Aiken	Sangraal	2717 Derby St. Apt. 4	Berkeley	CA	94705-1358
Aird	John	304 High Street	Santa Cruz	CA	95060-2612
Akers	Ellery	1592 Union St. #211	San Francisco	CA	94123-4531
Al-Ageel	Tamadhur	1252 So. Sierra Bonita Ave.	Los Angeles	CA	90019-2552
Albar	Shelley	412 Skyline Dr.	San Ramon	CA	94583-1272
Albarran	Mario	5860 Lalor Drive	San Jose	CA	95123-3927
Albert	Richard	24929 Minnie Court	Hayward	CA	94541-6910
Alberts	Katherine	5901 pescadero Creek Rd.	Pescadero	CA	94060-9704
Albiero	Rick	25 Corwin St., Apt. 3	San Francisco	CA	94114-2353
Albrecht	David	1825 Whitley Ave., Apt. 107	Los Angeles	CA	90028-4997
Alda	Michael L.	1620 E. 2nd. St., Apt.H	Long Beach	CA	90802-5954
Alenander	Cheryl A.	885 Montecito Drive	Los Angeles	CA	90031-1453
Alexander	Amy E.	660 Tyrella Ave. Apt. 42	Mountain View	CA	94043-2036
Alexander	Ben	1706 No. Stanley Ave. Apt 3	Los Angeles	CA	90046-2246
Alexander	Jim	1732 Grant St.	Berkeley	CA	94703-1358
Alexander	Joan	1511 Ada St.	Berkeley	CA	94703-1001
Alexander	Michael	4586 Starling Way	Los Angeles	CA	90065-5004
Alexzander	Deborah	4486 Lawrence Dr.	Castro Valley	CA	94546-2271
Alie	Bemadette	PO Box 973	Point Reyes Station	CA	94950
Allen	Cathy	819 Contra Costa Drive	El Cerrito	CA	94530-3040
Allen	Laura	417 48th St.	Oakland	CA	94609-2126
Allen	James D.	726 College Ave.	Santa Rosa	CA	95404-4107
Allen	Enica	1590 Sacramento St., Apt. 4	San Francisco	CA	94109-3825
Allenspach	Janet	1465 Hobart St.	Chico	CA	95926-3724
Allison	Louise	23106 Carlow Road	Torrance	CA	90505-4354
Allman	Idalene R.	PO Box 1058	Mendocino	CA	95460-1058
Allyson	Allyson	10444 Mammoth Street	Ventura	CA	Ventura, CA
Almeida	Lynne	286 Sneden St.	Bishop	CA	93514-3542
Almeida	Lori	PO Box 124	Jenner	CA	95450-0124
Alpert	David	6205 University Ave.	San Diego	CA	92115-5707
Alspaugh	Christopher	544 Country Club Dr.	Escondido	CA	92029-1506
Alspaugh	Sarah	1262 Eolus Avenue	Encinitas	CA	92024-1728

Altamirano	Andrew	1468 1/2 Fairbanks Place	Los Angeles	CA	90026-3339
Altchech	Marie	9106 Olin St.	Los Angeles	CA	90034-1937
Alva	Ackley	58 Sequoia Rd.	Fairfax	CA	94930-1540
Alvarado	Sally	P.O. Box 1027	Millbrae	CA	94030-5027
Alvarez	Guillermina	8853 Clarinda Avenue	Pico Rivera	CA	90660-5704
Alvarez	Margia D.	8555 Hollywood Blvd.	Los Angeles	CA	90069-1413
Alving	Loren	1090 E. Kelso Ave.	Fresno	CA	93720-1849
Amada	Maria F.	19229 Sonoma Hwy #186	Sonoma	CA	95476-5413
Amador	Fernando	61 28th St., Fl Upper	San Francisco	CA	94110-4908
Ambler	Barbara	1710 Lincoln St.	Berkeley	CA	94703-1309
Ames	Carlene G.	36726 Olive Street	Newark	CA	94560-2950
ames	Lorie J	4083 Sacramento Ave.	Santa Rosa	CA	95405-7773
Amick	Molly L.	1065 Citrus Ave.	Chico	CA	95926-4538
Amin	Ratna S.	2030 Ashby Ave. Apt. 11	Berkeley	CA	94703-2531
Amir	Madelin	940 Old Round House Rd.	McKinleyville	CA	95519-9749
Amundin	Andreas	335 Highland Ave. Uppr Unit	San Mateo	CA	94401-2517
Amundson	J.	10284 Rue Cannes	San Diego	CA	92131-2258
Andary	Lisa S.	1385 Bouquet Dr.	Upland	CA	91786-8902
Andersen	Karen	4051 McLaughlin Ave. Apt. 3	Los Angeles	CA	90066-5454
Andersen	Linda	4200 Park Blvd. Pmb 720	Oakland	CA	94602
Andersen	Deborah	8151 Sierra Bonita Ave.	Rosemead	CA	91770-3957
Anderson	Ardene C.	320-A Upper Ter.	San Francisco	CA	94117-4518
Anderson	Barbara	118 Trafalgar Lane	San Clemente	CA	92672-4264
Anderson	Bryce	1759 Arteique Road	Topanga	CA	90290-4246
Anderson	Charles	129 Mountain View Ave.	Santa Cruz	CA	95062-361
Anderson	Clifford	1408 La Sierra Drive	Sacramento	CA	95864-3035
Anderson	Deanie	6529 Sausalito Avenue	Canoga Park	CA	91307-3743
Anderson	Ellen J.	P.O. Box 1107	Point Reyes Station	CA	94956
Anderson	Greg	3943 East 4th St. Apt. 13	Long Beach	CA	90814-4730
Anderson	Jean	3248 Camino Colorados	Lafayette	CA	94549-5605
Anderson	Karin	P.O. Box 1183	Hayfork	CA	96041-1183
Anderson	Lorraine	2657 Portage Bay E. Apt. 202	Davis	CA	95616-3040
Anderson	Marcia J.	644 No. Daniel Way	San Jose	CA	95128-1311
Anderson	Paul	415 Lyon St. Apt. 3	San Francisco	CA	94117-1359
Anderson	Susan	4942 1/2 Brighton Ave.	San Diego	CA	92107-2520
Anderson	Bryant	6635 S. Bank Rd.	Crescent City	CA	95531-9504
Anderson	Karen	10625 Esther Ave.	Los Angeles	CA	90064-3202
Anderson	Audrey	29684 Desert Terrace Dr.	Menifee	CA	92584-7800
Anderson	Rochelle, Maas	1243 Carr Ave.	Santa Rosa	CA	95404-2949
Anderson	Amy	25010 Outlook Dr.	Carmel	CA	93923-8960
Anderson	Kathryn E.	3986 Azalea Ave.	Sebastopol	CA	95472-5703
Anderson	Jack	200 Sea Point Way	Pittsburg	CA	94565-2249
Anderton	Mary	48 Cumberland St.	San Francisco	CA	94110-1525
Andrade	Mary E.	13045 Alexander St.	Sylmar	CA	91342-4803
Andrade	Marc	5599 Inverness Ave.	Santa Rosa	CA	95404-9724
Andre	Angela	1157 Hitching Post Ln.	Chula Vista	CA	91919-1529
Andresen	Janice	2730 Sacramento St., Apt. 2	San Francisco	CA	94115-2150
Andrews	Colin	441 Detroit St.	San Francisco	CA	94131-3118
Andrews	Theresa	4341Edgewood Ave.	Oakland	CA	94602-1315
Andrews	William	604 E. Hawthorne St.	Ontario	CA	91764-1825
Andrijeski	Julie	1593 McAllister St., Apt. 206	San Francisco	CA	94115-4458
Andrus	Carlin	1621 Glendon Ave. Apt. 2	Los Angeles	CA	90024-5733
Andrus	Vincent D.	P.O. Box 636	Three Rivers	CA	93271-0636
Angel	Jenifer W.	678 Tennyson Ave.	Palo Alto	CA	94301-3841
Angell	Anita	4510 Silverado Trail	Calistoga	CA	94515-9647
Angress	Dina	720 Petaluma Blvd. S., Apt. 29	Petaluma	CA	94952-5147
anisse	Ryan J	803 Laurel St. Apt. 6	Santa Cruz	CA	95060-4251
Ankersmit	Lauren	907 Shattuck Avenue	Berkeley	CA	94707-2438
Annesley	Geoffrey T.	790 Palo Alto Avenue	Palo Alto	CA	94301-1351
Annett	Edward	P.O. Box 1028	Carnelian Bay	CA	96140-1028
Anseltine	Sandra	7908 Winthrope St.	Oakland	CA	94605-3655
Antel	Thomas J.	PO Box 392	Borrego Springs	CA	92004-0392
Anth-Goff	Pfrancis	5311 Corteen Pl. Apt. 32	Valley Village	CA	91607-2575
Anthony	Mary	123 Besant Rd.	Ojai	CA	93023-2304
Anzalone	Rip	15 Romero Court	Novato	CA	94945-1626
Appel	Janet	135 Chaucer St.	Pleasant Hill	CA	94523-4104
Aransu	Nasus	3826 Fruitvale Ave. #A	Oakland	CA	94602-2422
Arbuckle	Kimberly	1608 Oxley St.	South Pasadena	CA	91030-3314
Arbuckle	N.	524 Nimitz Ave.	Redwood City	CA	94061-4228
Arbuckle	Richard D.	204 Coronado St.	Ventura	CA	93001-3516

Archambault	Virgil	470 Manzanita Avenue	Sierra Madre	CA	91024-2322
Archer	John	1850 Camino Rainbow, Apt. B	Fallbrook	CA	92028-9648
Archuleta	Micki	2932 Lawn Court	Merced	CA	95348-3529
Arconti	Kenneth	525 Olive Street	Santa Cruz	CA	95060-2424
Ardinger	Barbara	1720 E. 2nd St., Apt. 3	Long Beach	CA	90802-5918
Arend	Michelle	1203 East 8th Street	Long Beach	CA	90813-4916
Arimitsu	Mayumi	625 Kay Ave.	Trinidad	CA	95570-9727
Arivalo	Susan-Jane	3927 Delmont Avenue	Oakland	CA	94605-2232
Arkoff	Gary	122 1/2 Leland Street	Santa Rosa	CA	95404-4030
Armand-Radzik	Helene	1039 D St., Ste. 5	Ramona	CA	92065-3925
Armburst	Roma	1151 Shelburn Ln.	Ventura	CA	93001-4054
Armer	Paul	105 Hillside Ave.	Menlo Park	CA	94025-6537
Armin-Hoiland	Andrea	2364 Graham Road	Bayside	CA	95524-9312
Armstrong	Roger J.	5253 Duenas	Laguna Hills	CA	92653-1815
Armstrong	Marilee	9041 El Dorado Pkwy, Unit SP42	El Cajon	CA	92021-1986
Arnold	April	P.O. Box 1061	Three Rivers	CA	93271-1061
Amold	Carolyn L.	4827 Brookdale Ave.	Oakland	CA	94619-2510
Amold	Eddy	19397 Old Winery Road	Sonoma	CA	95476-4843
Amold	John	585 Hawthorne St. Apt. 104	Monterey	CA	93940-1344
Arnold	Frank	3293 Aramis Dr.	San Jose	CA	95127-4201
Arnoldi	Natasha	8231 De Longre Ave., Apt. 6	West Hollywood	CA	90046-3729
Arnowitz	Randy	PO Box 20076	Santa Barbara	CA	93120-0076
Arulanantham	John	26 Lakeview Dr.	Daly City	CA	94015-1049
Aschenbach	Karen	P.O. Box 435	La Honda	CA	94020-0435
Ashby	Shirley	12311 Dorothy St.	Los Angeles	CA	90049-5203
Ashcraft	Carriann	439 Pinewood Cl.	Lafayette	CA	80026
Asher	Marianna	765 Mangels Ave.	San Francisco	CA	94127-2215
Ashley	John	184 Burlwood Drive	San Francisco	CA	94127-2250
Ashley	Susan	1450 California St.	Berkeley	CA	94703-1023
Asker	Anna	3017 Lansbury Avenue	Claremont	CA	91711-4187
Atchison	Walter	4560 Concord Ave.	Santa Rosa	CA	95407
Atchison	Edward	PO Box 876	Glen Ellen	CA	95442-0876
Atherton	Marion	2143 Eunice St.	Berkeley	CA	94709-1450
Atkins	Maureen	16050 Paseo Del Campo	San Lorenzo	CA	94580-2310
Atkins	Shirley M.	11100 Telegraph Rd. Sp. 34	Ventura	CA	93004-0338
Atkinson	Brian	1001 W. 20th St.	Santa Ana	CA	92706-3523
Attias	Ben	6451 Orange St., Apt. 201	Los Angeles	CA	90048-4761
aughey	Nancy M. C	164 Inner Circle	Davis	CA	95616-5423
Auran	Ed	185 Union Ave., Apt. 25	Campbell	CA	95008-3123
Aust	Dale K.	4955 Fern Pl.	Rohnert Park	CA	94928-1311
Austin	Karen	1016 Florence Ln. Apt. 2	Menlo Park	CA	94025-4926
Avcollie	Bea	3238 Faust Ave.	Long Beach	CA	90808-3807
Avellino	Vince	3015 Judah St. #A	San Francisco	CA	94122-1350
Avery	Helen	P.O. Box 38	Rough & Ready	CA	95975-0038
Avila	Cristin	1728 Whitefield Road	Pasadena	CA	91104-3958
Ayala	Reynaldo	848 Heber Avenue	Calexico	CA	92231-2410
Ayala	Steve	2080 Regent Way	Castro Valley	CA	94546-3923
Ayala	Juan V.	1762 Prospect Ave., Apt. A	Santa Barbara	CA	93103-1995
Ayuyang	Rachelle	628 Monterey Blvd. Apt 3	San Francisco	CA	94127
Bach	Shaunna	PO Box 273	Sequoia Nat'l Park	CA	93264
Bachelder	Alice	49 Summit Road	San Anselmo	CA	94960
Bacon	Andrew D.	426 Ofarrell Drive	Benicia	CA	94510-1407
Badella	Adrienne	10760 Highway 116	Forestville	CA	95436-9707
Bader	Nancy	17541 Orchard Ave.	Guerneville	CA	95446-9715
Badock	Blair	PO Box 741	Graton	CA	95444-0741
Baefsky	Heather	1033 Bradshawe Ave.	Monterey Park	CA	91754
Baggerly	Julia D.	3006 Via De Caballo	Encinitas	CA	92024-6924
Bagley	Lafe	2992 Margaret Dr.	Pasadena	CA	91107-4439
Baigel	Steven	2631 Woolsey Street	Berkeley	CA	94705-2536
Bailey	Karen	1925 Montana Ave. Apt. 6	Santa Monica	CA	90403-1960
Bailey	Linda	1306 South Dora St.	Bailey	CA	95482-6513
Bailey	Brenda J.	811 York St., Apt. 113	Oakland	CA	94610-2107
Bain	Kathleen F.	13220 Woodstock Drive	Nevada City	CA	95959-8958
Bainter	Michael E.	305 Rock Rose Ln.	Petaluma	CA	94952-6417
Bair	Susanna R.	705 Capp Street	San Francisco	CA	94110-3201
Baird	Jeff	2658-A McAllister Street	San Francisco	CA	94118-4113
Baird	Katherine	1126 Bush St. Apt. 503	San Francisco	CA	94109-5909
Baird	Bruce K.	1829 Laguna St.	San Francisco	CA	94115-2823
Baker	Carol	1173 Everett St.	Chico	CA	95928-7533
Baker	Don	675 Cunard Dr.	Napa	CA	94558-3628

Baker	Donna	166 East Scenic Dr.	Monrovia	CA	91016-2251
Baker	Jenny	1637 Florida Street	San Francisco	CA	94110-4815
Baker	Rolinda B.	1701 San Pasqual St.	Pasadena	CA	91106-3549
Baker	James	810 Eddy St., Apt. 304	San Francisco	CA	94019-7708
Baker	Jill	300 3rd St., Apt. 812	San Francisco	CA	94107-1253
Baker	Sharon	29 Forrest St.	Mill Valley	CA	94941-2002
Baker	Dr. James Wm	6126 E. Dennison St.	Los Angeles	CA	90022-4511
Bakke	Charles	5576 Lawton Avenue	Oakland	CA	94618-1509
Bakken	BA	PO Box 191824	San Francisco	CA	94119-1824
Balder-Froid	Kristin H.	6517 Chelton Drive	Oakland	CA	94611-1615
Baldino	Terry	P.O. Box 325	Death Valley	CA	92328-0325
Baldwin	Susan	4878 Hart Dr.	San Diego	CA	92116-2339
Baldwin	Donald S.	PO Box 5063	Arcata	CA	95518-5063
Baldyga	Edward	35062 Rice Cyn. Rd.	Fallbrook	CA	92028-9659
Balick	Steven	65 Florence Ave.	San Anselmo	CA	94960-1808
Ball	Erica	33300 Mission Blvd. Apt. 163	Union City	CA	94587-1447
Ball	Pamela L.	4042 Everett Ave.	Oakland	CA	94602-1761
Ballantyne	Jean	2705 Miradero Dr.	Santa Barbara	CA	93105-3021
Ballard	Linda P.	P.O. Box 1022	Sausalito	CA	94966-1022
Balme	Maria	136 So. Harrison Street	Fort Bragg	CA	95437-4306
Balz	Christopher	160 Lincoln Ave.	Palo Alto	CA	94301-2437
Bammesberger	Ken	PO Box 567	El Dorado	CA	95623-0567
Ban	Agi E.	669 Jean Street	Oakland	CA	94610-1421
Banard	Adrian	1262 34th Avenue	San Francisco	CA	94122-1307
Banchero	Christina	1420 Alcatraz Ave. Apt. 1-B	Berkeley	CA	94702-2701
Banfield	Mary	252 Clydesdale Dr.	Danville	CA	94526-1907
Bankert	Marilyn M.	8587 Church St., Apt. 18	Gilroy	CA	95020-4223
Banks	Catriona	PO Box 568	Pismo Beach	CA	93448-0568
Barajas	James	2814 Villa Alta Place	Hacienda Heights	CA	91745-5439
Baranoff	Eugenie F.	434-B Alamatos Drive	Danville	CA	94526-2707
Barber	Ron P.	836 Sage Drive	Martinez	CA	94553-5956
Barber	Chris	2434 A St., Apt. 2	San Diego	CA	92102-2088
Barber	Clara	5696 Wendy Way	Oroville	CA	95965-9767
Barbera	James	707 Coastland Dr.	Palo Alto	CA	94303-3602
Barbolla	Diane E.	8183 Via Mallorca	La Jolla	CA	92037-2903
Barbour	Sharon	P.O. Box 1355	Boulder Creek	CA	95006-1355
Barclay	Martha	2953 Hillegass Ave.	Berkeley	CA	94705-2233
Barcliff	L.M.	2000 Alberta Ave., Apt. 20	Venice	CA	90291-4587
Barekman	Virginia	2260 Appolinaris Dr.	Ukiah	CA	95482-4100
Baren	Gretchen U.	P.O. Box 4934	Santa Rosa	CA	95402-4934
Barker	Mary	787 Santa Ana Blvd.	Oak View	CA	93022-9329
Barnacle	Maureen	190 San Francisco Blvd.	San Anselmo	CA	94960-1655
Barnard	Christina	6600 Warner Ave. Apt. 158	Huntington Beach	CA	92647-5270
Barnes	Daniel	11 Arch Street Apt. 1	Redwood City	CA	94062-1436
Barnes	Pamela	10133 Hillcrest Road	Cupertino	CA	95014-1049
Barnes	Peter	432 28th Street	San Francisco	CA	94131
Barnhill	Susan K.	450 \T\" Street"	Sacramento	CA	95814-6914
Barnhouse	Michael	1912 S. Bedford St.	Los Angeles	CA	90034-1308
Baron-Heler	Cora	521 1/2 Hillcrest Ct.	San Anselmo	CA	94960
Barr	Edmund	1307 Oak Grove Drive	Los Angeles	CA	90041
Barr	Marya	111 Poinsettia Gardens Dr.	Ventura	CA	93004-3345
Barrager	Olivia	31200 Cedar Street	Ft. Bragg	CA	95437-4023
Barrera	Vivian	605 Fremont Ave.	South Pasadena	CA	91030-2527
Barrett	Charles N.	P.O. Box 3626	Yountville	CA	94599-3626
Barrett	Diana	1075 Olive Dr. Spc. 69	Davis	CA	95616-4736
Barrett	Nolen O.	346 29th Avenue	San Francisco	CA	94121-1703
Barron	Daniel	4118 Broadway Apt. 4	Oakland	CA	94611-5164
Barry	Ann P.	3780 Wright Place	Palo Alto	CA	94306-4262
Barry	Hathaway	P.O. Box 157	Point Reyes Station	CA	94956
Barry	Lucero	1855 Washington St., Apt. 104	San Francisco	CA	94019-2942
Barsanti	Cristine A.	P.O. Box 851	Columbia	CA	95310-0851
Barshell	Margaret	908 Baech Park Blvd., Apt. 117	Foster City	CA	94404-3228
Barth	Robert	131 Fairmont Street	San Francisco	CA	94131-2715
Barth	Ryan P.	2334 Carleton Street #B	Berkeley	CA	94704-3317
Barth	Teresa	2140 Orinda Dr. Apt. K	Cardiff By The Sea	CA	92007-1943
Bartl	Alan L.	P.O. Box 1378	Santa Rosa	CA	95402-1378
Bartlett	Faith	17 Plymouth Ave.	Mill Valley	CA	94941-2913
Barto	Burnett V.	48836 Semillon Drive	Fremont	CA	94539-7783
Barton	Nova	410 Steiner St. #1	San Francisco	CA	94117
Bartos	Theresa	1043 W. Valerio St.	Santa Barbara	CA	93101-4959

Baruck	Abraham J.	15003 Greenleaf Street	Sherman Oaks	CA	91403-4006
Basford	Keary E.	2739 63rd St.	Sacramento	CA	95817-2613
Basin	Patricia	1240 Robbia Drive	Sunnyvale	CA	94087-2868
Baskett	Pauline	1901 Altamont Drive	Felton	CA	95018-9510
Bass	Michele	1471 45th Avenue	San Francisco	CA	94122-2934
Bastien	Justin	2946 Surfrider Ave.	Ventura	CA	93001-4136
Bates	John F.	51 North Buena Vista St.	Redlands	CA	92373-4615
Bates	Elizabeth R.	323 Alcatraz Ave., Apt. 6	Oakland	CA	94618-1365
Bates	Vicki E.	111 S. Franklin St.	Fort Bragg	CA	95437-4201
Battistella	Walter	982 Alpine Terr. Apt. 1	Sunnyvale	CA	94086-2457
Bauer	Michael	2093 Northshore Dr. Unit D	Chula Vista	CA	91913-2497
Bauhaus	Dan	325 Phelps Road	San Carlos	CA	94070-1936
Baum	Dennis	970 Vermont St., Apt. 2	Oakland	CA	94610-1654
Bauml	Cynthia	P.O. Box 1256	Coarsegold	CA	93614
Bavaria	Joan	6 Dodge Road	Marblehead	MA	01945-1406
Baxter	Joslyn	1660 Sutter St. Apt. 206	San Francisco	CA	94109-5222
Bayless	Jonathan W.	4201 Sherwood Ct.	Concord	CA	94521-3354
Baysinger	Charles	2108 Piru Avenue	Oxnard	CA	93035-4453
Beale	Chris M.	1527 16th St., Apt. A	Santa Monica	CA	90404-3308
Bean	Marilyn	170 26th Avenue	San Francisco	CA	94121-1113
Beasley	Mary J.	2100 32nd Ave	San Francisco	CA	94116
Beatty	Barbara	1992 Los Angeles Ave.	Berkeley	CA	94707-2419
Beatty	Denise	2269 Chestnut St., Apt 114	San Francisco	CA	94123-2600
Beatty	James D.	1743 Berkeley Way, Apt. C	Berkeley	CA	94703-1525
Bechko	Corinna	7920 Selma Ave. Apt. 2	Los Angeles	CA	90046-2680
Bechtloff	Julie R.	10382 Holman Ave.	Los Angeles	CA	90024-5351
Beck	Thomas V.	12322 Howard Street	Whittier	CA	90601-3040
Beck	Rachael	1116 Entrada Dr.	Davis	CA	95616-7122
Beckelman	Elliot	2754 21st Street	San Francisco	CA	94110-2844
Becker	Donna	406 Esmeralda Drive	Santa Cruz	CA	95060-1637
Becker	Margaret	217 Ramona Street	San Mateo	CA	94401-2521
Becker	Martha E.	567 Virginia Drive	Belvedere Tiburon	CA	94920-1336
Becker	Nicole A.	2206 10th Street	Berkeley	CA	94710-2326
Becker	John	7 Magee Ave.	Mill Valley	CA	94941-4532
Beckley	Sandra L.	727 West 38th St. Apt. 21	San Pedro	CA	90731-6962
Beckwith	Amanda	2537 Vallejo Street	Santa Rosa	CA	95405-6948
Bedcarre	John	4386 Armand Drive	Concord	CA	94521-1938
Bedford	William L.	29981 Hawkhill Road	Vista	CA	92084-1323
Bednay, Robinson	Joseph, Dale	173 E. Bonita Dr.	Simi Valley	CA	93065-3001
Beede	Norman	458 Park Ave.	Laguna Beach	CA	92651-2337
Beeson	Steve	750 No. Sierra Bonita Ave.	Los Angeles	CA	90046
Begg	James L.	P.O. Box 229	Sierraville	CA	96126
Behrens	Liz J.	2739 Derby St., Lwr.	Berkeley	CA	94705-1358
Beiriger	Mike	1508 Baxter Street	Los Angeles	CA	90026-1910
Bejgrowicz	Tom	1310 No. Gardner St. Apt. 6	Los Angeles	CA	90046-4127
Bekins	Barbara	338 Central Ave, #3	Menlo Park	CA	94025-2803
Belden	Ashley	658 15th Ave.	San Francisco	CA	94118-3505
Beldner	Brad	1325 Cowper St.	Palo Alto	CA	94301-3614
Beldon	Theresa	11725 Bodega Hwy	Sebastopol	CA	95472-9281
Bell	Linda A.	2239 4th Ave.	Sacramento	CA	95818-3109
Bell	Douglas J.	10960 Rose Ave., Apt. 4	Los Angeles	CA	90034-5330
Bell	Natasha	3239 Baker St.	Berkeley	CA	94702-2744
Bell	Marsha F.		Pine Mountain Club	CA	93222
Belle	Elaine	415 Wellesley Ave.	Mill Valley	CA	94941-3713
Belt	Virginia	1941 Buckeye Road	Willits	CA	95490-9456
Benally	Amber G.	1517 23rd Street Apt. 5	Sacramento	CA	95816-6169
BenAvram	Rachmael	536 Roosevelt Way	San Francisco	CA	94114
Bender	Deborah E.	7812 Hansom Drive	Oakland	CA	94605-3809
Bender	Emily	576 Precita Avenue	San Francisco	CA	94110-4720
Bender	Melissa	1528 F St., Apt. 3	Davis	CA	95616-1114
Benedict	Elizabeth	333 Laurel Avenue	Novato	CA	94945-3546
Benedict	Margaret H.	1201 Melville Sq., Apt. 211A	Richmond	CA	94804-4545
Benham	Lisa	257 Los Palmos Way	San Jose	CA	95119-1419
Benitez	Jim	4194 Texas Street	San Diego	CA	92104-1616
Bennett	Paul	1390 Market St. Apt. 1728	San Francisco	CA	94102-5325
Bennett	Sharon	2550 Ulloa Street	San Francisco	CA	94116-2316
Bennett	Sari J	315 McAmant Dr.	Santa Cruz	CA	95060-9655
Benninger	Katrine	992 53rd St.	Oakland	CA	94608-3102
Bent	Jo	4241 Gilbert St., Apt. A	Oakland	CA	94611-5115

Bentley	Brazil	3629 Vinton Ave. Apt. 8	Los Angeles	CA	90034-5733
Benz	Alec	7877 Nora Drive	Sebastopol	CA	95472-4614
Benzinger	Barbara	1959 Fairhaven St.	Lemon Grove	CA	91945-3712
Berberich	Michael	PO Box 624612	South Lake Tahoe	CA	96154
Berdeen	Joanne M.	10000 Buena Vista Ave. Spc. 61	Santee	CA	92071-4350
Berdes	Belinda	15106 Magnolia Blvd. Apt. 10	Sherman Oaks	CA	91403-1253
Bergantino	Geri L.	2445 Union Street	San Francisco	CA	94123-3871
Berger	Thomas E.	1040 Ventura Ave.	Albany	CA	94706-2532
Berges	Frances H.	1506 Josephine St.	Berkeley	CA	94703-1136
Berkes	Pauline	201 Harrison St., Apt. 504	San Francisco	CA	94105-2037
Berkoff	Michael	10767 Rose Ave., Apt. 38	Los Angeles	CA	90034-4461
Berkson	Stephen	109 Hawk Point Ct., Apt. 47	Folsom	CA	95630-1531
Berlin	Davis	1272 61st St.	Emeryville	CA	94608-2133
Berman	Nura-Marcia	2333 Rose Street	Berkeley	CA	94708-1807
Berman	Terry	6456 Irwin Court	Oakland	CA	94609-1123
Berman	Nancy	2140 Shattuck Ave., #2374	Berkeley	CA	94704-2374
Berman	Harriet A.	843 Portola Dr.	Monterey	CA	93940-5531
Bern	Amanda	6475 Lake View Estates Dr.	Kelseyville	CA	95451-9137
Bernales	Julie	922 Lassen Street	Richmond	CA	94805-1031
Bernard	Shirley	3700 So. Plaza Dr. Apt C-212	Santa Ana	CA	92704-7444
Bernard	Lawrence	1395 16th Ave., Apt. 6	San Francisco	CA	94122-2066
Bernardi	Donna	654 Redwood Road	Felton	CA	95018-9520
Bernardo	Corinne A.	2480 Fulton St., Apt. 4	San Francisco	CA	94118-4142
Bernet	Walter	2421 Cazaux Place	Los Angeles	CA	90068
Bernheimer	Elizabeth	1365 Church Street	San Francisco	CA	94114-3924
Bernier	Paul	1720 Canyon Rd.	Geyserville	CA	95441-9641
Bernstein	Donald	1635 Tacoma Ave.	Berkeley	CA	94707-1826
Bernstein	Rebecca	742 Spindrift Street	San Jose	CA	95134-1350
Bernstein	Susan	266 Santa Rosa Ave.	Oakland	CA	94610-1430
Bernstein	Lisa	3964 Huntington St.	Oakland	CA	94619-2853
Berreman	David W.	11764 Polaris Drive	Grass Valley	CA	95949-7609
Berreman	George	3700 Dean Dr. Unit 507	Ventura	CA	93003-3331
Berry	Caroline	18 Issaquah Dock	Sausalito	CA	94965-1332
Berry	Steve	812 Venezia Avenue	Venice	CA	90291-3928
Berry	John D.	232 Winfield St.	San Francisco	CA	94110-5145
Berry	Margaret	3420 Brookside Way	Carmichael	CA	95608-3426
Berry	Elizabeth	223 Mark Twain Ct.	Santa Clara	CA	95050-6620
Berson	Berson	118 Palm Ave.	San Francisco	CA	94118-2516
Bertrams	Michael	1344 N. Serrano Ave., Apt. 113	Los Angeles	CA	90027-6402
Bess	Judy	69 Bayo Vista Way	San Rafael	CA	94901-1665
Besser	Jaya	275 Ventura Ave. Apt. 1	Palo Alto	CA	94306-3446
Best	Ruth A.	1426 Van Buren Ave.	San Diego	CA	92103-2340
Best	Chris	363 Andrew Ave.	Encintas	CA	92024-1131
Betar	Claire	2275 West 25th St. Spc. 218	San Pedro	CA	90732-5411
Betcho	Donald R.	2200 Lyric Avenue	Los Angeles	CA	90027-4752
Betonte	Patty	13273 Centreville Road	Chico	CA	95928-8875
Betteridge	BR	7817 Magnolia Ave.	Fair Oaks	CA	95628-7369
Betts	Blaine	411 N. Kenilworth Ave.	Glendale	CA	91203-1627
Beyda	Kent	1949 N. Wilton Pl.	Los Angeles	CA	90068-3626
Beye	Andrew	224 Chilverton St.	Santa Cruz	CA	95062-1144
Bhagia	Sanjay	958 Hilldale Ave.	Berkeley	CA	94708-1418
Bhattacharji	Sita M.	307 Owen St.	Santa Cruz	CA	95062-3407
Bias	Bart	10196 Nishinam Gulch Rd.	Nevada City	CA	95959-9333
Bickett	Gail	PO Box 85	Pope Valley	CA	94567-0085
Biddle	Kelly	656 Rosemont Street	La Jolla	CA	92037-6147
Biggs	Wesley W.	1420 Princeton St., Apt. B	Santa Monica	CA	90404-3069
Bigos	Martin	141 Fairmount St.	San Francisco	CA	94131-2715
Bijou	Jacqueline	3501 Bernard St. Unit 35-A	Bakersfield	CA	93306-3025
Billingsley	John	933 Lucile Avenue	Los Angeles	CA	90026-1511
Bingham	Alexander	35 Ashbury	San Francisco	CA	94117
Binkley	Greta	1430 Morningside Dr.	Burbank	CA	91506-3022
Biollo	Amerigo	712 D Street Ste. J	San Rafael	CA	94901-3706
Bird	Wendolyn	680 Channing Avenue	Palo Alto	CA	94301-2812
Birenbaum	Judith	535 Pierce St. Apt. 3406	Albany	CA	94706-1058
Birinbaum	Lyuba	P.O. Box 6418	San Pablo	CA	94806-0418
Birkes	Kevin	1031 Marguerite Ave.	Corning	CA	96021-3520
Birns	Joyce	118 Palmetta Street	Santa Cruz	CA	95060-5930
Birrell	Birrell	4116 Moraga Street	San Francisco	CA	94122-3930
Bische	Vern	P.O. Box 984	Weimar	CA	95736-0984
Bishop	Linda	3332 Parker Hill Rd.	Santa Rosa	CA	95404-1742

Bishop	Doreen A.	1346 Milton Rd.	Napa	CA	94559-9769
Bittner	Kristi	349 John Street	Santa Cruz	CA	95060-6332
Bixby	Bill	2120 Stockton St. Apt. 201	San Francisco	CA	94133-2077
Bjorngaard	David N.	901 Jarboe Ave., Apt. 4	San Francisco	CA	94110-6228
Black	Murva G.	20551 Summerglen Place	Castro Valley	CA	94552-5343
Blacksmith	B. J.	P.O. Box 917	Ferndale,	CA	95536-0917
Blackwill	Barbara	1115 Sir Francis Drake Blvd., Apt. 12	Greenbrae	CA	94904-1432
Blaess	Alexis W.	1253 Waller St.	San Francisco	CA	94117-2918
Blair	Antone	2310 Eye St., Apt. C	Arcata	CA	95521-5132
Blaire	Charlotte M.	3218 Lees Avenue	Long Beach	CA	90808-4219
Blake	Barbara	815 Coolidge Ave.	Sunnyvale	CA	94086-5934
Blake	Kimberly	815 Balboa Ave., Apt. 108	Capitola	CA	95010-2341
Blakely	Shawn	1878 Magellan Drive	Oakland	CA	94611-2634
Blakley	Rosalind R.	444 Whispering Pines Dr. Spc. 127	Scotts Valley	CA	95066-4758
Blanchard	Kara	4877 Yuma Ave. Apt. F	Oceanside	CA	92057-5231
Blanchard	Lydia	PO Box 8302	Santa Cruz	CA	95061-8302
Blanton	Carson	P.O. Box 25	No. San Juan	CA	95960-0025
Blatnik	Ann L.	5325 Toscana Way Apt. 628	San Diego	CA	92122-5318
Blau Phd	William H.	87013 Amboy Road	San Diego	CA	92277-8533
Blaze	Connie	PO Box 371406	Montara	CA	94037-1406
Blick	Suzanne	3182 Campus Dr. #144	San Mateo	CA	94403-3123
Blinkwolt	R.J.	PO Box 751	Santa Margarita	CA	93453
Bliss	Mary	5765 Via Del Coyote	Yorba Linda	CA	92887-3543
Bliss	Walter E.	636 Webster St.	Palo Alto	CA	94301-2027
Bloch	Victoria	2556 Granville Avenue	Los Angeles	CA	90064-2804
Bloecher	Michael	2714 Ivan Court	Los Angeles	CA	90039-2601
Blois	Joanne	PO Box 5112	Bear Valley	CA	95223-5112
Bloom	Lori	834 Stratford Drive	Encinitas	CA	92024-4549
Bloom	Eric	2556 Ross Rd.	Palo Alto	CA	94303-3625
Blue	Paul	351 Redwood Heights Rd.	Aptos	CA	95003-9705
Bluestein	Jeremy	10691 N. Madsen Ave.	Clovis	CA	93611-9704
Bluhm	Hannah C.	1818 Derby St. Apt. A	Berkeley	CA	94703-1941
Blum	Anita	2330 Skyline Way	Santa Barbara	CA	93109-1245
Blume	Louise	6945 Keith Road	Clermont	GA	30527-1504
Blumenfeld	Robert K.	1425 Oxford St.	Berkeley	CA	94709-1426
Blumer	Roger	121 Millbrae Ct.	Walnut Creek	CA	94598-3650
Bobcock	Waldo	265 W. Big Springs Rd. Apt. D	Riverside	CA	92507-4763
Bochinski	Barbara	112 Pierson St.	Santa Rosa	CA	95401-6157
Bockis	Bernadette	1764 No. Sycamore Ave. Apt. 301	Los Angeles	CA	90028-8652
Bockus	Kimmerle	5850 Foothill Dr.	Los Angeles	CA	90068-3622
Bode	Sheryl	120 Via Cantebria Apt. 35-C	Encinitas	CA	92024-5814
Bodlaender	Peter	3040 Silver Lea Ter.	Los Angeles	CA	90039-3034
Boelk	Peggy	PO Box 823	Truckee	CA	96160-0823
Boen	Lorren L.	765 Geary St. Apt. 302	San Francisco	CA	94109-7320
Boer	Jason	4690 Tompkins Ave., Apt. 7	Oakland	CA	94619-2859
Bogley	Ron	2124 Ward Street	Berkeley	CA	94705-1016
Bohem	Hilda	1629 No. Crescent Heights Blvd.	West Hollywood	CA	90069-1602
Bolhuis	Linda	941 Fernwood Pacific Dr.	Topanga	CA	90290-3219
Bolles	Marita D.	1656 Pennsylvania Ave.	San Diego	CA	92103-4525
Bolt	Dorothy M.	8 Charles Hill Pl.	Orinda	CA	94563-1903
Bondi	Julia C.	3024 Deakin St., Apt. 6	Berkeley	CA	94705-1968
Bonfield	June	656 Lytton Ave. Apt. C-201	Palo Alto	CA	94301-1370
Bonnie	Ken	2070 Fell St., Apt. 12	San Francisco	CA	94117-1879
Bonpane	Blasé	2016 Hill Street	Santa Monica	CA	90405-5020
Bonte	Gary	729 Hopkins Ave.	Redwood City	CA	94063-1213
Bonverant	Mark	20265 Labrador St.	Chatsworth	CA	91311-5437
Boone	Michael	USFS Pacific Valley Unit 4	Big Sur	CA	93920
Boornan	Marieke C.	2351 Sunset Heights Dr.	Los Angeles	CA	90046-1427
Booth	Stacey	1307 Alta Vista Road	Santa Barbara	CA	93103-2238
Bordeaux	Christopher	6385 Longcroft Dr.	Oakland	CA	94611-2521
Boren	Gary	501 Guerrero St. Apt. 6	San Francisco	CA	94110-1046
Borges	Jose R.	5 Stonehaven Court	Novato	CA	94947-2039
Borgman	John	107 Washburn Avenue	Capitola	CA	95010-3743
Borowick	Arline	18717 Mill Villa Rd. Sp. 150	Jamestown	CA	95327-9670
Borowitz	Susan	1901 Francisco Way	Richmond,	CA	94805-2003
Borquez	Connie	19415 Fairweather St.	Canyon Country	CA	91351-2725
Borras	Ralph	PO Box 5150	Philo	CA	95466
Borsook	Myra	1701 San Pasqual St.	Pasadena	CA	91106-3549
Borsook	Paulina	222 Brookside Ave.	Santa Cruz	CA	95060-2214

Boss	Margo E.	2701 Aldon Ave.	La Verne	CA	91750-4637
Bosted	Molly	2090 Oak Valley Road	Glendale	CA	91208-1626
Bostelmann	Pamela	2714 Lowell Avenue	Richmond	CA	94804-1080
Bostock	William T.	2917 Austin St. Apt. #4	Davis	CA	95616-0332
Botley	Robert	1815 Oak Place	McKinleyville	CA	95519-8200
Botsacos	Laura	1143 1/2 Glenville Dr.	Los Angeles	CA	90035-1219
Bottoriff	Virginia	660 Randy Drive	Newbury Park	CA	91320
Boucek	Cynthia	2424 Floral Ave.	Chico	CA	95926-7314
Bouche	Renee	42242 30th St., W.	Lancaster	CA	93536-3345
Boucher	Virginia	902 Oak Avenue	Davis	CA	95616-3633
Bourdet	Christie M.	1298 So. El Molino Ave.	Pasadena	CA	91106-4342
Boutiette	Linda	P.O. Box 792	Laytonville	CA	95454-0792
Bowen	Tracey	215 W. Buchanan Rd. Apt. 159	Pittsburg	CA	94565-6557
Bowersock	Liz	2505 Howe Street	Santa Cruz	CA	95065-1902
Bowman	Claudia M.	5672 Thornhill Dr.	Oakland	CA	94611-2143
Boxall Jr.	Allen R.	720 Olson Rd.	Soquel	CA	95073-9689
Boyce	Charles	3921 Georgia Street	Ventura	CA	93003-3644
Boyd	Kirsten	1373 Page St., Apt. 4	San Francisco	CA	94117-3017
Boyle	Jane M.	346 Lewis St.	Oakland	CA	94607-1236
Boyle	Tim	101 Molton Ave.	San Carlos	CA	94070-1720
Boylen	Sarah	3328 Wood Valley Rd.	Sonoma	CA	95476-4895
Boysen	Betsy	9260 Rock Springs Rd.	Newcastle	CA	95658-9714
Bozzolo	Cynthia W.	9502 Argonne Way	Forestville	CA	95436-9530
Bradford	Stuart	508 San Anselmo Ave., Ste 19	San Anselmo	CA	94960-2632
Bradford	Daniel	46 W. Manor St.	Altadena	CA	91001-4714
Bradley	William	309 Kent Avenue	Kentfield	CA	94904-2526
Bradley	Larken	P.O. Box 151182	San Rafael	CA	94915-1182
Bradley	Sandra	1142 Santa Lucia Dr.	Pleasant Hill	CA	94523-2338
Bradley	Daivd P.	1429 Irons Ct.	Modesto	CA	95355-4317
Brady	James	3405 Florida St., Unit 401	San Diego	CA	92104-3270
Brady	Kevin T.	8392 Prindale Rd.	Mokelumne Hill	CA	95245-9547
Braga	Nancy J.	17 Co-Linda Dr.	Petaluma	CA	94952
Braitman	Stephen M.H.	1442 Waller St.	San Francisco	CA	94117-2925
Brajkovich	Esther L.	165 Jordan Ave., Apt. 2	San Francisco	CA	94118-2555
Brakebush	Sheri	21909 Saticoy St., Apt. 26	Canoga Park	CA	91304-6030
Bramble	Joanna	529 Jean St.	Oakland	CA	94610-1906
Branch	Elfrieda	10456 Sharonjack Road	Auburn	CA	95602-8530
Branco	Chris	PO Box 1822	Placerville	CA	95667-1822
Brandenburger	Kris	823 Gilman Street	Berkeley	CA	94710-1421
Brandi C.	Brandi C.	1956 Thomas Avenue	San Diego	CA	92109-4528
Brandt	Devika	PO Box 915	Occidental	CA	95465-0915
Bransfield	Raymond	550 Frances Street	Ventura	CA	93003-4651
Bransford	Gladys	P.O. Box 751212	Petaluma	CA	94975-1212
Braun	Jackie	1615 Alta Lane Apt C	Sebastopol	CA	95472-2689
Bray	Alida	468 Donaldson Ave.	Pacifica	CA	94044-3209
Brazis	Christine A.	10A Appleton Ave.	San Francisco	CA	94110-5805
Breazeale	Kat	14831 Drake Rd.	Guerneville	CA	95446-9441
Brebner	Robert P.	54 Encinal Pl.	Ventura	CA	93001-3316
Brechin	Vernon	255 So. Rengstorff Ave. Apt. 49	Mountain View	CA	94040-1734
Breeden	Meredith	866 El Pintado Rd.	Danville	CA	94526-1409
Breen	Tom	1612 W. Morris Ave.	Fresno	CA	93711-2341
Breen	Marth	424 Euclid Ave.	Oakland	CA	94610-3520
Breger	Barbara	642 Swarthmore Ave.	Pacific Palisades	CA	90272
Breiding	Joan	PO Box 170625	San Francisco	CA	94117-0625
Breiman	Joyce E.	2049 Glencoe Way	Los Angeles	CA	90068-3129
Brennan	Steve	129 Roycroft Ave. Apt. 4	Long Beach	CA	90803-3133
Brennan	Ethel	125 Dolores St., Apt 2	San Francisco	CA	94103-2209
Brennan	Stephan	129 Roycroft Ave., Apt. 4	Long Beach	CA	90803-3133
Brenner	Richard	PO Box 5095	Larkspur	CA	94977-5095
Brentson	Keith	1921 Page Street	San Francisco	CA	94117-1803
Bressler	David	135 Erselia Trl.	Alamo	CA	94507-1311
Brewer	Serena	2 Leona Ter.	San Francisco	CA	94115-3307
Brewer	Helene M.	2430 Prospect St., Apt. 109	Berkeley	CA	94704-2521
Brey	Phil	P.O. Box 269	Hyampom	CA	96046-0269
Brickner	David A.	1411 San Joaquin Street	Richmond	CA	94804-4946
Bridges	J.K.	2455 Bennett Valley Rd.	Santa Rosa	CA	95404-5653
Briere	Adelle	2250 Prosser Avenue	Los Angeles	CA	90064-2322
Brigham	Matthew R.	3916 E. Wilton St.	Long Beach	CA	90804-2743
Brill	Fay T.	1255 North Broadway	Escondido	CA	92026-2863
Brind'Amour	Jim	22 Nave Ct.	Novato	CA	94947-4124

Bringhurst	Laura	1191 C St.	Arcata	CA	95521-5924
Brinkerhoff	Scott	418 Deerfield Ave.	Irvine	CA	92606-7651
Brinkley	Stephan 1	PO Box 203	Bayside	CA	95524-0203
Bristow	Becky	10413 Glory Avenue	Tujunga	CA	91042-2025
Britton	Sallie	50 Via Belardo Apt. 16	Greenbrae	CA	94904-2237
Britton	Donna	7800 Jordan Ave.	Canoga Park	CA	91304-4861
Britton	Kathryn	3757 Vienna Dr.	Aptos	CA	95003-2830
Britts	Bryana	207 Grandview St.	Santa Cruz	CA	95060-3016
Brodo	Daniel	1814 1/2 No. Van Ness Ave.	Los Angeles	CA	90028-5615
Brody	Laurel	9051 Mill Station Rd. Cotte Bldg.	Sebastopol	CA	95472-2509
Broekema	Dave	101 27th St., Apt. 1	San Francisco	CA	94110-4344
Broin	Valerie E.	220 Orange Ave.	Modesto	CA	95350-5940
Brokaw	Christina	20 Sunnyside Ave., Ste. A	Mill Valley	CA	94941-1928
Brokenshire	Ruth E.	14500 Fruitvale Ave. #40	Saratoga	CA	95070-6129
Bronzan	Mary	107 20th St.	Pacific Grove	CA	93950-2569
Brooker	Greg	1654 Malcolm Ave., Apt. B	Los Angeles	CA	90024-5764
Brookman	Adele	1379 47th Ave.	San Francisco	CA	94122-1114
Brookman-Knight	Donna	781 Cragmont Ave.	Berkeley	CA	94708-1344
Brooks	Craig L.	425 East 11th St. Apt. B	Oakland	CA	94606-2824
Brooks	Pettus	4056 26th Street	San Francisco	CA	94131-1913
Brooks	Tracie	3125 Maple Avenue Apt. B	Oakland	CA	94602-3667
Brooks	Wendy	1115 Kentfield Dr.	Salinas	CA	93901-1085
Brooks	Robin	407 Quail Run	Aptos	CA	95003-9720
Brooks	Martin	1775 Nelson Way	San Jose	CA	95124-3715
Broomhead	Calvin	30 Thor Ave.	San Francisco	CA	94131-2917
Brostrom	Mikael	9393 Discovery Way Apt. B	La Jolla	CA	92037-1507
Broughton	Margaret M.	980 Terracina Street	Santa Paula	CA	93060-1325
Browman	Richard W.	3032 Calle Rosales	Santa Barbara	CA	93105-2806
Brown	Carlene	1087 Santa Rosa Ave.	Costa Mesa	CA	92626-1619
Brown	Cherri	13 Deuce Court	Fairfax	CA	94930-1308
Brown	Chris	1721 Novato Blvd. Apt. 14	Novato	CA	94947-3068
Brown	Liz	P.O. Box 509	Graton	CA	95444-0509
Brown	Maisha	703 1/2 W. Glenoaks Blvd.	Glendale	CA	91202-2131
Brown	Mark	2377 West Silver Lake Dr.	Los Angeles	CA	90039
Brown	Matthew R.	5455 Zelzah Ave. Apt. 114	Encino	CA	91316-2253
Brown	Phyllis	2809 8th Ave. Apt. 8	Oakland	CA	94610-3953
Brown	Zane	P.O. Box 3122	Santa Cruz	CA	95063-3122
Brown	Lichen	731 Ellsworth St.	San Francisco	CA	94110-6050
Brown	Kim Leslie	PO Box 135	Villa Grande	CA	95486-0135
Brown	Stephen	2129 Roosevelt Ave.	Berkeley	CA	94703-1521
Brown	Elliott M.	17805 Woodlake Dr.	Riverside	CA	92508-8803
Brown	Ethan	2953 Yorktown Ct.	Marina	CA	93933-4936
Brown	Hilde A.	160 Farmer St.	Felton	CA	95018-9416
Brown	Anne K.	328 Prospect Dr.	San Rafael	CA	94901-1225
Brown	Olivia	22 Gladys St.	San Francisco	CA	94110-5428
Brown	Rita	5801 Fleming Ave.	Oakland	CA	94605-1131
Brown	Kenneth	10405 Rancho Rd.	La Mesa	CA	91941-7064
Brown	Anny	PO Box 1175	Yucca Valley	CA	92286-1175
Browning	Catherine	2125 No. Beverlyglenn Blvd.	Los Angeles	CA	90077
Browning	Patricia	1917A Wyehka Way	Mount Shasta	CA	96067-9721
Brownstein	Alan	1017 S. Crescent Heights Blvd.	Los Angeles	CA	90035-2632
Broyles	Nancy M.	740 Flora Vista Drive	Santa Barbara	CA	93109-1108
Bruce	Janine	395 Del Monte Dtr., Pmb 119	Monterey	CA	93940-6156
Brueckner	Joana	901 Terra California Dr., Apt. 3	Walnut Creek	CA	94595-2520
Bruggeman	Joanne	3 Lido Cir.	Redwood City	CA	94065-1302
Brundall	Marcos	3060 Porter St. Spc. 25	Soquel	CA	95073-2229
Brunelle	Jennifer P.	62 Sillero	Rancho Santa Margarita	CA	92688-3045
Brunetti	Daniel	409 Franz Valley School Rd.	Calistoga	CA	94515-2002
Brunig	Susan M.	414 Lee St., Apt. 10	Oakland	CA	94610-4756
Brunn	John	110 Hoffman Avenue	San Francisco	CA	94114-3126
Brunnick	Julie	6846 Colbath Avenue	Van Nuys	CA	91405-4101
Bruno	Virginia	PO Box 606	Graton	CA	95444-0606
Bruno	Helen S.	42 Bache St.	San Francisco	CA	94110-5924
Brusen	Lloyd	930 St. Andrews Drive	Rio Vista	CA	94571-9707
Brutsche	Peggy	3400 Ben Lomond Pl. Apt. 107	Los Angeles	CA	90027-2951
Brux	Kurt	45470 Carmel Valley Rd.	Greenfield	CA	93927-9701
Bryant	Mary L.	112 Glen Drive #3	Sausalito	CA	94965-2029
Bryant	Meredith	1418 Rhode Island St., Apt. 4	San Francisco	CA	94107-3292

Bryant	Shaun	1347 Vienna Way	Venice	CA	90291-4028
Bryant	Doris	2250 King Ct. Unit 74	San Luis Obispo	CA	93401
Bryant	T. Taylor	71 Fernwood Dr.	San Anselmo	CA	94960-2124
Bryce	Helen	722 Orchard Ave.	Capitola	CA	95010-3719
Bryne	Andrew L.	1231 N. Las Palmas Ave., Apt. 106	Los Angeles	CA	90038-1267
Buchbinder	Lucie	1166 Cragmont Ave.	Berkeley	CA	94708-1613
Buchmann	Sally Ann	244 Downey St., Apt. 2	San Francisco	CA	94117-4455
Buck	Jennifer J.	412-A Scripps Drive	Davis	CA	95616-1024
Bucklew	Erin	2965 Harrison St., Apt. A	San Francisco	CA	94110-4118
Buckley	Karen	425 Magee Avenue	Mill Valley	CA	94941-1862
Buckley	Jessie	2271 E. 19th St.	Oakland	CA	94606-4707
Bucy	Lorraine	534 Simonds Loop Apt. B	San Francisco	CA	94129-1139
Buddenbaum	Bethann	497 Atchison Street	Pasadena	CA	91104-1206
Bueckert	Sam	1516 Hopkins Street	Berkeley	CA	94707-2711
Buelna	Elizabeth	8332 Vista Del Rosa St.	Downey	CA	90240-2213
Buelow	Alicia	150-A Mississippi Street	San Francisco	CA	94107-2524
Bugental	James F.T.	24 Elegant Tern Rd.	Novato	CA	94949-6619
Bukojemsky	Allegra	1015 Guerrero St.	San Francisco	CA	94110-2930
Bulkin	Ann	422 28th St.	San Francisco	CA	94131-2218
Buller	John	9280 Spring Hill School Rd.	Sebastopol	CA	95472-3033
Bullock	Constance	640 The Vlg. Unit 117	Redondo Beach	CA	90277-2725
Bunde	Jill D.	810 Yulupa Ave., Apt. 22	Santa Rosa	CA	95405-6871
Buoncristiani	Kathy	1822 Delaware St., Apt. B	Berkeley	CA	94703-1329
Burby	John	PO Box 2478	Avila Beach	CA	93924-2478
Burchett	Nancie	P.O. Box 511	Calistoga	CA	94515-0511
Burdick	Dan R.	221 N. 17th St.	San Jose	CA	95112-1847
Burgess	Elizabeth K.	297 Robles Dr.	Santa Cruz	CA	95060-9690
Burgin	Sara A.	4352 49th Street Apt. 5	San Diego	CA	92115-8007
Burick	Kathe	666 8th Avenue Apt. 4	San Francisco	CA	94118-3774
Burke	Mike	1007 Cuyler Avenue	Placentia	CA	92870-2814
Burke	Stephen W.	1018 N. Madison Ave.	Pasadena	CA	91104-3628
Burke	Lydia	6967 Corte Mercado	Pleasanton	CA	94566-8606
Burkey	Sarah	3165 Theatre Dr. Unit SP-32	Paso Robles	CA	93446-3933
Burkitt	Susan	2924 E. 7th St.	Long Beach	CA	90804-4816
Burlingame	Shirley	2951 Derby St. Apt. 305	Berkeley	CA	94705-1363
Burnett	Roxane	2921 Alamo Ave.	Chico	CA	95973-8727
Burnett-Hampson	Stan V.	1852 De Anza Way	Los Banos	CA	93635-5362
Burnham	Pamela	1165 Cherokee	Topanga	CA	90290-4424
Burns	Gust H.	5319 98th Ave. Ct. W.	University Place	WA	98467-1109
Burns	Kathleen B	730 Canyon Oaks Dr. Apt. D	Oakland	CA	94605-3883
Burns	Christina Raga	2020 Cortez St.	Needles	CA	92363-3021
Burns	Ms Barbara	1020 Kingston Rd., Apt. 1E	Mount Shasta	CA	96067-2245
Burnside	William R.	4540 Wharf Rd.	Soquel	CA	95073-2132
Burr	Maria	923 South Emerald St.	Anaheim	CA	92804-4423
Burr	Dayna	1215 Sierra Village Way	San Jose	CA	95132-2775
Burrell	Peter	2234 Browning St.	Berkeley	CA	94702-1824
Burston	John	1530 Boston Court Apt 14	Santa Rosa	CA	95405-7667
Burton	Marion H.	519 Bradford Ct.	Claremont	CA	91711-4234
Bury	Melinda	6153 Laird Ave.	Oakland	CA	94605-1740
Busch	Eileen	200 Nelson Way, Apt. 3	Sebastopol	CA	95472-3666
Bush	Andrew	355 Glendale Blvd.	Los Angeles	CA	90026-5009
Bush	Melanie	3910 Auburn Blvd. Apt. 52	Sacramento	CA	95821-2100
Bush	Rachael	634 15th St., #510	Oakland	CA	94612-1203
Butelein	David	2255 Showers Dr., Apt. 191	Mountain View	CA	94040-1279
Butler	Simone	4229 Hamilton Street	San Diego	CA	92104-1720
Butler	Shane	4585 Casitas Pass Rd.	Ventura	CA	93001-9708
Butler	Jo Ellen	736 Cornwall St.	Cambria	CA	93428-2433
Butterfield	Jacki	153 Donahue St., Apt. 24	Sausalito	CA	94965-1265
Butterworth	Tom W.	721 Jasmine Avenue	Corona Del Mar	CA	92625-2313
Buttny	John	P.O. Box 1333	Santa Ynez	CA	93460
Buttorff	Christine	709 Varsi Pl.	Santa Clara	CA	95050-5943
Buzbuzian	Bill	7 Boulevard Terrace	Novato	CA	94947-3922
Buzzard	Marion	4076 Bernice Dr.	San Diego	CA	92107-2640
Byczkowski	Angelika	28504 Big Basin Way	Boulder Creek	CA	95006
Byers	Lili C.	79 Pierce St.	San Francisco	CA	94117-3318
Bynum	Leanne	887 Sonoma Ave., Co-op Housing #2	Santa Rosa	CA	95404-6506
Byrd	Charlotte E.	451 May Avenue	Santa Cruz	CA	95060-2940
Byrd	Linda E.	243 Huntoon St.	Eureka	CA	95501-4115

Caballero	Cathy	6734 Fernhill Drive	Malibu	CA	90265-4237
Cabrera	Chelsea	1242 Regent St., Apt. A	Alameda	CA	94501-5367
Cache	Otto	P.O. Box 711	Tujunga	CA	91043-7011
Cade	Catherine	2202 Rosedale Avenue	Oakland	CA	94601-4326
Cahill	Christine	919 West Cardinal Dr.	Sunnyvale	CA	94087-1514
Cahill	Cecily	116 Towne Ter.	Santa Cruz	CA	95060-3632
Caine	Lisa	15332 Antioch St.	Pacific Palisades	CA	90272
Cain-Ramirez	Chris	1584 Chanitcleer Ave., Apt.7	Santa Cruz	CA	95062-3132
Calandri	Kevin	93 Grand Rio Circle	Sacramento	CA	95826-1718
Calbow	Andrea	10823 Cascajo Court	San Diego	CA	92124-2103
Calderon	Danu	688 65th St., #2	Oakland	CA	94609-1035
Caldwell	Deborah	3480 Clark Valley Rd.	Los Osos	CA	93402-4600
Caldwell	Sarah	4549 Olivegate Dr.	Fair Oaks	CA	95628-5601
Califf	Stan	1231 E. Sycamore Ave.	Orange	CA	92866-1240
Calissendorff	Dori	5320 Newcastle Ave. Apt. 211	Encino	CA	91316-3018
Calkins	Joanne	1335 Brommer	Santa Cruz	CA	95062
Call	Lewis	731 Vista Pacifica Cir.	Pismo Beach	CA	93449-3277
Caloca	Paul	1194 S. Mary Ave.	Sunnyvale	CA	94087-2103
Calvert	Jason	6801 Juniper Ln.	Placerville	CA	95667-7023
Calvert	Mike	6801 Juniper Ln.	Placerville	CA	95667-7023
Calvin	George	14102 Mango Drive	Del Mar	CA	92014-2925
Calvo	Sandra	3018 Eastman Ave.	Oakland	CA	94619-1804
Cameron	Steve	2330 Vancouver Ave.	San Diego	CA	92104-5353
Camillo	Vince	945 Oak St.	San Francisco	CA	94117-2310
Camp	Robert	157 Donahue St. Apt. 11	Sausalito	CA	94965-1267
Campaigne	Catherine	835 Peralta Avenue	Berkeley	CA	94707-1818
Campbell	Albert	22462 Tula Drive	Saugus	CA	91350-1535
Campbell	Anne C.	2268 Market Street	San Francisco	CA	94114-1506
Campbell	Catherine	1212 Colusa Ave.	Berkeley	CA	94707-2709
Campbell	Heather	2517 Modoc Rd. Apt. 21	Santa Barbara	CA	93105-4157
Campbell	Marianne	178-A Hancock St.	San Francisco	CA	94114-2531
Campbell	Scott	P.O. Box 803	Hopland	CA	95449-0803
Campbell	Sandra	108 Petaluma Ave.	Sebastopol	CA	95472-4220
Campbell	P.A.	2402 Clay St.	San Francisco	CA	94115-1809
Campbell	Rori	916 S. Lake Summit Dr.	Anaheim	CA	92807-4516
Campbell	Vanessa	3183 Dona Mema Pl.	Studio City	CA	91604-4265
Campbell	Ms. Hannah V.	1680 Burton Dr.	Cambria	CA	93428-5844
Campi	Joe	1421 So. Sherbourne Dr.	Los Angeles	CA	90035-3506
Campion	Timothy	P.O. Box 1144	Kenwood	CA	95452-1144
Campling	Laurence	685 Capp Street	San Francisco	CA	94110-2509
Campos	Johno	519A Castro St.	San Francisco	CA	94114-2511
Candace	Robin	904 Jackson Street	Albany	CA	94706-1526
Candel	Lawrence	4886 Summer Grove Dr.	Suisun City	CA	94585-6403
Canizares	Kristina	3011 Wiswall Dr.	San Pablo	CA	94806-2753
Cannon	Janell	PO Box 1362	Carlsbad	CA	92018-1362
Canto	Molly W.	1416 Oak Hollow Cout	Pinole	CA	94564-1768
Cap	Patricia	2325 Greenwich Rd.	San Pablo	CA	94806-1023
Capelle	Ruth	2245 Vista Del Sol	Fullerton	CA	92831-1337
Caplan	William	1016 Hi Point St.	Los Angeles	CA	90035-2608
Cappa	Karen	581 Santa Alicia Dr.	Rohnert Park	CA	94928-5002
Capucetti	Bruce	PO Box 1760	Rosemead	CA	91770-0988
Cardarelli	Debbie	3346 31st St., #2	San Diego	CA	92104-4620
Cardo	Sheri L.	501 Bryce Canyon Court	Petaluma	CA	94954-1577
Carey	Joyce	124 Winfield Way	Aptos	CA	95003-4529
Carey	Theresa	460 Commercial Ave.	So. San Francisco	CA	94080
Carlile	Eric	1448 Jackson St., Apt. 12	Oakland	CA	94612-4057
Carlin	Nicholas A.	123 Yukon Street	San Francisco	CA	94114-2306
Carlson	Anne	11125 Sequoia Road	Forestville	CA	95436-9735
Carlson	Gaye	P.O. Box 60816	Palo Alto	CA	94306-0816
Carlson	Sonja	5080 1/2 Del Monte Avenue	San Diego	CA	92107-3211
Carlson	Jan	5310 Prctor Ave.	Oakland	CA	94618-2732
Carlton	David	1920 Latham St. Apt. 22	Mountain View	CA	94040-2170
Carlton	Karen	PO Box 445	Ferndale	CA	95536-0445
Carmichael	Victor	5005 Palmetto Ave. Apt. 55	Pacifica	CA	94044-1026
Carney	Maren	1328 Cahill Street	Turlock	CA	95380-4106
Carnie	Dorothy M.	PO Box 184	Moss Landing	CA	95039-0184
Carpenter	Carolyn	P.O. Box 1689	Laytonville	CA	95454-1689
Carrick	Peter	2316 Felt St. #B	Santa Cruz	CA	95062-4209
Carrico	Martha A.	7225 7th St.	Rio Linda	CA	95763-1446
Carriere	Eve	5728 Oak Bend Ln., Unit 211	Oak Park	CA	91377-5652

Carrillo	Stephen J.	1612 Lexington Ave. Apt. 4	El Cerrito	CA	94530-2261
Carroll	George	280 Washington Court	Richmond	CA	94801-3915
Carroll	Lawrence	PO Box 252	Topanga	CA	90290-0252
Carroll	Stephen P.	7803 Tommy Dr., Apt. 66	San Diego	CA	92119-1795
Carroll	Shelley	219 Brannan St., Ste 1H	San Francisco	CA	94107-4031
Carry	Eulalia	27 Fresno Street	San Francisco	CA	94133-4011
Carter	David	110 Sylvan Vista Dr.	Auburn	CA	95603-3223
Carter	Lucy	808 Amber Lane	Los Altos	CA	94024-4617
Carter	Catherine E.	700 Laguna St., Apt. 304	San Francisco	CA	94102-4275
Carter	Richard V.	22400 Skyline Blvd. #24	La Honda	CA	94020-9709
Carter	Caprice	441 Detroit St.	San Francisco	CA	94131-3118
Carter	Manuel	908 E. Mildreda Ave., Rear	Fresno	CA	93701-1620
Carter	Claire	288 Waverley St.	Palo Alto	CA	94301-1441
Cartwright	Wayne	47755 State Route 70	Quincy	CA	95971
Caruso	Sandra	11916 Saltair Terrace	Los Angeles	CA	90049-4137
Casaday	Garth	3740 Black Feather Dr.	El Sobrante	CA	94803-2124
Case	Patricia M.	3181 Airport Rd.	Placerville	CA	95667-6044
Case	Shaun T.	PO Box 1159	Nevada City	CA	95959-1159
Casey	Mary Jo	386 Staten Ave. Apt. 5	Oakland	CA	94610-3437
Cassafer	Gail	1711 Lake St., Apt. 4	San Francisco	CA	94121-1331
Cassis	Mona M.	2011 Howland Hill Rd.	Crescent City	CA	95531-9201
Castaneda	Miriam	465 Stony Point Rd. #162	Santa Rosa	CA	95401-5969
Castaneda	Carmen	1432 S. 4th St.	Montebello	CA	90640-6403
Castell-Blanch	Marsha	28 Alviso Court	Pacifica	CA	94044-4225
Castillo	Anthony	1629 Rendall Place	Los Angeles	CA	90026-1305
Castillo	Ricardo D.	3422 41st Street	San Diego	CA	92105-4139
Castillo	Patricia	20174 Zimmerman Pl.	Santa Clarita	CA	91350-3102
Castillo	Martha	772 Clara Dr.	Palo Alto	CA	94303-3905
Castinguay	Julie	642 Wright St.	Santa Rosa	CA	95404-3828
Catlin	Ralph	5025 11th Avenue	Sacramento	CA	95820-2215
Cauchon	Therese I.	3370 29th Street	San Diego	CA	92104-4533
Cavalier	Eileen	P.O. Box 8054	Santa Cruz	CA	95061-8054
Cave	Jeremy	P.O. Box 6802	San Rafael	CA	94903-0802
Cayton	Marcy	220 Washburn Avenue	Santa Cruz	CA	95060-2936
Ceglarski-Sherwin	Mary	8250 Feliz Creek Dr.	Ukiah	CA	95482-9359
Celentano	Lisa	853 Blair Avenue Apt 1	Sunnyvale	CA	94087-1116
Cella M.D.	Louis J.	PO Drawer AA-1-2827	Palm Springs	CA	92263
Cerkanowicz	Deidre	PO Box 70453	Richmond	CA	94807-0453
Cervinka	Pete	8757 Brigham Way	Sacramento	CA	95826-3631
Cervintez	Raymond	2054 Dracena Dr. Apt. 1	Los Angeles	CA	90027-2659
Cesca	Sandra S.	4140 Marshall Ave.	Carmichael	CA	95608-1933
Cespedes	Melinda	439 Sherwood Dr. Apt. 306	Sausalito	CA	94965-1042
Cetron	Amy B.	115 Taylor St., Apt. 5	San Francisco	CA	94108-1932
Cezniak	Jessica	575 19th Ave.	San Francisco	CA	94121-3118
Cha	Grace	1121 Baywood Dr. Apt. 108	Corona	CA	92881-3340
Chadwick	Kate	104 Amherst Aisle	Irvine	CA	92612-4660
Chaffee	Amy	1918 Rodney Drive	Los Angeles	CA	90027
Chagi	Allison	1002 1/2 Dolores St.	San Francisco	CA	94110-2925
Chakalian	Victoria A.	1817 Stratton Cir.	Walnut Creek	CA	94598-2270
Chalifour	Joshua	2807 Shattuck Ave. Apt. 7	Berkeley	CA	94705-1044
Chamberlain	Safford	1118 Fremont Ave.	South Pasadena	CA	91030-3227
Chamberlain	Robert Kent	PO Box 382	Fairfax	CA	94978-0382
Chambers	Catherine	P.O. Box 6717	Los Osos	CA	93412-6717
Chambers	Chris	6529 Corte Valdez	Carlsbad	CA	92009-4556
Chambers	Chris	6529 Corte Valdez	Carlsbad	CA	92009-4556
Champion	Barbara	PO Box 116	Caspar	CA	95420
Chan	Andre	26 Ellert Street	San Francisco	CA	94110-5516
Chandler	Robin	86 Santa Ysabel Ave.	San Francisco	CA	94112-2545
Chandler	Carmen Ramos	4419 Van Noord Ave.	Studio City	CA	91604-1429
Chapman	Darren	1217 Mariner Dr. Unit D	San Francisco	CA	94130-1214
Chapman	Patty	1532 Eland Lane	Ventura	CA	93003-6319
Chapman	Regis L.	1050 Ralston Ave. Apt. 12	Belmont	CA	94002-2240
Chapman	Sarah	1141 Shenandoah Drive	San Jose	CA	95125
Chapman	Jeffrey	PO Box 1095	Avalon	CA	90704-1095
Chapman	Calvin	1718 San Pablo Ave.	Berkeley	CA	94702-1336
Charlotte	Gumbrell	424 Stratford Ct. Apt. A-12	Del Mar	CA	92014-2757
Chase	Cheryl	P.O. Box 690035	Stockton	CA	95269-0035
Chase	Richard	2212 Crystal Springs Rd. West	Tacoma	CA	98466-2915

Chasse	Andre E.	3410 S. Main St., Apt D5	Santa Ana	CA	92707-4349
Chavez	Virginia	2510 Ridgeview Ave.	Los Angeles	CA	90041-2935
Chen	Sue E.	433 Bellevue Ave., Apt. 7	Oakland	CA	94610-4920
Chenkin-Steele	Deborah	256 North Maplewood St.	Orange	CA	92866-1726
Cherney	Michael	PO Box 90	Graton	CA	95444-0090
Cherry	Leonard	373 Pine Lane	Los Altos	CA	94022-1648
Chess	Katie	419 Brakey Rd.	Ventura	CA	93001-2601
Chiang	Larry C.	457 Sierra Vista Avenue	Mountain View	CA	94043-2981
Chiarucci	Bergljot	129 Naglee Ave.	Santa Cruz	CA	95060-5307
Childs	Diane E.	6887 Magnolia Ave.	Riverside	CA	92506-2837
Childs	Hal	315 Bergwall Way	Vallejo	CA	94591-5710
Childs	Christopher	1164 1/2 Garfield Ave.	Venice	CA	90291-4937
Chipps	Sarah	3175 Cauby St. Apt. 45	San Diego	CA	92110-4643
Chittenden	Lloyd	6242 Warner Ave. Apt. 17-F	Huntington Beach	CA	92647-5170
Chittum	Peter J.	1343 Pomeroy Ave., Apt. 4	Santa Clara	CA	95051-3633
Chitty	Carolyn	5361 Lawton Ave.	Oakland	CA	94618-1107
Chong	Laura B.	2707 La Terrace Circle	San Jose	CA	95123-5310
Chope	Christopher T.	1205 Warren Dr.	Santa Cruz	CA	95060-9731
Chou	Angela	234 9th St.	San Francisco	CA	94103-3807
Chouinard	Yvon	4218 Faria Rd.	Ventura	CA	93001-9711
Christensen	Anna	259 Termino Ave.	Long Beach	CA	90803-6150
Christenson	Mary Ann	3343 21st Street	San Francisco	CA	94110
Christiansen	John	4023 Bismarck Drive	San Jose	CA	95130-1205
Christiansen	Sharon	8389 Alta Vista Ave.	Atascadero	CA	93422-3713
Christinson	Jeff	1075 Dyer Pl.	Laguna Beach	CA	92651-3016
Chung	Nancy	3838 18th Street	San Francisco	CA	94114-2616
Chunn	Janet S.	961 Tularosa Drive	Los Angeles	CA	90026-2725
Churgel	Sally	7881 Washington Avenue	Sebastopol	CA	95472-3553
Ciapponi	Laura	353 41st St.	Oakland	CA	94609-2632
Cima	Miguel	729 No. Kilkea Drive	Los Angeles	CA	90046-7005
Cimino	Anthony	115 \D\" Street S.E."	Washington	DC	20003-1822
Clair	Charles	740 Breeze Hill Rd. Apt. 164	Vista	CA	92083-4309
Clare	Melissa	1720 Cooper Rd.	Sebastopol	CA	95472-4813
Clark	Hugh	1263 Koe Street	San Diego	CA	92114-3433
Clark	Iris	3842 Centre Avenue	Santa Barbara	CA	93110-1282
Clark	Kathleen	4377 Silverado Trail	Calistoga	CA	94515-9603
Clark	Lisa	1851 Holmby Avenue	Los Angeles	CA	90025-4986
Clark	Margaret A.	73 Cervantes Blvd.	San Francisco	CA	94123-1657
Clark	Pamela	4910 Turner Rd.	Sebastopol	CA	95472-6243
Clark	Paul	299 Tara St.	San Francisco	CA	94112-2435
Clark	Gail Chubb	1540 Monterey dr.	Santa Rosa	CA	95405-7542
Clark	Carolyn	4040 Grand View Blvd., Apt.53	Los Angeles	CA	90066-5281
Clark	Celilia	16300 Oakwood Ln.	Morgan Hill	CA	95037-6934
Clarke	Rosalee	876 Spinosa Drive	Sunnyvale	CA	94087-1865
Clarke	Robert B.	2910 Gerald Ave.	Santa Clara	CA	95051-2920
Clayberg	David	948 15th Street Apt 4	Santa Monica	CA	90403-3134
Claypool	Scott	1190 Hoe Rd.	Ukiah	CA	95482-9007
Clayton	Anna	143 Kathryn Drive	Pleasant Hill	CA	94523-2919
Cleary	Heather	10973 Palms Blvd. Apt. 5	Los Angeles	CA	90034-6128
Clemente	Sue	109 Bradford St.	San Francisco	CA	94110-5703
Clemes PhD	Harris	537 Riverview Dr.	Capitola	CA	95010-2725
Clemmons	Angelia J.	1308 Daniel Ct.	Milipitas	CA	95035-3757
Clemons	Noelle	2287 Sunny Vista Drive	San Jose	CA	95128-1259
Clendenen	Bob	15836 Calle Montana	Santa Clarita	CA	91350
Cleveland	Clarine M.	528 Stanyan St.	San Francisco	CA	94117-1813
Clien	Rebecca	1062 Peralta Ave.	Albany	CA	94706-2402
Clifton	Heather	2310 Mar East St.	Belvedere Tiburon	CA	94920
Clifton	Dee Mcfadden	9441 Evergreen Ln.	Fontana	CA	92335-6102
Cline	Whitney B.	2224 Silver Ridge Ave., Apt. 3	Los Angeles	CA	90039-3648
Clish	Nancy	6179 Montgomery Place	San Jose	CA	95135-1428
Clish	Sarah F.	2264 Bailey Ave.	San Jose	CA	95128-1605
Clogston	Cindi	1704 Brighton Avenue	Grover Beach	CA	93433
Cloney	Leslie	326 Glen Park Ave. #A	San Rafael	CA	94901-1310
Clopper	Lovesse Tracey	PO Box 1832	Morro Bay	CA	93443-1832
Clover	Charles W.	5199 Bodega Ave.	Petaluma	CA	94952-9665
Clute	Aaron	7512 Yarmouth Ave.	Reseda	CA	91335-3347
Clyde D.	Clyde D.	136 East 14th Street	Oakland	CA	94606-2234
Coakley	Jacob	5687 Miles Avenue Apt. 3	Oakland	CA	94618-1267
Coate	Diann	P.O. Box 352	Idyllwild	CA	92549-0352

Coats	Elizabeth	3130 Trout Gulch Rd.	Aptos	CA	95003-2617
Cobb	Darlene	3535 W Avenue, J13	Lancaster	CA	93536-6320
Cobb	Cindy J.	823 Alvarado St.	San Francisco	CA	94114-3115
Cobbett	Daniel	505 Waller Steet	San Francisco	CA	94117-3330
Cochee	Tricia	4825 W. Slauson Ave. Apt. 4	Los Angeles	CA	90056-1216
Cochran	Jaquelin	1976 Fell St.	San Francisco	CA	94117-1917
Cochran	Margie	839 Pomona Ave.	Albany	CA	94706-1815
Coco	Linda E.	600 Gooding Way Apt. 609	Albany	CA	94706-1996
Codina	Rick	4000 Sherman Way	Sacramento	CA	95817-1416
Coen	Patrick	6010 Fredricks Rd. #3	Sebastopol	CA	95472-5643
Cofer	Ross	4201 Old Sonoma Road	Napa	CA	94559-9767
Coffman	Michael	1503 Bobwhite Lane	El Cajon	CA	92020-1406
Coffman	Barton C.	PO Box 710	North San Juan	CA	95960-0710
Coffy	Marilyn A.	870 Erie St.	Oakland	CA	94610-2268
Coggins	John	2300 Cornell Street	Palo Alto	CA	94306-1313
Cohen	Benjamin	1306 5th Avenue	San Francisco	CA	94122-2619
Cohen	Beth D.	411 45th Street	Oakland	CA	94609-2124
Cohen	Leslie	546 58th Street	Oakland	CA	94609-1526
Cohen	Ranya	2022 Ascot Drive	Moraga	CA	94556-2214
Cohen	Howard	3272 Cowper St.	Palo Alto	CA	94306-3004
Cohen	Robin S.	95 San Clemente Ave.	Salinas	CA	93901-1443
Cohen	J.	PO Box 1240	Mendocino	CA	95460-1240
Coker	Roberta	1123 Alta Ave.	Napa	CA	94559-2151
Colburn	Robert	14737 Sherman Way, Apt. 322	Van Nuys	CA	91405-2230
Cole	Kathy	303 Parklane Plz.	Martinez	CA	94553-6114
Cole	Lisa M.	12253 Carmel Vista Rd. #282	San Diego	CA	92130-2533
Cole	Terry	4830 No. Van Ness Blvd.	Fresno	CA	93704-3123
Cole	Josephine	4381 25th St.	San Francisco	CA	94114-3602
Colella	Charles	71388 Country Club Dr.	Rancho Mirage	CA	92270-3559
Coleman	Dylan	P.O. Box 223602	Carmel	CA	93922-3602
Coleman	Marcella	39060 Cherry Valley Blvd. #56	Beaumont	CA	92223-4456
Coles	Jeremy	6959 Paso Robles Dr.	Oakland	CA	94611-2304
Coleson	Janet	2356 Venndale Ave.	San Jose	CA	95124-4929
Colley	Jennifer	4735 Sepulveda Blvd. #3	Sherman Oaks	CA	91403-5418
Colligan	Judy	3050 Market Street	San Francisco	CA	94114-1825
Collins	Kevin	13095 Lompico Rd.	Felton	CA	95018-8819
Collins	Rochelle L.	1540 W. Ball Rd. Apt. 12-D	Anaheim	CA	92802-1613
Collins	Mary A.	1739 Montmar Way	San Jose	CA	95125-5549
Collins	Michelle	5337 M St.	Sacramento	CA	95819-4130
Collins	Robin	12801 Fair Oaks Bld., Apt. 347	Citrus Heights	CA	95610-5181
Collins Dba G. R.	Gary	730 W. 17th St.	Costa Mesa	CA	92627-4307
Colston	Lisa	245 Sheldon Ave.	Santa Cruz	CA	95060-2041
Colton	Madhavi	206 Minerva St.	San Francisco	CA	94112-2913
Colton	Araby	5315 Carmel Valley Rd., Apt. A106	Carmel	CA	93923-7953
Colyer	Nick	PO Box 2151	Grass Valley	CA	95945-2151
Combs	JoAnne	3675 Monon St. Apt. 205	Los Angeles	CA	90027-3038
Compton	James R.	15040 Oriole Road	Saratoga	CA	95070-6223
Concus	Paul	218 Yale Ave.	Kensington	CA	94708-1014
Condy	Thomas J.	1388 San Juan Ave.	San Jose	CA	95110-1442
Conklin	Linda	140 Tidwall Street	Sonora	CA	95370-5420
Conley	Gale	225 Palo Verde Terr.	Santa Cruz	CA	95060-3210
Conley	Michael A.	P.O. Box 424	Lafayette	CA	94549-0424
Conn	Kevin	421 K St.	Davis	CA	95616-4227
Conneely	Jennifer	6809 Linville Drive	Weed	CA	96094-9763
Conner	Jack	2741 Jennifer Dr.	Castro Valley	CA	94546-3225
Connolly	Elaine	P.O. Box 64369	Sunnyvale	CA	94088-4369
Connolly	Olga F.	1728 Bedford Ln. Apt. 11	Newport Beach	CA	92660-4752
Connor	Nadine	2389 McBride Ln., Apt. 48	Santa Rosa	CA	95403-2941
Conolly	Barbara	5467 Wadean Place	Oakland	CA	94601-5718
Conroy	Megan	620 37th Avenue	Santa Cruz	CA	95062-5123
Conroy	Jaimie	5301 E. Waverly Dr., Apt. 128	Palm Springs	CA	92264-6114
Contreras	Jennifer L.	4401 San Leandro St., Ste. 44	Oakland	CA	94601-4460
Conyers	Myra Ann	PO Box 247	Big Sur	CA	93920-0247
Cook	Byron	8246 Shelter Creek Ln.	San Bruno	CA	94066-3878
Cook	Jane	17 Pacific Queen Psge.	Corte Madera	CA	94925-1818
Cook	Joanna	333 Rose Ave. Apt. E	Venice	CA	90291-2788
Cook	Randall	280 East MacArthur St.	Sonoma	CA	95476-7632
Cook	Shayne	PO Box 259	Penngrove	CA	94951-0259
Cook	Ben	1938 Johnston St., #1	Los Angeles	CA	90031-3449

Cook	Stephanie	102 W. Parkdale Dr., Apt. 13	San Bernardino	CA	92405-2254
Cooke	Chamba	13075 Woolman Lane	Nevada City	CA	95959-9700
Cooney	Neill L.	1924 W. Westwind	Santa Ana	CA	92704-7144
Coons	Beverly	305 Duncan Hill Rd.	Auburn	CA	95603-9505
Cooper	Beatrice	752 Berkshire Drive	Millbrae	CA	94030-2143
Cooper	Helen	618 South Lake Ave.	Pasadena	CA	91106-3918
Cooper	Laura A.	77 Taylor Drive	Fairfax	CA	94930-1200
Cooper	Gretchen	13212 Camilla St.	Whittier	CA	90601-3638
Cooper	Amy E.	1500 Dougmar Dr.	Santa Cruz	CA	95062-2921
Cooper	Sybil M.	1487 17th Ave.	San Francisco	CA	94122-3402
Cooper	Jason	2056 Watson St.	Glendale	CA	91201-1156
Cooper	Andrew	661 Alcatraz Ave., Apt. 2	Oakland	CA	94609-1000
Coopersmith	Paul M.	P.O. Box 900	Inverness	CA	94937-0900
Copeland	Dorothy	1842 West 83rd Street	Los Angeles	CA	90047-3009
Copeland	Huey	505 Alcatraz Ave. Apt. 5	Oakland	CA	94609-1132
Corbett	John	1264 North Hayworth Ave.	West Hollywood	CA	90046-5267
Corcillo	Ronald E.	5227 Lemp Avenue	North Hollywood	CA	91601-3006
Cordaro	Sharron	5524 Chiquita Cir.	Riverside	CA	92509-5621
Cordill	Tess	370 N. 20th St.	San Jose	CA	95112-1860
Corley	Matt	1072 Trestle Glen Rd.	Oakland	CA	94610-2547
Cormier	Roger	139 Buckeye Ave.	Oakland	CA	94618-2203
Cornell	Karen	5554 Broadway	Oakland	CA	94618-1748
Cornell	Michael	2436 Maricopa Ave.	Richmond	CA	94804-1010
Cornford	Adam F.	2724 Monticello Avenue	Oakland	CA	94619-3257
Correll	Nancy	850 Mendocino Avenue	Berkeley	CA	94707-1923
Correll	Tim	3155 S. Sepulveda Blvd., Apt. 301	Los Angeles	CA	90034-4220
Corrigan	Tim	476 Stow Ave.	Oakland	CA	94606-1147
Cory	Della L.	PO Box 598	Albion	CA	95410-0598
Cory	Betsy	1742 Skillamn Ln.	Petaluma	CA	94952-1250
Cost	Jennifer	3061 Grape St.	San Diego	CA	92102-1146
Costa	Jean F.	7661 Loma Vista Drive	La Mesa	CA	91941-4905
Costanza	Nancy	26135 Carmel rancho Rd., Ste. B	Carmel	CA	93923-8716
Costas	Catherine	500 W. Middlefield Rd. Apt. 128	Mountain View	CA	94043-3430
Costeff	Gady	930 Esmeralda Ave.	San Francisco	CA	94110
Costello	Michael	P.O. Box 31	Bodega	CA	94922-0031
Costigan	Patrick J.	1161 Hayes St., Apt. 1	San Francisco	CA	94117-1651
Couch	Jean	26790 Saint Francis Rd.	Los Altos	CA	94022-1911
Couey	L.	5191 Sparrow Dr.	Huntington Beach	CA	92649
Cougar	Bridget	395 Sierra Vista Ave. Apt. 20	Mountain View	CA	94043-2924
Cougar	Jesse	P.O. Box 845	Laytonville	CA	95454-0845
Coughlin	Steve	2600 E. Ponderosa Dr. Apt. 65	Camarillo	CA	93010-4745
Countryman	Judy	1734 9th Avenue Apt. 3	San Francisco	CA	94122-4756
Courry	Tom	1334 Megan Pl.	Rohnert Park	CA	94928-3616
Courtney	Marguerite	661 N. Harrison St.	Fort Bragg	CA	95437-3122
Courtois	Todd	1874 Turk St.	San Francisco	CA	94115-4477
Courtot	Jacqueline	320 Avian Drive Apt 20	Vallejo	CA	94591-4963
Couse	Clifford T.	PO Box 1883	Truckee	CA	96160-1883
Cousins	Candis	530 Crofton Avenue	Oakland	CA	94610-1519
Covert	Andy	422 Humboldt St., Apt. 7	Santa Rosa	CA	95404-4247
Covey	John A.	13520 Doty Ave., Apt. 2	Hawthorne	CA	90250-9500
Covington	Miriam B.	1415 Thayer Ave.	Los Angeles	CA	90024-6023
Cowan	Eda	42 Redwood Drive	Kentfield	CA	94904-2559
Cowgill	Steven C.	P.O. Box 120	Selma	CA	93662-0120
Cowley	Jason	109 Sylvar Street	Santa Cruz	CA	95060-3728
Cox	James	310 Market St. Unit C	Santa Cruz	CA	95060-2959
Cox	June	7515 San Remo Trail	Yucca Valley	CA	92284-2353
Cox	Victoria	PO Box 23025	Santa Barbara	CA	93121-3025
Cox	Laura	27 King St.	Mill Valley	CA	94941-4512
Coyne	Kelly Elizabet	1327 McCollum St.	Los Angeles	CA	90026-2321
Cozzette	Renee	38324 Fremont Blvd.	Fremont	CA	94536-6023
Crabb	Mary P.	130 S. Holliston Ave.	Pasadena	CA	91106-2620
Crabbe	Gary	209 Margie Drive	Pleasant Hill	CA	94523-2927
Crabbe	Connie	209 Margie Dr.	Pleasant Hill	CA	94523-2927
Crabill	Wendi A.	12601 Mulholland Drive	Beverly Hills	CA	90210-1332
Crabtree	Pamela C.	PO Box 3485	Carmel	CA	93921-3485
Craig	Frances E.	511 Rose Lane	Paso Robles	CA	93446-2915
Craig	Laura	512 9th Street Apt. 8	Davis	CA	95616-2243
Crain	Melvin	450 Summerhill Court	Alpine	CA	91901-2782
Crandall	Gary	14005 Palawan Way Ph 9	Marina Del Rey	CA	90292-6204
Crane	Thomas C.	4764 Heidi Way	Kelseyville	CA	95451-8840

Crane	Jeff	17107 Tulsa St.	Granada Hills	CA	91344-4942
Crawford	Ronald	151 Los Trancos Circle	Portola Valley	CA	94028-8118
Crawford	Ryan	1112 Furlong Road	Sebastopol	CA	95472-9482
Crawford	Bridget	15621 Morrison St.	Sherman Oaks	CA	91403-1051
Crawford	Barbara	1311 Monterey St.	Richmond	CA	94804-4942
Crawford	Stephen	1356 8th Ave.	San Francisco	CA	94122-2408
Crawford	Liz	16820 Oak View Dr.	Encino	CA	91436-3240
Crawford	Michael R.	PO Box 386	Occidental	CA	95465-0386
Credo	Grace	7580 Cathedral Oaks Rd. #12	Goleta	CA	93117-1137
Creedon	Colleen	P.O. Box 5353	Santa Monica	CA	90409-5353
Creighton	Thomas	PO Box 2292	Colton	CA	92324-0812
Cremin	Mallory	PO Box 665	Idyllwild	CA	92549-0665
Creque	Jeffrey	PO Box 1004	Bolinas	CA	94924-1004
Crick	Katharine	124 Williams Ln.	Foster City	CA	94404-3968
Crimmins	M.E.	1219 Lima Cir.	Placentia	CA	92870-4226
Criqui	Mike	13773 Condesa Dr.	Del Mar	CA	92014-3301
Crismond	Dianne	2124 Rock St., Apt. 21	Mountain View	CA	94043-2623
Crist	Lillian	261 Clinton Park	San Francisco	CA	94103
Crist	Mitch	11617 McGovern Ave.	Downey	CA	90241-4814
Critchlow	Brett	351 9th Street Ste. 302	San Francisco	CA	94103-3841
Crites	Buford	73-350 Chapel Hill	Palm Desert	CA	92260
Crocetti	Bree	11941 Washington Pl. Apt 1	Los Angeles	CA	90066-5314
Crockett	Catherine	15455 Glenoaks Blvd. Spc. 396	Sylmar	CA	91342-1384
Crofford	Chris	P.O. Box 125	Strawberry	CA	95375
Croghan	Richard J.	6 Cortez Court	Oakland	CA	94611-2323
Crola	Claire	1123 South Norton Ave.	Los Angeles	CA	90019-3306
Crolius	William	2028 Burrows St.	San Francisco	CA	94134-1360
Crosby-Williams	Kitteredge	3122 \F\" Street"	Eureka	CA	95503-5333
Crosse	Sandra	4648 Tallyho Dr.	Sacramento	CA	95826-5546
Crosson	Jessica	924 Oak Street	Lafayette	CA	94549-4937
Crow	C. Donel	364 \C\" Street"	Arvin	CA	93203-1132
Crow	Susana	1958 Donner Ave,	San Francisco	CA	94124-2517
Crowl	Jeff	339 49th Street #1	Oakland	CA	94609
Crumley	Elizabeth	2208 Derby St.	Berkeley	CA	94705-1018
Crumrine	Brian K.	777 San Antonio Rd., Apt. 135	Palo Alto	CA	94303-4860
Cruz	Yolanda	840 1/4 Sayre Ln.	Los Angeles	CA	90026-6246
Cubba	Rebecca	2052 Mountain Ave.	Santa Barbara	CA	03101-4614
Cuevas	Denise	36415 Perkins St.	Fremont	CA	94536-4730
Cuff	Kevin	P.O. Box 11322	Berkeley	CA	94712-2322
Culberston	Joe	7870 Bluemoon Rd.	Paso Robles	CA	93446
Cullen	Erin	1512 Colby Ave. Apt. 5	Los Angeles	CA	90025-3036
Cullen	Brian	5037 N. Ralton Cir.	Long Beach	CA	90807-1139
Cullen	Teresa	14921 Geneva St.	Irvine	CA	92604-2703
Cullinan	David	928 Wright Ave. Apt. 507	Mountain View	CA	94043-4658
Culotta	Theodore J.	100 14th Avenue	San Mateo	CA	94402-2427
Culver	Alicia A.	26179 County Road 96	Davis	CA	95616-9473
Cumbie	Gary	216 East 20th Street	Upland	CA	91784-1661
Cummins	David	2120 4th Street Apt. 3	Santa Monica	CA	90405
Cunningham	Shawn	233 Cresta Avenue	San Gabriel	CA	91775-2317
Cunningham	Rachel	45 Randwick Ave., Apt. 202	Oakland	CA	94611-5743
Cuny	Ann W.	727 Cable Court	Santa Cruz	CA	95062-2766
Currier	Brad	6237 Buffalo Ave.	Van Nuys	CA	91401-2419
Currin	John K.	531 N. Buena Vista St.	Burbank	CA	91505-3210
Curtin	Joe	1936 15th Street Apt. 3	San Francisco	CA	94114-1740
Curtis	Sallie W.	680 West 11th Street	Claremont	CA	91711-3746
Curtis	James D.	327 Decker St.	Santa Rosa	CA	95401-5441
Curtis	Kathleen A.	302 Thorn St., Apt. 19	San Diego	CA	92103-5638
Cuthbertson	Shirley	14500 Quito Rd.	Saratoga	CA	95070-5625
Cuthbertson	James L.	111 Overlook Dr.	Santa Cruz	CA	95060-3343
Cutler	Dean	290 Chiquita Ave.	Mountain View	CA	94041-1006
Cutler	Allan	645 8th Ave., Apt. 4	San Francisco	CA	94118-3736
Cutler	Glenn	360 Perkins St.	Oakland	CA	94610-3429
Cutler-Ploss	Charlene	1433 J St.	Eureka	CA	95501-2421
Cutting	Doris L.	13971 Shake Ridge Rd.	Sutter Creek	CA	95685-9743
Cyphers	Amber	2214 Dale Street	San Diego	CA	92104-5429
Cyr	Doug	178 Irwin St.	San Rafael	CA	94901-5229
Czekala	Kate	1880 Sweetwater Ct.	Cool	CA	95614-2220
Da Cunha	Mario	PO Box 30695	Santa Barbara	CA	93130-0695
Dadgar	Lisa	4554 Wildcat Lane	Concord	CA	94521-3507

Daily	Douglas R.	PO Box 237	Petaluma	CA	94953-0237
Dakin	Henry	3220 Sacramento St.	San Francisco	CA	94115-2007
Dale	Emily	68-850 Hwy 111, #250	Rancho Mirage	CA	92270
Dallas	Laura	15 Lost Valley Drive	Orinda	CA	94563-3909
Dalsimer	Elizabeth	13044 Mindanao Way #6	Marina Del Rey	CA	90292-7636
Dalton	Beth	3603 Powell Dr.	Lafayette	CA	94549-4922
Dambroff	Susan	25 Hattie St.	San Francisco	CA	94114-1836
Danaher	Thomas	1678 Barlow Lane	Sebastopol	CA	95472
Danforth	Carolyn	PO Box 742	La Honda	CA	94020-0742
Daniel	David	16120 Rancho Del Lago	Moreno Valley	CA	92551
Daniel	Jennifer	3535 16th St.	San Francisco	CA	94114-1610
Daniels	Richard R.	3404 Lodge Drive	Belmont	CA	94002-1211
Danielson	Carrie	1331 Tierra Bonita Place	Chula Vista	CA	91910-7125
Dankert	Paul	716 San Conrado Terr. Unit 3	Sunnyvale	CA	94085-2531
Dannenhoffer	Donna J.	P.O. Box 27146	Oakland	CA	94602-0146
Darknell	Frank A.	8089 Capitola Ave.	Fair Oaks	CA	95628-7539
Darragh	Andrew	3025 Palm St.	San Diego	CA	92104-5004
Darrow	Charles	21433 Riverview Ct.	Salinas	CA	93908-1431
Darsey	Christy	1445 Lakeside Dr. Apt. 208	Oakland	CA	94612-4343
Date	Chris J.	PO Box 696	Healdsburg	CA	95448-0696
Davaran	Lynda L.	P.O. Box 376	Twin Peaks	CA	92391-0376
Davenport	Mary	PO Box 108	Tomales	CA	94971
Daves-Plaunt	J.	1576 W. Roberts Ave.	Fresno	CA	93711-2345
Davey	Marilyn S.	3195 Calle Osuna	Oceanside	CA	92056-3941
Davi	Jodi	88 Seal Rock Drive	San Francisco	CA	94121-1437
David	Roshan	955 Cranbrook Ct., Apt. 290	Davis	CA	95616-1245
David	Michelle	Bldg. 240, Fort Mason	San Francisco	CA	94123
Davidson	Leigh	1027 Shrader Street	San Francisco	CA	94117
Davidson	Lawrence	6111 Columbia Ave.	Richmond	CA	94804-5735
Davidson	Caryn	61159 El Coyote Ave.	Joshua Tree	CA	92252-1525
Davie	Dennis	P.O. Box 344	Santa Cruz	CA	95061-0344
Davis	Anita	15236 Gerkin Avenue	Lawndale	CA	90260-2304
Davis	Carol L.	270 Nevada Street	San Francisco	CA	94110-6105
Davis	Christina M.	10 Olema Road Upper Floor	Fairfax	CA	94930-1416
Davis	Diana	108 Madrone Avenue	San Anselmo	CA	94960-2113
Davis	Donna	1711 Jaynes Street	Berkeley	CA	94703-1125
Davis	John A.	2360 Mission St. Apt. 27	San Francisco	CA	94110-1827
Davis	Joyce	100 20th Ave. Apt. 9	San Francisco	CA	94121-1335
Davis	Melissa	4975 Via Marta	Carlsbad	CA	92008-3823
Davis	Michael B.	P.O. Box 422101	San Francisco	CA	94142-2101
Davis	Robert B.	956 Fenn Court	Claremont	CA	91711-2527
Davis	Rosanna	150 Rankin Way Apt. 22	Benicia	CA	94510-2130
Davis	Shondra	6605 Telegraph Ave. Apt. 6	Oakland	CA	94609-1155
Davis	Erik	1336 Willard St.	San Francisco	CA	94117-3727
Davis	Melissa	1010 Westwind Way	Suisun City	CA	94585-3502
Davis	Jeffrey	16315 Watson Rd.	Guerneville	CA	95446-8937
Davis	Shellee	8844 Cypress Ave.	Cotati	CA	94931-9629
Davis	Thomas G.	1415 El Dorado Ave.	Santa Cruz	CA	95062-2831
Davis	Vince	PO Box 776	Mt. Baldy	CA	91759-0776
Davis	Glorya	89 Rose St.	San Rafael	CA	94901-5239
Davis	Erika	641 Santa Clara Ave., Apt. D	Alameda	CA	94501-3349
Davis	Richard	563 saint Mary Dr.	Santa Rosa	CA	95409-3275
Davis	Thomas	104 Bronson St. Suite 12	Santa Cruz	CA	95062-3487
Davis	Alyce	432 Redwood Rd.	Whitehorn	CA	95589-9089
Davitt-Cornyn	Theodora	1981 Smokewood Ct.	1000 Oaks	CA	91362-1343
Dawn	Erika	1805 Dry Creek Rd.	Healdsburg	CA	95448-9795
Dawson	Dan	27000 Blue Lake Rd.	Willits	CA	95490-8845
Day	Ronald E.	1801 17th Avenue	Santa Cruz	CA	95062-1861
Dayton	Ruth A.	310 Lovers Lane	Vacaville	CA	95688-4321
Dba	Jaimila Neyon	230 Grand Ave., Fl.2	Oakland	CA	94610-4559
De Gooyer	Stacey	53 San Pablo Avenue	San Rafael	CA	94903
De La Rosa	Michele	1082 Amoroso Pl.	Venice	CA	90291-3944
De Long	Paul M.	2414 Capitol Ave., Apt. 10	Sacramento	CA	95816-5821
De Meo	Alvino	1774 So. Cabana Ave. Apt. A	West Covina	CA	91790-4560
De Muri	Dennis	475 Eastlick St., #1	Ukiah	CA	95482-4612
De Palo	Franco	76 Bahama Reef	Novato	CA	94949-5356
De Sante	David	PO Box 821	Point Reyes Station	CA	94956
Dean	Mary L.	1323 Berea Pl.	Pacific Palisades	CA	90272
Deane	M. Elizabeth	3515 Plantain Court	Santa Rosa	CA	95403-8501
Dearth	Don. E.	143 Hancock St.	San Francisco	CA	94114-2532

Deasy	Veronica	P.O. Box 1354	Crestline	CA	92325-1354
Debona	Eve	405 Lincoln Ave.	Palo Alto	CA	94301-3231
Decarle	Diantha	489 Laurel Ave., Apt. C	Pacific Grove	CA	93950-3444
Deckard	Bernadine	1427 Delwood Avenue	Vallejo	CA	94591-5767
Decker	Anne	5527 Shattuck Ave. Apt. 102	Oakland	CA	94609-1657
Decker	Todd	3620 Young Avenue	Napa	CA	94558-2600
Deckker	Chris	153 Ridge Rd.	Fairfax	CA	94930-1975
Dederick	Jan	121 Santa Fe Ave.	El Cerrito	CA	94530-4153
Dee	Vincent J.	2153 Pleasant Grove Rd.	Encinitas	CA	92024-4328
Deeds	Sarah E.	2036 6th Street	Berkeley	CA	94710-2007
Deeter	Tricia	1216 Hermosa Way	San Jose	CA	95125-3511
Defelice	Paula	4013 Mozart Drive	El Sobrante	CA	94803-2749
DeForest	John	2534 Lake Street	San Francisco	CA	94121
DeGeofroy	Isabelle	2187 Harrison Street	San Francisco	CA	94110-1329
Degeorge	Ronald L.	2014 Channing Way, Apt. 3	Berkeley	CA	94704-1935
Deichman	Annie	PO Box 1142	Forestville	CA	95436-1142
Deichmann	Annie	140 High	Sebastopol	CA	95472
Del Real	Kristen	2860 Rodeo Avenue	Chico	CA	95973-8963
Deland	Katherine	7421 Earldom Ave.	Playa Del Rey	CA	90293-8058
Delaurier	Roger	1867 Fixlini St.	San Luis Obispos	CA	93401-3028
Delbridge	Julie A.	PO Box 2155	Santa Cruz	CA	95063-2155
Dellaporta	Angela	425 Margarita Ave.	Palo Alto	CA	94306-2827
Delurgio	Mary K.	5222 Jessen Drive	La Canada-Flintridge	CA	91011
Dembecki	Stan	732 So. Mansfield Ave. #424	Los Angeles	CA	90036-4339
Dembowsky	Elsa	4311 Panorama Dr.	Santa Rosa	CA	95404-6229
Dengler	Heather Noel	394 1/2 Newport Ave.	Long Beach	CA	90814-2676
Denham	Mark S.	3951 18th St., Apt. 3	San Francisco	CA	94114-2546
Denning	Zachary I.	26 Karl Avenue	San Anselmo	CA	94960-1716
Denninghoff	Caroline M.	1316 Fitzgerald Street	Emeryville	CA	94608-4104
Denning-Mailloux	Gale M.	30016 Disney Lane	Vista	CA	92084-1228
Dent	Chester W.	P.O. Box 292126	Los Angeles	CA	90029-8626
Depew	David	1587 Mt. Shasta Avenue	Milpitas	CA	95035-6934
Derek	Gavin	833 N. McCadden Pl.	Los Angeles	CA	90038-3420
Desmond	Jennifer	812 1/2 Spring St.	Santa Rosa	CA	95404-3904
Desmond	Sheila	P.O. Box 1403	Sloughhouse	CA	95683-1403
Destandau	Olivia S.	3009 Brook St. Apt. B	Oakland	CA	94611-5715
Detjens	Ewald	715 Buena Vista Ave. W.	San Francisco	CA	94117-4107
Detwiler	Susan	51 Beaver St., Bldg. Rear	San Francisco	CA	94114-1514
Deutsch	L. Peter	203 Santa Margarita Ave.	Menlo Park	CA	94025-2726
Devault	Creta J.	1411 Foothill Blvd.	La Verne	CA	91750-3451
Develter	Marylou	1307 Tehama Street	Corning	CA	96021-2538
Dever	Jack E.	7521 Prince Street	Citrus Heights	CA	95610
Devlieg	Patricia	679 Madrid Street	San Francisco	CA	94112-3544
Devore	Susan E.	136 Florence Ave,	Sebastopol	CA	95472-3733
Di Fonso	Christopher	30 Del Trevi	Irvine	CA	92606-8865
Diamond	Crescent A.	120 Santa Marina St.	San Francisco	CA	94110-5524
Diamond	Marc J.	1629 Russell St. Apt. B	Berkeley	CA	94703-2021
Diaz	May	2270 Empire Grade	Santa Cruz	CA	95060-9747
Diaz	Tracey	731 Carolina St.	San Francisco	CA	94107-2701
Diaz-Ruiz	Ana	P.O. Box 2471	Venice	CA	90294-2471
Diblin	Joan	5068 Diamond Hgts. Blvd.	San Francisco	CA	94131
Dick	Jeff	1221 Brighton Ave. Apt 6	Albany	CA	94706-1330
Dickemann	Jeffrey M.	2901 Humphrey Ave.	Richmond	CA	94804-1117
Dickson	Diane	731 Beaver St., Apt. 3	Santa Rosa	CA	95404-3749
Dickson	Kris	2343 3rd, Suite 296	San Francisco	CA	94107
Didulo	John E.	3117 South Bentley Ave.	Los Angeles	CA	90034
Diebold	Don W.	943 West Holt Blvd.	Ontario	CA	91762-3633
Dieges	Jennifer	1818 Prince Street	Berkeley	CA	94703-2423
Diehl	David	1430 Del Mar Ave.	Laguna Beach	CA	92651-3512
Diersch	Debbie	26203 Pierce Road	Los Gatos	CA	95033-8528
Dierssen	Elizabeth	1405 Phelps Ave. Apt. 44	San Jose	CA	95117-3651
Dietrich	Steven	546 Frontenac Ave.	Los Angeles	CA	90065
Dietrich	Chris O.	1564 Albatross Dr., Apt. 3	Sunnyvale	CA	94087-3330
Dihig	Stewart	2000 North 3rd Ave.	Napa	CA	94558-3843
Dilley	Jerri Lee	822 1/2 W. Islay St.	Santa Barbara	CA	93101-4633
Dillon	Howard	P.O. Box 262	Bolinas	CA	94924-0262
Dilworth	Shana E.	346 Hanover Ave., Apt. 207	Oakland	CA	94606-5610
Dimitri	Katherine	3431 32nd Street	San Diego	CA	92104-4310

Dinapoli	Susan L.	1408 Cabrillo Street	San Francisco	CA	94118-3523
Dines	Michael C.	880 Willow St. Apt. 24	San Jose	CA	95125-2338
Dinga	Susan	500 San Benito Avenue	Los Gatos	CA	95030-4309
DiPeri	Kathy	46 Prado Road	San Luis Obispo	CA	93401-7313
Ditsler	Dixie	217 Rodeo Ct.	San Dimas	CA	91773-1139
Dittbrenner	Diane L.	1279 Argeullo Blvd.	San Francisco	CA	94122-2755
Dittman	William	901 C St.	San Rafael	CA	94901-2805
Divins	Dennis	1074 Via Regina	Santa Barbara	CA	93111-1340
Dixon	Lynne M.	528 Whitewood Drive	San Rafael	CA	94903-2455
Doan	Lee	4055 Lovall Valley Rd.	Sonoma	CA	95476-4908
Dobbins	Kate	3510 Kempton Way	Oakland	CA	94611-5425
Dobrin	Dr. James L.	771 N. Valley Dr.	Westlake Village	CA	91362
Dobson	Ruth	1717 Madeira Cir.	Petaluma	CA	94954-7424
Dodge	Morgan	1255 Detroit Ave., Apt. 15	Concord	CA	94520-3681
Dodi	Emily	2533 Federal Avenue	Los Angeles	CA	90064-3701
Dodson	Diana	P.O. Box 403	Surfside	CA	90743-0403
Doell	Ruth	110 San Pedro Road	Half Moon Bay	CA	94019
Dohner	Bruce	725 Sequoia Ave.	Patterson	CA	95363-9561
Dolan	JoAnn	578 25th Avenue	San Francisco	CA	94121
Dolen	Ken	351 East \K\" Street"	Benicia,	CA	94510-3436
Dolgenos	Peter	1930 Wright St. Apt. 9	Sacramento	CA	95825-8709
Dombkowski	Dale	1365 4th Avenue	San Francisco	CA	94122-2615
Domeny	Katherine	50 Altura Way	Greenbrae	CA	94904-1218
Domingo	Christine	587 Seahorse Ln.	Redwood City	CA	94065-1222
Donald	Donna	P.O. Box 866	Lone Pine	CA	93545-0866
Donaldson	Whitney	255-B Parkhill Road	Santa Margarita	CA	93453-8614
Donkin	Dottie	39595 Buena Vista Terr.	Fremont	CA	94538-2152
Donn	Adele	875 Clayton Street	San Francisco	CA	94117-4463
Donnan	Janet	1321 Calle Pecos	Thousand Oaks	CA	91360-2352
Donnelly	J. Kenneth	6215 Hillegass Ave.	Oakland	CA	94618-1238
Donner	Megan	1051 Woodland Ave. Rear Unit	Menlo Park	CA	94025-2845
Donner	B. K. D'Ambrosia	11 N. Mountain Trl	Sierra Madre	CA	91024-2050
Donoghue	Julia	670 American Oaks Ave.	Newbury Park	CA	91320-5106
Donohue	Kate	57 Post St. Ste. 602	San Francisco	CA	94104-5023
Donovan	Ben	P.O. Box 72464	Davis	CA	95617-2464
Donovan	John	414 Colusa Avenue	El Cerrito	CA	94530-3365
Donovan	Woodrow M.	934 Greenhill Road	Mill Valley	CA	94941-3406
Donovan	Bill	PO Box 1083	Truckee	CA	96160-1083
Donovan M.D.	Woodrow M.	240 Tamal Vista Blvd.	Corte Madera	CA	94925-1132
Donovan MD	Woodrow M.	3331 Sacramento St.	San Francisco	CA	94118-1911
Doob	Jennifer	3898 19th Street	San Francisco	CA	94114-2661
Doress	Hannah	576 Precita Avenue	San Francisco	CA	94110-4720
Dorosz	Inga	PO Box 11044	Stanford	CA	94309-1044
Dosch	Mary	1342 East 28th St. Apt. B	Oakland	CA	94606-3208
Dostal	Veronica R.	3077 Carleton Place	Santa Clara	CA	95051-6107
Dotson	James	P.O. Box 1251	El Granada	CA	94018-1251
Doud	Gudrun	1110 Scott St.	Ridgecrest	CA	93555-3011
Doughty	Robert	1951 West 26th Street	San Pedro	CA	90732-4613
Douglas	Claire	21540 Paseo Serra Street	Malibu	CA	90265-5112
Douglas	John E.	4933 Neola Place	Los Angeles	CA	90041-2413
Douglas	Haila	1701 Latigo Canyon Rd.	Malibu	CA	90265-2748
Douglas	Christine	PO Box 60	Occidental	CA	95465-0060
Douty	Shirley	6229 North Capri Ct.	Fresno	CA	93711-0860
Dower	Alan	3107 La Campania	Alameda	CA	94502
Down	Robin M.	1216 E. Lesington Dr. Apt. 10	Glendale,	CA	91206-5045
Downing	Dwayne	154 Olive Springs Road	Soquel	CA	95073-9643
Downing	Holly	5929 Fredricks Rd.	Sebastopol	CA	95472-5640
Downs	Fedrick	2651 Bayshore Avenue	Ventura	CA	93001-4131
Downs	Lora	10 Poimsettia Ave., Apt. 7	San Mateo	CA	94403-2843
Doyle	Bob	99 Professional Centre Pkwy #B107	San Rafael	CA	94903-2779
Doyle	Joe	483 Mississippi Street	San Francisco	CA	94107
Doyle	Julie	17810 Comanche Trl.	Los Gatos	CA	95033-8823
Doyle	Tim	858 Balboa Ave.	Pacific Grove	CA	93950-2202
Doyle	Hank	6528 Babcock Ave.	North Hollywood	CA	91606-2309
Draeger	Ramona	2140 Fell St. Apt. 304	San Francisco	CA	94117-1848
Drake-Bilek	Judith	568 E. Magnolia Blvd., Apt. F	Burbank	CA	91501-1951
Drath	Marjorie	PO Box 147	Inverness	CA	94937-0147
Draven	Alexandra S.	1900 Sestri Lane #212	Petaluma	CA	94954-3934

Dreier	Ruth	P.O. Box 1367	Occidental	CA	95465-1367
Dresher	Martha W.	934 Las Pulgas Rd.	Pacific Palisades	CA	90272
Dresser	Halliday	6 Scotland St.	San Francisco	CA	94133-2715
Drew	Joan	814 Paloma Avenue	Oakland	CA	94610-1757
Dreyfuss	Robert	267 Arlington Ave. Stuite D	Kensington	CA	94707-1401
Drischell	Gwyn	11192 Osborne St.	Sylmar	CA	91342-6602
Droll	Francie	4701 Morning Canyon Rd.	Oceanside	CA	92056-4960
Drukman	Mason	1802 Blake St.	Berkeley	CA	94703-1904
Drutz	Al	11613 Clover Avenue	Los Angeles	CA	90066-1211
Dubois	Julie	7642 Ostrom Avenue	Van Nuys	CA	91406-2123
Ducey	Connie	141 Sacramento Ave.	San Anselmo	CA	94960-1618
Ducharme	Suzanne	P.O. Box 175	Greenview	CA	96037-0175
Dugle	David	702 Shepard St.	San Pedro	CA	90731-7139
Dulaney	Andrew	1321 Amberdale Ct.	Antioch	CA	94509-8056
Dulaney	Andrew G.	1321 Amberdale Ct.	Antioch	CA	94509-8056
Dulen	Deanna	P.O. Box 376	Lee Vining	CA	93541-0376
Dullinger	Heinz M.	P.O. Box 94	Redwood Valley	CA	95470-0094
Dullnig	Howard A.	13744 Kenmore Ave.	Baldwin Park	CA	91706-4008
Dumas	Margaret S.	228 Columbia Ave.	Kensington	CA	94708-1141
Dumke	Christine E.	739 Sycamore Avenue	San Bruno	CA	94066-3319
Dumond	Betsy	P.O. Box 12009-418	Scottsdale	AZ	85267
Dumont	Katherine	1251 College Avenue	Palo Alto	CA	94306-1345
Dunbar	Shirley B.	333 Old Mill Road #323	Santa Barbara	CA	93110-3654
Duncan	Ian	426 Irving St. Apt. 1	San Francisco	CA	94122-2512
Duncan	Charles	21 Calle Vista Del Monte	Oakview	CA	93022-9507
Duncan	Bruce	2798 Freeport Blvd.	Sacramento	CA	95818-3053
Dunckley	Carol	295 18th Avenue	San Francisco	CA	94121-2314
Dunham	Gwen	3762 28th Street	San Diego	CA	92104-3504
Dunlap	Jay	1011 Seabright Avenue	Santa Cruz	CA	95062-2503
Dunlap	Quenby	30 Taormina Lane	Ojai	CA	93023-3628
Dunmire	Jennifer	4105 40th Ave.	Sacramento	CA	95824-2825
Dunn	Elizabeth K.	4156 Greenwood Avenue	Oakland	CA	94602-1147
Dunn	Susan	P.O. Box 32	Blue Lake	CA	95525-0032
Dunn	Jeff L.	643 Greenwich Ln.	San Mateo	CA	94404-3616
Dunn	Kelly	140 Gardenside Dr., Apt. 101	San Francisco	CA	94131-1324
Dunn	Patricia M.	PO Box 460513	Escondido	CA	92046-0513
Dunn	Fred W.	925 Olancha Dr.	Los Angeles	CA	90065-4231
Dunnbier	Chris	P.O. Box 691	Healdsburg	CA	95448-0691
Dunne	Kathy	21 Loma Vis	Walnut Creek	CA	94596-3409
Dunne	Jessica	2396 48th Ave.	San Francisco	CA	94116-2055
Dunton	Mary Rose	920 Garnet St.	Redondo Beach	CA	90277-3502
Dupuis	Kimberly	2844 Ox Yoke Pass	Pioneertown	CA	92268
Durant	Sam	902 N. Ave. #63	Los Angeles	CA	90042-1406
Durie	Maya	5600 Castle Drive	Oakland	CA	94611-2728
During	Jane E.	528 Dolphin Dr.	Pacifica	CA	94044-1804
Durling	Teresa	718 34th Avenue #A	San Francisco	CA	94121-3432
Durst	Anne	852 \L\" Street"	Davis	CA	95616-2105
Durst	Ani	4784 Newton Rd.	Placerville	CA	95667-8386
Duryea	Dian	2812 Barnard Drive	San Pablo	CA	94806-2708
DuTemple	Linda	P.O. Box 453	Sonora	CA	95370-0453
Dwiggins	Glen J.	1730 Camino Palermo St., Apt. 110	Los Angeles	CA	90046-2948
Dworkin	Sari H.	1234 Fremont Avenue	Clovis	CA	93612-0472
Dwyer	Barbara	70 Allyn Ave.	San Anselmo	CA	94960-2204
Dye	James	90 Bepler Street	Daly City	CA	94014-1001
Dye	Chris	2137 Ashby Ave.	Berkeley	CA	94705-1834
Dyer	Z.A.	85 Napa Ln.	Goleta	CA	93117-1321
Dyer	Linda	516 Cole St.	San Francisco	CA	94117-2806
Eade	Larry	179 Inverness Way	Alameda	CA	94502-6423
Eagan	Virginia M.	2412 Guynn Avenue	Chico	CA	95926-2013
Eagen	Georgiana D.	34075 Shaver Springs Rd.	Auberry	CA	93602-9789
Eagle	Patricia	3421 Ramona Street	Palo Alto	CA	94306-3547
Early	Brian	1451 California Street	Eureka	CA	95501-2218
Easteppe	Patricia	PO Box 178	Whitmore	CA	96096-0178
Eastlack	Ruth	1348 Millich Lane	San Jose	CA	95117-3633
Eaton	William C.	681 Pronto Dr.	San Jose	CA	95123-3837
Eben	Sandra	PO Box 1265	Sausalito	CA	94966-1265
Eck	Melissa	2520 So. Centinela Ave. Apt. 3	Los Angeles	CA	90064-2771
Eckerman	Ea	804 Pine Street	Santa Cruz	CA	95062-2445
Ecklund	Eileen	2471 15th Avenue	San Francisco	CA	94116-2524
Eddy	Thomas	22718 Sylvan Way	Monte Rio	CA	95462-9742

Eden	Aaron	4230 Marguerita Way	Carmel	CA	93923-8814
Edminster	T.W.	1026 Fassler Ave.	Pacifica	CA	94044-3652
Edmondson	Lisa	3438 Mentone Ave. Apt. #1	Los Angeles	CA	90034-4725
Edmunds	Steven M.	1331 Walnut Street	Berkeley	CA	94709-1408
Edmundson	Lee	P.O. Box 1167	Mendocino	CA	95460-1167
Edward L.	Edward L.	21000 Wilbeam Ave. Apt. 207	Castro Valley	CA	94546-5869
Edwards	Ian	PO Box 1347	San Rafael	CA	94915
Efross	Monnie	931 Barkley Ct.	Pinole	CA	94564-2706
Egasse	Jeanne	1791 Windsor Lane	Santa Ana	CA	92705-3444
Ehrlich	Annette	6226 Holly Mont Dr.	Los Angeles	CA	90068-3376
Ehrlich	Mark	603 Vernon Avenue	Venice	CA	90291-2736
Eick	Stephanie	1253 Santa Paula Ave.	San Jose	CA	95110-1449
Eid	Alvilda	200 Glenwood Cir. Apt. 404	Monterey	CA	93940-6745
Eiden	Libby	906 Bancroft Way, Apt.B	Berkeley	CA	94710
Eigler	Julie	40 Pearl Street	San Francisco	CA	94013-1175
Einstein	Susan	636 N. Gower St.	Los Angeles	CA	9004-1304
Eisen	Grant V.	15245 Kimberly Court	Nevada City	CA	95959-8644
Eisenberg	Joan	1233 Laburnum Avenue	Chico	CA	95926-3467
Eisenberg	Gerard	PO Box 344	Medocino	CA	95460-0344
Eiss	Amy	1323 12th St., Apt. E	Santa Monica	CA	90401-2049
Eissler	Margaret	PO Box 939	Yosemite Ntpk	CA	95389-0939
Eitreim	Dara	777 Knowles Dr. Suite 14	Los Gatos	CA	95032-1417
Ela	Stephen W.	1475 Barley Grain Rd.	Paso Robles	CA	93446-4908
Eldon	Jim	18265 County Road 70	Brooks	CA	95606-9711
Elke	denise	265 Grandview Ave.	Novato	CA	94945-3503
Elkins	Kristi	1813 San Jose Ave., Apt. B	San Francisco	CA	94112-2442
Elliot	Steve	1062 East Woodbury Rd.	Pasadena	CA	91104-1332
Elliot	Robert	PO Box 750	Newcastle	CA	95658-0750
Elliot	Raleigh	1027 Olive Dr., Spc 17	Davis	CA	95616-4744
Elliot	Matthew	1012 Divisadero St., Apt. 2	San Francisco	CA	94115-4491
Elliott	Thomas C.	838 No. Mariposa Ave. Apt. 7	Los Angeles	CA	90029-3442
Elliott	Vince	121 Piccadilly Pl. Apt. H	San Bruno	CA	94066-2117
Elliott	Suzanne	PO Box 1535	El Granada	CA	94018-1535
Elliott	Deborah	1312 Beaver St.	Santa Rosa	CA	95404-3417
Elliott	Catherine M.	143 Mason St.	Santa Cruz	CA	95060-4712
Ellis	Bob	6342 Creekview Court	Martinez	CA	94553-6013
Ellison	Leslie	18633 Riverside Dr.	Sonoma	CA	95476-4510
Embree	Serena T.	1949 Montecito Ave.	Santa Rosa	CA	95404-3011
Emein	Bayle E.	419 61st Street	Oakland	CA	94609-1304
Emerson	Sandy L.	P.O. Box 2765	El Granada	CA	94018-2765
Emery	M. K.	4828 19th St.	San Francisco	CA	94114-2232
Emming	Ingrid	115 Fair Ave.	Petaluma	CA	94952-1256
Emmons	Cynthia	923 Nolden St. Apt. 5	Los Angeles	CA	90042-1845
Emory	Meris	3021 Texas Street	Oakland	CA	94602-2828
Endo	Melissa A.	597B Dolores St.	San Francisco	CA	94110-1564
Endres	Abbie	523 Clipper St.	San Francisco	CA	94114-3604
Engdahl	Bonnie	1834 Pandora Avenue	Los Angeles	CA	90025-5019
Engel	Joseph	35 Red Hill Cir., Apt. D	Tiburon	CA	94920-1702
Engelsman	Joseph H.	4239 Mt. Putman Avenue	San Diego	CA	92117-4748
Englander	Megan	380 Hayes St., Ste. 4	San Francisco	CA	94102-4421
Ennes	Howard	160 Woodland Drive	Ft. Bragg	CA	95437-4521
Entz	Brian	14599 Riverside Drive	Apple Valley	CA	92307-4818
Epperson	Teresa	10 Jeannette Prandi Way #1201	San Rafael	CA	94903-1139
Epstein	Lynn	2504 Bombadil Lane	Davis	CA	95616-2954
Erickson	Laurie	8169 Birch Street	Windsor	CA	95492-8819
Erickson	M.	33 Paradise Road	Santa Barbara	CA	93105
Erickson	Martin	13 Gilrix Ct.	Petaluma	CA	94954-3826
Erickson	Mark	214 Linden Ave.	San Bruno	CA	94066-4805
Erickson	Craig	825 Jones St., Apt. 10	San Francisco	CA	94109-6335
Erickson	Susan A.	2230 Village Way	Signal Hill	CA	90806-5997
Ericson	R.	2909 Epaulette Street	San Diego	CA	92123-3112
Ericson	Virginia	2898 Matilija Canyon Rd.	Ojai	CA	93023-9508
Erikson	Margery F.	55 Poppy Lane	Berkeley	CA	94708-1407
Erznoznik	Ruth D.	907 Minnesota Street	San Francisco	CA	94107
Escobar	Marilyn	PO Box 453	Rio Linda	CA	95673-0453
Eshaghpour	Tina	100 Lake St. Apt. 2	San Francisco	CA	94118-1478
Espinocilla	Baunnie	17 Saturn Street	San Francisco	CA	94114-1420
Esposito	Camille	2117 Hyperion Avenue	Los Angeles	CA	90027-4766
Esposito	Laura	1929 Whitley Ave. Apt. 504	Los Angeles	CA	90068-3267
Estes	Lesley C.	4779 Fair Avenue	Oakland	CA	94619-2961

Estrada	Rosita	14247 San Benito Court	Fontana	CA	92336-3781
Estrella	Daniel	114 Kent Rd.	Pacifica	CA	94044-3957
Etienne	Claire	614 Forest Dr.	Sebastopol	CA	95472-9414
Eucalyptus	Linda	1275 Eagle Hill Road	Watsonville	CA	95076-9354
Euler	Joann L.	6327 Vedanta Ter.	Los Angeles	CA	90068-3921
Eva M.	Eva M.	1404 Oxford Street	Berkeley	CA	Berkeley, CA
Evans	Frederika B.	P.O. Box 1877	Sebastopol	CA	95473-1877
Evans	Jeremy	966 Grove Street	Sonoma	CA	95476-5305
Evans	Karen J.	P.O. Box 19901	Sacramento	CA	95819-0901
Evans	Rhys	6056 Bagley Ave. Apt A	29 Palms	CA	92277-2257
Evans	Dawn	17231 Rolando Ave.	Castro Valley	CA	94546-3936
Evans	Mary Jane	777 44th Ave.	San Francisco	CA	94121-3305
Evans	John	2147 Stewart St., #4	Berkeley	CA	94705
Evans	Clara	3470 Franz Valley Rd., Apt. B	Santa Rosa	CA	95404-9659
Everett	Greg	626 West 1st Ave. Apt. 12	Chico	CA	95926-4423
Everts	Kit	410 Hillside Avenue	Mill Valley	CA	94941-1151
Ewald	William A.	8607 La Riviera Dr., Apt. D	Sacramento	CA	95826-1774
Ewing	Susannah	222 Grant St.	Redlands	CA	92373-5117
Ewing	Ann	PO Box 442	Rough And Ready	CA	95975
ewis	Deborah L. L	1390 Hayes St. Apt. 1	San Francisco	CA	94117-1465
Faber	Robin	580 Lillian Way	Los Angeles	CA	90004-1106
Fabinsky	Beth	397 So. El Molino Ave. Apt 2	Pasadena	CA	91101-4231
Fader	Scott	5725 Raybel Ave.	Sacramento	CA	95841-2820
Fadiman	Renee	215 Whitclem Drive	Palo Alto	CA	94306-4113
Fairbanks	Mary K.	37607 Lasker Avenue	Palmdale	CA	93550-7721
Fairbanks	Bruce	401 22nd St., Apt. 4	Sacramento	CA	95816-3055
Fairfield	Kenneth H.	1232 Wilson Street	Palo Alto	CA	94301-3459
Fairweather	Lea S.	527 Bayview Dr.	Aptos	CA	95003-5327
Falcona	Bronwyn	3327 Cabrillo Street	San Francisco	CA	94121-3441
Falk	E.A.	600 Fairmont Ave.	Mountain View	CA	94041-2135
Falke	Kirsten	1936 Thousand Oaks Blvd.	Berkeley	CA	94707-1638
Faller	Robert	2110 23rd St.	San Francisco	CA	94107-3221
Fanfelle	Robert	1077 Chesterton Ave.	Redwood City	CA	94061-1207
Fanning	Don B.	P.O. Box 128	Flagstaff	AZ	86002-0128
Fanselow	John	2460 Tanoble Dr.	Altadena	CA	91001-2732
Farey	Kevin	551 River Glen Dr. Apt. 146	Napa	CA	94558-3572
Farkas	Rochelle	548 Tahquitz Place	Pacific Palisades	CA	90272-4236
Farlee	Shari D.	744 Loma Prieta Dr.	Aptos	CA	95003-5518
Farley	Joseph	1531 Camden Ct.	Santa Rosa	CA	95405-7604
Farmer	Richard	81 Park Plaza Dr. Apt. 5	Daly City	CA	94015-1320
Farrell	Jessica A.	2100 Red Rose Way Apt. J	Santa Barbara	CA	93109-1272
Farrell	Ronald	777 Kingston Ave. Apt. 1	Oakland	CA	94611-4443
Farris	Daniel C.	PO Box 669	Hydesville	CA	95547-0669
Faukner	Jennifer	206 Tivoli Way	Sacramento	CA	95819-1936
Favors	Jeannette R.	1412 Broadway, Apt. C	Alameda	CA	94501-4612
Fay	Lynell B.	200 N. El Camino Real Spc. 239	Oceanside	CA	92054-0814
Fears	Victoria	530 Bishop Dr.	La Habra	CA	90631-3004
Featherstone	Victoria	P.O. Box 2338	Vista	CA	92085-2338
Feeny	Izetta	11701 Ridge Rd.	Guerneville	CA	95446-9720
Fehrmann	Catherine S.	2424 Stockbridge Dr.	Oakland	CA	94611-2411
Fehrmann	Catherine	2424 Stockbridge Dr.	Oakland	CA	94611-2411
Feichtl	James	2036 Lyon Ave.	Belmont	CA	94002-1637
Feiler	June S.	3443 Terra Granada Dr. Apt. 2-A	Walnut Creek	CA	94595-3552
Feinerman	Lynn	14 Janet Way, Apt. 149	Belvedere Tiburon	CA	94920
Feist	Robert	818 Angelus Place	Venice	CA	90291-4921
Feldman	Edwin	40 Camborne Ave.	San Carlos	CA	94070-1661
Felker	J. M.	15229 Monroe Avenue	Moorpark	CA	93021
Felker	Karen	844 Dartmouth St.	San Francisco	CA	94134-1828
Fellows	Susan	819 Santa Regina	Solana Beach	CA	92075-1513
Felten	Patrick	2151 Lakeside Ave.	Stockton	CA	95204-5125
Felton	Tony	526 West Napa St. #B	Sonoma	CA	95476-6521
Fender	Carol	1520 Elm St.	El Cerrito	CA	94530-2204
Fendon	William	1553 South Holt Ave.	Los Angeles	CA	90035-3696
Fenselau	Andrew	2091 San Luis Ave. Apt. 1	Mountain View	CA	94043-2806
Ferber	Simone	28809 Lilac Road	Valley Centre	CA	92082-5426
Ferguson	Arthur E.	1075 Lighthouse Ave. Apt. 232	Pacific Grove	CA	93950-2301
Fernandez	Howard J.	3398 California St. Apt. 4	San Francisco	CA	94118-1946
Ferraioli	Kristin	569 Minna Street Apt. B	San Francisco	CA	94103-2845
Ferrare	Dino	3197 San Pasqual St.	Pasadena	CA	91107-5330
Ferreira	Rich	4065 Pleasant Hill Rd.	Lincoln	CA	95648-9737

Ferry	Richard	323 South 12th St.	San Jose	CA	95112-2229
Fertig	Ilise	1920 Manning Ave. Apt. 7	Los Angeles	CA	90025-4844
Fessant	Stephen	6321 Dover St. Apt. 8	Oakland	CA	94609-1250
Fessenden	Jane	260 High Street Apt. 103	Santa Cruz	CA	95060-2652
Fessler	Jody D.	2727 Tachevah Dr., Apt. 18	Santa Rosa	CA	95405-8444
Fetterly	Doug	311 So. Edison Street	Graton	CA	95444-9331
Fichtner	Robin M.	6821 Camino De Amigos	Carlsbad	CA	92009-4561
Field	Barbara F.	1351 Big Plum Dr.	Sebastopol	CA	95472-5603
Fielding	Hazel	3237 4th Ave.	Sacramento	CA	95817-2720
Fiene	Karen Ivy	1207 Peralta Ave.	Albany	CA	94706-2405
Fiering	Wendy	724 Cornell Avenue	Albany	CA	94706-1703
Fike	William H.	P.O. Box 210425	Chula Vista	CA	91921-0425
Fillhouer	Susan L.	1436 S. Main St.	Milpitas	CA	95035-6204
Finch	Lucille	5373 Shafter Avenue	Oakland	CA	94618-1129
Finch	Mary	300 McEnery Rd.	Felton	CA	95018-9456
Fine	Daniel R.	3783 20th Street Apt. 19	San Francisco	CA	94110-2251
Fine	Howard	2863 Avenel Street	Los Angeles	CA	90039-2040
Fink	Christopher	1379 3rd Ave. Apt. D	San Francisco	CA	94122
Fink	Deborah A.	724 34th Ave.	San Francisco	CA	94121-3432
Finkle	Nancy L.	461 Central Avenue Apt. B	Alameda	CA	94501-3688
Finley	Laura	4021 Old Shasta River Rd.	Yreka	CA	96097-9211
Finney	Marguerite G.	223 Ricardo Road	Mill Valley	CA	94941-2517
Firestone	Alice	911 Locust St.	Garberville	CA	95542-3403
Firl	Gerold	14141 Esra Ln.	Poway	CA	92064-3018
Fischbach	Ernest	21512 Orr Springs Rd.	Ukiah	CA	95482-9002
Fischback	Leslie	1334 Burbank St.	Alameda	CA	94501-3946
Fischer	Cheryl P.	535 Washington Blvd.	Marina Del Rey	CA	90292-5420
Fischer	Meade	270 Hames Rd. Spc. 72	Corralitos	CA	95076-0219
Fisher	Kim	391 Chenery St.	San Francisco	CA	94131-3069
Fisher	Jim	942 Hayes St., apt. 21	San Francisco	CA	94117-2502
Fishersmith	Sara	PO Box 124	Tecopa	CA	92389-0124
Fishkin	Ken	924 Haven Avenue	Redwood City	CA	94063-4215
Fisk	Arlis J.	863 Lavaliere Pl.	Folsom	CA	95630-3176
Fitting	Helen	2586 Maple Ln.	Arcata	CA	95521-5119
Fitz	Sharon	2434 256th St.	Lomita	CA	90717-2307
Fitzgerald	Carole	906 Madison St.	Albany	CA	94706-2025
Fixel	Lawrence	1496 Willard Street	San Francisco	CA	94117-3721
Flanagan	Vicki	1208 Corliss Pl.	Modesto	CA	95358-1462
Flannery	Anne W.	30 Professional Centre Pkwy #A	San Rafael	CA	94903-2763
Flather	Kate M.	3002 3rd St., Unit 312	Santa Monica	CA	90405-5482
Fleck	Sandra	4939 Elmwood Avenue	Los Angeles	CA	90004
Fleming	Andrew	3538 Aaron Drive	Santa Rosa	CA	95404
Fleming	Tova	415 11th St. Apt. 2	Sacramento	CA	95814-0841
Fleming	Gerald	PO Box 529	Lagunitas	CA	94938-0529
Fleming	Dennis	PO Box 70	Mendocino	CA	95460-0070
Fletcher	Yolanda B.	16 Terrace Avenue	San Anselmo	CA	94960-2427
Floore	Susan	3984 26th St.	San Francisco	CA	94131-2002
Flores	Andrea	2515 Ivan Hill Terr. Apt. 2	Los Angeles	CA	90039-2712
Flores	Pat	1216 Versailles Ave.	Alameda	CA	94501-5453
Florine	Jacqueline	3279 Mt. Diablo Ct., Apt. 10	Lafayette	CA	94549-4040
Flum	Leslie	447 East Alder St.	Fort Bragg	CA	95437-3705
Flynn	James C.	1363 Hubbard Ave.	San Leandro	CA	94579-1313
Flynn	Theresa W.	6355 Almond Dr.	Templeton	CA	93465-8562
Foerster	Robert	2517 Patterson Rd.	Escondido	CA	92027-4214
Fogarty	Dan	5423 Yerba Buena Rd.	Santa Rosa	CA	95409-3840
Fogarty	R. Neill	314 5th St., Apt. A	Petaluma	CA	94952-4209
Foisy	Susan	P.O. Box 30838	Santa Barbara	CA	93130-0838
Folta	Andrew G.	3536 23rd St.	San Francisco	CA	94110-3002
Fong	Sylvia	1721 Colby Ave. Apt. 9	Los Angeles	CA	90025-4177
Fontana	Debbi	2143 Coastland Avenue	San Jose	CA	95125-2608
Fontenot	Ronald J.	502 1/2 No. Genesee Ave.	Los Angeles	CA	90036-1840
Foos	Joe F.	4837 Pleasanton Ave.	Pleasanton	CA	94566-6007
Foote	Linda	P.O. Box 705	Mendocino	CA	95460-0705
Foote	Hallie	95 Horatio St., Apt. 322	New York	NY	10014-1547
Foote	Beth	415 Moscow St.	San Francisco	CA	94112-2805
Foran	Mary P.	45 Live Oak Rd.	Berkeley	CA	94705-1645
Forbes	Jeanne M.	900 Bethany Dr.	Scotts Valley	CA	95066-2851
Force	Thomas	420 N. Pine St.	Ukiah	CA	95482-4338
Ford	Beth E.	2401 Harvard Way Apt. 257	Reno	NV	89502-7322
Ford	Chris	2372 Selby Ave.	Los Angeles	CA	90064-2217

Ford	Gail	472 44th Street	Oakland	CA	94609-2136
Ford	Brenda L.	1229 Williams St.	Eureka	CA	95501-1786
Foremaster	Elizabeth	541 45th St.	Sacramento	CA	95819-2822
Forgensi	Mike	PO Box 4	Hayward	CA	94577-0004
Forman	Lisa	66 Lloyd St.	San Francisco	CA	94117-3219
Formosa	Peter	1058 Antone Way	Petaluma	CA	94952-1834
Forney	Willard	203 Magnolia Ave.	Modesto	CA	95354-0537
Forray	Brett	P.O. Box 6742	Santa Barbara	CA	93160-6742
Forrest	Natalie	26285 Parkside Drive	Hayward	CA	94542-1626
Forrest	Tim	11821 Foothill Blvd. Apt. 46	Sylmar	CA	91342-7273
Forrester	Alexa	2316 North St., Apt. 3	Sacramento	CA	95816-5730
Forster	Jodie B.	PO Box 3567	Sonora	CA	95370-3567
Forstner-Barthell	Adrienne	5635 E. Bell Rd., Apt. 2023	Scottsdale	AZ	95254-5973
Forys	Maureen	3725 Balfour Ave.	Oakland	CA	94610-1704
Fosket	D.E.	3619 Pontiac Dr.	Carlsbad	CA	92008-2116
Foss	Janice M.	P.O. Box 63	Orlinda	CA	94563-0063
Foss	Jessine	255 MacArthur Blvd., Apt. 103	Oakland	CA	94610-3147
Foster	J.	712 Laurel Avenue	Menlo Park	CA	94025-2505
Foster	Lisa	4111 Warren Avenue	Sacramento	CA	95822-1024
Foster	Martin D.	4427 Montgomery Street	Oakland	CA	94611-4207
Foster	Maurette L.	1533 Rose Avenue	Santa Rosa	CA	95407-7175
Foster	Stephanie	P.O. Box 1493	Perris	CA	92572-1493
Foster	Theresa	10243 Tropico Ave.	Whittier	CA	90603-2260
Foster	James E.	300 Old Ranch Rd.	Sierra Madre	CA	91024-1330
Foster	Ken	PO Box 677	Santa Cruz	CA	95061-0677
Foster	Marshall	696 61st St.	Oakland	CA	94609-1206
Foulks	Marge	17291 Verba Lane	Guerneville	CA	95446-9591
Fournier	A. Marina	P.O. Box 2056	Santa Cruz	CA	95063-2056
Fowler	Laura	1085 Folsom Avenue	Hayward	CA	94544-5703
Fowler	Thomas	2416 Dwight Way Apt 1	Berkeley	CA	94704-2311
Fowler-Decatur	Erika	485 8th Avenue	San Francisco	CA	94118-3007
Fox	Bayard	P.O. Box 672	Rutherford	CA	94573-0672
Fox	Dotty	1747 \J\" Street"	Arcata	CA	95521-5542
Fox	Martha B.	25999 Glen Eden Rd. #231	Corona	CA	92883-5223
Fox	Peter N.	2844 Ramona Street	Palo Alto	CA	94306-2364
Fox	Jill	5525 W. Jefferson Blvd., Apt. 6	Los Angeles	CA	90016-3135
Fox	Timothy	2474 Rio Lindo Ave.	Healdsburg	CA	95448-9433
Fox	Robert W.	2640 Warring St.	Berkeley	CA	94704-3415
Fox	Sylvia A.	1531 Stoddard Ave.	Thousand Oaks	CA	91360-2057
Fox	William P.	428 4th Ave.	Redwood City	CA	94063-3726
Francis	Sharon	3741 Jasmine Ave. Apt. 4	Los Angeles	CA	90034-5925
Frangos	Stephanie	1584 Stillwell Road Apt. A	San Francisco	CA	94129-1074
Frank	Amelie	15550 Wyandotte Street	Van Nuys	CA	91406-3335
Frank	Kjirsten	1821 Lake Tahoe Blvd. Apt. AA-6	South Lake Tahoe	CA	96150-3712
Frank	Michael A.	3464 Idlewild Way	San Diego	CA	92117-3702
Frank	Jenny	16162 Mossdale Ave.	Lancaster	CA	93535-7320
Frankfurter	Aryeh	205 Ellsworth Street	San Francisco	CA	94110-5642
Franks	Rebecca	18406 Mustang Valley Pl.	Grass Valley	CA	95949-7663
Frantz	Claudia	1615 McKinley Rd.	Napa	CA	94558-2009
Frase	Ruth	P.O. Box 492	Redway	CA	95560-0492
Frates	Thomas	1823 \H\" Street Apt. J"	Sacramento	CA	95814-2128
Frauenfelder	Matt	1001 Oeste Dr.	Davis	CA	95616-1852
Frazee	Lorie	9263 Thoroughbred Way	Elk Grove	CA	95624-2109
Frazier	George B.	218 Calle Miramar, Apt. B	Redondo Beach	CA	90277-6206
Freda	Jim	3251 So. Sepulveda Blvd. Apt. 101	Los Angeles	CA	90034-4211
Frediani	Shannon	1027 Amesti Road	Watsonville	CA	95076-0601
Fredlund	Terri	2414 8th Street	Berkeley	CA	94710-2502
Fredricksen	Herb	1415 \G\" Street"	Napa	CA	94559-1144
Fredrickson	Donald D.	4199 Clares St. #C	Capitola	CA	95010-2014
Freedland	Shirley	3737 Atlantic Ave. #612-A	Long Beach	CA	90807-3433
Freeman	Emily Q.	2026 Cedar St.	Berkeley	CA	94709-2028
Freeman	Nancy G.	1549 Derby St.	Berkeley	CA	94703-1816
Freidson	Eliot	1950 Clay St., Apt 302	San Francisco	CA	94109-3437
French	Leo	1611 Venice Blvd., Apt. 6	Venice	CA	90291-5057
Frentzel	Tahd	123 Grattan St., Apt. 1	San Francisco	CA	94117-4208
Freundlich	Timothy	1058 Page St.	San Francisco	CA	94117-2219
Frewin	Terry	P.O. Box 31086	Santa Barbara	CA	93130-1086
Frey	Briana N.	48 Braeburn Ln.	Newport Beach	CA	92660-5207
Friauf	Ann	734 Alice Ave,	Mountain View	CA	94041-2440

Frick	Buffy Anne	3870 Ross Rd.	Sebastopol	CA	95472-2441
Fridley	Richard E.	405 Blue Blossom Lane	Eureka	CA	95503-9540
Friedl	Susan	7567 Elphick Road	Sebastopol	CA	95472-4748
Friedland MD	Susan	P.O. Box 1385	Ross	CA	94957-1385
Friedman	Aleene	421 Hilmen Place	Solana Beach	CA	92075-1318
Friedman	David	PO Box 73411	Davis	CA	95617-3411
Friedman	Martin	353 Montford Ave.	Mill Valley	CA	94941-3314
Friedman	Howard N.	3021 Gay Ave.	San Jose	CA	95127-2369
Friedman	Lois	1198 Westbend Rd.	Westlake Village	CA	91362
Friedman	Phyllis K.	119 Reservoir Rd.	Hillsborough	CA	94010-6956
Friedrich	Stefanie A.	416 Petaluma Blvd.	Petaluma	CA	94952-4260
Friesenborg	Derek	1608 Riviera Ave.	Venice	CA	90291-4236
Fritsch	Ursula	272 Wildwood Ave.	Piedmont	CA	94610-1102
Fritz	David	732 \N\" Street"	Davis	CA	95616-3914
Frommelt	Brad	33300 Mission Blvd. Apt. 168	Union City	CA	94587-1447
Fu	Sandra	11698 Chenault St.	Los Angeles	CA	90049-4561
Fugua	Jessica M.	895 Dolores St.	San Francisco	CA	94110-2206
Fulcher	Gloria J.	2925 Roanoke Ct.	Bakersfield	CA	93306-2601
Fuller	Carol	5549 Anza Street	San Francisco	CA	94121-2430
Fuller	Glenn S.	2365 Pine Knoll Dr. Apt. 7	Walnut Creek	CA	94595
Fuller	Warren	415 South Genesee Ave.	Los Angeles	CA	90036-3115
Fulmer	Anne	1988 Shattuck Avenue	Berkeley	CA	94704-1032
Funston	Lance	431 Lexington Ave. Apt. 2	El Cerrito	CA	94530-3629
Furumoto	Warren	12727 Gladstone Ave,	Sylmar	CA	91342-4839
Furutani	Kimberly	1565 Country Club Dr.	Riverside	CA	92506-3664
Futch	Martha	161 Hercules Avenue	Lompoc	CA	93436-1219
Futcher	Jane	235 Shevelin Road	Novato	CA	94947-4817
Gabel	Mark	2560 Sacramento Street	Berkeley	CA	94702-2158
Gable	Freda M.	1512 East 5th St. Spc. 176	Ontario	CA	91764-2165
Gaea	Barbara	616 Pierce Street	Vallejo	CA	94590-3331
Gaffney	Maureen	1030 54th Street	Emeryville	CA	94608-3140
Gagne	Carmen	1008 Brewington Ave.	Watsonville	CA	95076
Gagnet	Alan	14 Yellowwood Way	Irvine	CA	92612-2723
Gaines	Hilary	33 Entrada Avenue	Oakland	CA	94611-4311
Galanoy	Hilary	7858 Willoughby Ave.	Los Angeles	CA	90046-7225
Galbo	Dawn R.	1622 West Lewis St.	San Diego	CA	92103-1223
Gale	Daryl	PO Box 24387	Los Angeles	CA	90024-0387
Galenski	Gena	1 Saint Francis Pl., Apt. 1302	San Francisco	CA	94107-1345
Gallagher	Anne E.	2516 34th Street	Santa Monica	CA	90405-3113
Gallagher	Dan	1615 Cable Street	San Diego	CA	92107-3313
Galle	Claudia E.	12014 Kling St., Apt. 8	North Hollywood	CA	91607-3933
Gallegos	Jeff P.	4055 18th St. Apt. B	San Francisco	CA	94114-2535
Gallegos	Concepcion	718 S. Neptune St.	Anaheim	CA	92804-2663
Galluccio	Fred	2011 Westcliff Dr. Ste. 9	Newport Beach	CA	92660-5508
Galusha	Linda	112 Hedy Ln.	Davis	CA	95616-4818
Gambale	Michael A.	1373 12th Avenue	San Francisco	CA	94122-2213
Gander	Dorothy	201 Glenwood Cir. Apt. 106	Monterey	CA	93940-6709
Gandrud	Julia	1420 Addison St., Apt. 109	Berkeley	CA	94702-1930
Ganga	Doris	2020 Delaware Ave., Apt 2	Santa Monica	CA	90404-4862
Ganz	Cindy	1718 Esplanade Apt. 320	Redondo Beach	CA	90277-5336
Garcia	Ann	801 W. El Camino Real #271	Mountain View	CA	94040-2511
Garcia	Frank R.	9561 Maureen Dr. Apt. 4	Garden Grove	CA	92841-1230
Garcia	Robert	3312 Jordan Rd.	Oakland	CA	94602-3537
Garcia	Hector G.	2303 Rogers Ave.	Los Angeles	CA	90023-1247
Garcia	Loretta D.	8064 Sunflower Dr.	Cotati	CA	94931-4064
Garcia-Wood	Nan	P.O. Box 2278	Venice	CA	90294-2278
Garcia-Zuazua	Tuala	62 Fairview Plz., Apt. 1	Los Gatos	CA	95030-5839
Gard	Asia	523 The Alameda	Berkeley	CA	94707-1615
Garde	Hilda S.	4081 Payne Ave,	San Jose	CA	95117-3419
Garden	Rose	2000 Redwood Hwy. Spc. #59	Greenbrae	CA	94904-2431
Gardner	David	2525 Beverly Ave. Apt. 8	Santa Monica	CA	90405-3764
Gardner	Leslie	1764 Cooper Rd.	Sebastopol	CA	95472-4813
Gardner	Gail	1948 S St.	Newman	CA	95360-1418
Gardner	David	PO Box 2264	Antioch	CA	94531-2264
Gardner	Mary Ann	3515 S. Heritage Ct.	Visalia	CA	93277-8800
Gardner	Adele	319 Loyola Dr.	Aptos	CA	95003-5227
Garelick	Alan	190 Coleridge St., Apt. 204	San Francisco	CA	94110-5176
Garfield	Pam	1217 Cole St.	San Francisco	CA	94117-4321
Garman	Gayle	1615 Swanson Ln.	Eureka	CA	95503-6149
Garner	Chris	119 Corona Street	San Francisco	CA	94127-2807

Garner-Braga	Erin	PO Box 73	Occidental	CA	95465-0073
Garrett	Beth	124 Clay St.	Santa Cruz	CA	95060-4628
Garrison	Gail	2813 Shattuck Ave. Apt. 20	Berkeley	CA	94705-1042
Garrison	Terry L.	17 Iris Avenue	San Francisco	CA	94118-2726
Garrison	Laura	2394 Fulton St.	San Francisco	CA	94118-4129
Garten	Sharon M.	16411 Rocky Glen Rd.	Perris	CA	92570-7562
Garverick	Joan	37 Carmel St.	San Francisco	CA	94117-4332
Garza	Alvaro	1721 Morning Dove Circle	Modesto	CA	95354-1671
Garza	Lisa	33479 Quail Run Rd.	Fremont	CA	94555-1315
Gasowski	Jill	140 Amapola Ave.	Pacifica	CA	94044-3101
Gast	David	6407 Jacaranda St.	Rohnert Park	CA	94928-2831
Gastil	Janet M.	P.O. Box 256	La Mesa	CA	91944-0256
Gatts	Anne L.	431 E. Saint John St., Apt. 6	San Jose	CA	95112-3405
Gauba	Blaise	1149 N. Central Ave., Apt. 3	Glendale	CA	91202-2517
Gauld	Jessie	114 Albion Street	San Francisco	CA	94110-1156
Gaunce	Jordan	1419 B Cloverfield Blvd.	Santa Monica	CA	90404
Gautier	Mae	2889 San Pasqual St. Apt. 30-A	Pasadena	CA	91107-5364
Gay	Anita	521 55th Street	Oakland	CA	94609-1715
Geare	Dave	847 Belmont Avenue	Long Beach	CA	90804
Geary	Deborah	1166 24th Street	San Diego	CA	92102-2009
Geddes	Anne L.	101 Lorton Ave. Apt. 8	Burlingame	CA	94010-4332
Geduldig	Paul S.	506 Forest St.	Oakland	CA	94618-1210
Geer	Darrell	6826 Peach Avenue	Van Nuys	CA	91406-5228
Geis	Alyssa	1804 Industrial St., Ste. D	Los Angeles	CA	90021-1249
Gelpi	Donald	1735 Le Roy Avenue	Berkeley	CA	94709-1115
Gemanis	Valerie	PO Box 6173	Fresno	CA	93703-6173
Gendelman	Sherry	338 Vallejo Street	San Francisco	CA	94133-4166
Gendron	Cathy	3747 Senasac Ave.	Long Beach	CA	90808-2136
Genovese	Vanessa	1915 Camden Ave,	San Jose	CA	95124-2947
Gentile	Elizabeth	7958 So. Lake Dr. Apt. G	Dublin	CA	94568-3329
Gentry	Mary L.	336 Portland Ave., Apt. 4	Oakland	CA	94606-1443
George	Janet S.	P.O. Box 764	Pismo Beach	CA	93448-0764
George	Larry N.	2202 21st Street	Santa Monica	CA	90405-1708
George	Alan G.	624 W. Vassar Ave.	Visalia	CA	93277-4791
Germane	Charlotte	10875 Thomas Dr.	Nevada City	CA	95959-3415
Gerrans	Matt	538 N. Clover Ave.	San Jose	CA	95128-4621
Getz	Sarah M.	275 No. Madison Ave. Apt. 1	Pasadena	CA	91101-1663
Giacalone	Lisa C.	2863 Calle Lacota	Thousand Oaks	CA	91360-4660
Giagni	Ann	1108 Palms Blvd.	Venice	CA	90291-3525
Giannesini	Sota J.	PO Box 977	Bolinas	CA	94924-0977
Giannini	Nicole E.	4174 Jackson Ave.	Culver City	CA	90232
Giannotti	William	7145 Castle Peak Dr.	West Hills	CA	91307-3823
Gibbons	Richard F.	10957 Northseal Sq.	Cupertino	CA	95014-0529
Gibson	Ross	109 Pomona Avenue	El Cerrito	CA	94530-4136
Gibson	Mark	1190 Buena Vista Rd.	Hollister	CA	95023-3305
Gibson	Alan O.	63 Ford St.	San Francisco	CA	94114-2011
Gibson	Linda L.	18256 Keswick St.	Reseda	CA	91335-2069
Gilbert	Jaine M.	1632 Harmon Street	Berkeley	CA	94703-2622
Gilbert	Luanne	2539 Hilgard Ave.	Berkeley	CA	94709-1104
Gilbride-Read	Anita	255 Wilson Lane	McKinleyville	CA	95519-9743
Gilchrest	Alexander	403 Lagunitas Ave., #2	Oakland	CA	94610-3522
Gilchrist	Alena	P.O. Box 581	Sebastopol	CA	95473-0581
Gilchrist	Grover D.	5616 Pal Mal Ave.	Temple City	CA	91780-2853
Giles	Barry E.	2356 American River Dr., Apt. B	Sacramento	CA	95825-7046
Gill	Cathy	PO Box 696	Pescadero	CA	94060-0696
Gill	Norval	1104 Garfield Ave.	South Pasadena	CA	91030-3422
Giller	Dorothy	630 Lexington Ave.	El Cerrito,	CA	94530-3129
Gillet	Charles	P.O. Box 211	Glen Ellen	CA	95442-0211
Gillette	Linda	2376 16th Avenue	San Francisco	CA	94116-2504
Gillis	Craig	584 Castro St. Suite 297	San Francisco	CA	94114-2594
Gillis	Kristin L.	P.O. Box 624612	So. Lake Tahoe	CA	96154-4612
Gilman	Nancy R.	2866 East Valley Rd.	Santa Barbara	CA	93108-1612
Gilman	Valerie	1319 Sapphire Ave.	Mentone	CA	92359-9714
Gilman	Guy C.	16 Inner Cir.	Redwood City	CA	94062-2126
Gilstrap	Kathy	7800 Old Redwood Hwy.	Cotati	CA	94931-5106
Giner	Monica C.	4641 San Andreas Avenue	Los Angeles	CA	90065-4138
Ginn	Dwight L.	1619 G St., Apt. 4	Sacramento	CA	95814-1634
Ginther	Wendy	1419 Woolner Ave.	Fairfield	CA	94533-5928
Ginther	Wendy	1419 Woolner Ave.	Fairfield	CA	94533-5928
Ginty	Mary J.	5224 E. Daggett St.	Long Beach	CA	90815-3030

Giordano	Marco M.	527 Humboldt Street	Santa Rosa	CA	95404-4216
Girouard	Forrest	2700 Ridgeway Ave.	San Bruno	CA	94066-3723
Giuliano	Susan	125 Marion Avenue	Pasadena	CA	91106-2010
Gividen	Michael W.	3181 Gardendale Dr.	San Jose	CA	95118-1522
Gladstone	Chloe	2030-B Castillo Street	Santa Barbara	CA	93105-4204
Glann	Kimberly J.	9737 Charnock Ave., Apt. 8	Los Angeles	CA	90034-7530
Glanz	Dehan	436 Linden Street	San Francisco	CA	94102
Glaser	Rochelle	9320 Los Prados Dr.	Carmel	CA	93923-8422
Glass	Larry	223 Schooner Ct.	Richmond	CA	94804-4577
Glasscock	Susan	771 34th Street	Richmond	CA	94805-1767
Glazar	Mary A.	2531 Regent St. Apt. 4	Berkeley	CA	94704-2931
Glick-Rieman	Beth	3017 Highlands Way	Spring Valley	CA	91977-6729
Glickstein	Bob	17 Ashford Ave.	Mill Valley	CA	94941-1503
Glidden	Dianna	P.O. Box 1284	Soquel	CA	95073-1284
Glomboske	Mytyl	25841 Walnut St. Spc. 18	Lomita	CA	90717-4018
Glover	Sheilah	415 Wellesley Ave.	Mill Valley	CA	94941-3713
Gnesda	Stephanie	3748 Flood St.	Simi Valley	CA	93063-1047
Goble	Mj	455 10th St.	Fortuna	CA	95540-2310
Godina	Maria	5606 Meade Ave.	San Diego	CA	92115-5325
Godley	Alan D.	1808 Benson Ave.	Cambria	CA	93428-5412
Goerlitz	Jana	1829 San Benito Street	Richmond	CA	94804-5330
Goetz	Gary	1001 Bridgeway Suite 514	Sausalito	CA	94965-2158
Going	April M.	1109 Woodlake Drive	Cardiff By The Sea	CA	92007-1040
Golcher	Peter	17755 Cherokee Trl.	Los Gatos	CA	95033-8817
Gold	Carol	2901-A Sir Francis Drake Blvd.	Fairfax	CA	94930-1344
Gold	Wilma	100 Casa Linda Lane	Aptos	CA	95003-9612
Gold	Ruby	584 Castro St., PMB 526	San Francisco	CA	94114-2511
Goldammer-Hammer	Carilyn	2012 Maria Court	Arcata	CA	95521-9619
Goldberg	Mark	2670 Cowper St.	Palo Alto	CA	94306-2400
Golden	Nancy	15233 Ventura Blvd. Ste. 1216	Sherman Oaks	CA	91403-2274
Goldenberg	Toni	16230 Bush Rd.	Nevada City	CA	95959-9233
Goldin	Leon	P.O. Box 6007	Los Osos	CA	93412-6007
Goldleaf	J. Gordon	620 Munras Ave.	Monterey	CA	93940-3108
Goldman	Barbara	1509 Jasmine Ct.	Davis	CA	95616-6405
Goldseger	J.L.	PO Box 320396	Los Gatos	CA	95032-0106
Goldstein	Virginia B.	191 Throckmorton Ave. Apt. 6-B	Mill Valley	CA	94941-2734
Goldstein	Stanley	3432 Woodstock Ln.	Mountain View	CA	94040-4555
Goldstein	Ellen	527 Lincoln St.	Santa Cruz	CA	95060-3621
Goldstein	K O'Brien	203 Virginia Ave.	San Francisco	CA	94110-5138
Goldstein	Warren M.	300 Monte Vista Ave.	Mill Valley	CA	94941-5080
Goldstein	Lisa	3928 Alameda Dr.	San Diego	CA	92103-1606
Goldwyn	Lisa	P.O. Box 604	Occidental	CA	95465-0604
Golvin	Sandra	2302 Strongs Dr.	Venice	CA	90291-4428
Gondo	Tracy R.	14101 14th St., Apt. 214	San Leandro	CA	94578-2771
Gonzales	Peter L.	2812 Sargent Avenue	San Pablo	CA	94806-1536
Gonzalez	Carmen R.	1861 Rodney Dr., Apt. 6	Los Angeles	CA	90027-4337
Gonzalez	Jhanis J.	1731 La Loma Ave.	Berkeley	CA	94709-1038
Gooch	Corliss	10426 Regent Street	Los Angeles	CA	90034-6408
Goodfriend	Michael	625 1/2 So. Burnside Ave.	Los Angeles	CA	90036-3901
Goodkin	Andria	6965 El Camino Real #105-523	Carlsbad	CA	92009-4100
Goodkind	Mary	1544 18th Ave.	San Francisco	CA	94122-3411
Goodman	Beatrice	151 Colby Street	San Francisco	CA	94134-1425
Goodman	Dawn	P.O. Box 7091	Arroyo Grande	CA	93421-7091
Goodrich	Roberta N.	2022 Granada Ave.	San Diego	CA	92104-5520
Goodson	Gar	2275 West 25th Street Spc. 138	San Pedro	CA	90732-5321
Goodwin	James C.	919 Shattuck Ave.	Berkeley	CA	94707-2438
Goodwin	Julie	560 30th Avenue Spc. 43	Santa Cruz	CA	95062-5050
Goold	Kevin	16830 Kingsbury St. Apt. 317	Granada Hills	CA	91344-6416
Goran	Jennifer	3035 Chapman Street	Oakland	CA	94601-2846
Gordon	Dvora	1051 Bella Vista Avenue	Oakland	CA	94610-4036
Gordon	Jenny-Viva	1942 Pelham Ave. Apt. 7	Los Angeles	CA	90025-5837
Gordon	Joshua	584 Laurel Street	Vallejo	CA	94591-6538
Gordon	Janet	247 Belden St.	Monterey	CA	93940-1811
Gordon	Steve	16630 Akron St.	Pacific Palisades	CA	90272
Gordon	Eve	611 Nason St.	Santa Rosa	CA	95404-3307
Gordon	Gail	2231 Byron St.	Berkeley	CA	94702-1811
Gorey	Delia	5550 Telegraph Rd., Ste B1	Ventura	CA	93003-4260
Gorman	Tom	405 No. Euclid Ave. #1	Pasadena	CA	91101-1303
Goss	Marvin L.	797 Jensen Drive	Mckinleyville	CA	95519-7909

Gotwals	Jacob K.	21230 Homestead Road	Cupertino	CA	95014-0239
Gouldthorpe	John	P.O. Box 776	Point Reyes Station	CA	94956
Gowland	Peter	609 Hightree Road	Santa Monica	CA	90402
Gracey	Gloria	2426 Jefferson Avenue	Berkeley	CA	94703-1622
Graetz	Diann	16425 Newport Road	Desert Hot Springs	CA	92241-1703
Graff	Fred	1805 Maltman Avenue	Los Angeles	CA	90026-1125
Graff	Steve	3993 24th St., Apt. E	San Francisco	CA	94114-3723
Graham	Jacqueline	365 E. Washington Ave. Apt. 2	Sunnyvale	CA	94086-6256
Graham	Robert	152 Fairmount Street	San Francisco	CA	94131-2716
Graham	Father James K.	3088 Kentrdge Dr.	San Jose	CA	95133-2427
Graham	Seana	PO Box 1429	Santa Cruz	CA	95061-1429
Gralapp	Chris	204 Ridgeway Ave.	Fairfax	CA	94930-1212
Grand	Deborah	7917 Cerritos Avenue	Stanton	CA	90680-1658
Granoff	Natasha	3157 Rocklin Drive	Santa Rosa	CA	95405-7048
Grant	Jennifer	1864 Ellis Street Apt. A	San Francisco	CA	94115-4021
Grant	Steve K.	841 Dewitt Avenue	Encinitas	CA	92024-3607
Grapes	Denise F.	140 E. Stetson Ave. Pmb 104	Hemet	CA	92543-7139
Gras	Gerald S.	655 So. Fairoaks Ave. Apt. H-211	Sunnyvale	CA	94086-7842
Gravereaux	Karen	2557 W. Winton Ave., Ste. 7C	Hayward	CA	94545-1154
Graves	Warner V.	746 Geary St., Apt. 502	San Francisco	CA	94109-7345
Gray	Christopher	21336 Scotchbroom Trail	Redding	CA	96003-7797
Gray	Dianne	1792 Edgefield Lane	Encinitas	CA	92024-1982
Gray	Gary E.	2110 Casitas Way	Palm Springs	CA	92264
Gray	Hilliary	2479 Virginia St. Apt. C	Berkeley	CA	94709-1230
Gray	Tobin	614 Aviation Way	Manhattan Beach	CA	90266-7107
Greeley	Gayle	338 Bassett Street	Petaluma	CA	94952-2512
Green	Anita	3871 Sequoia Street	San Diego	CA	92109-6521
Green	Deborah A.	2151 West 37th Street	San Pedro	CA	90732-4707
Green	Harold	4060 Rose Avenue	San Jose	CA	95127-2938
Green	Harvey	902 Cortina Court	Walnut Creek	CA	94598-4526
Green	Jamie	12103 Maxwellton Road	Studio City	CA	91604
Green	Dan C.	819 Hampshire St.	San Francisco	CA	94110-2867
Green	Ellie	PO Box 1163	Fort Bragg	CA	95437-1163
Green	Jacob I.	801 Holmby Ave.	Los Angeles	CA	90024-3321
Green	Steve M.	1636 California St., Unit Rear	Berkeley	CA	94703-1261
Greenberg	Andy K.	1065 Las Ovejas Avenue	San Rafael	CA	94903-2377
Greenberg	Debra	12854 Moorpark St.	Studio City	CA	91604
Greenblatt	Harold	381 28th Avenue	San Francisco	CA	94121-1803
Greene	Jacob	7300 Sheffield Lane	Dublin	CA	94568-1622
Greenway	Cheryl	2134 Parker St.	Berkeley	CA	94704-2720
Greenwood	Russell D.	3568 Hillsborough Drive	Concord	CA	94520-1561
Greg	Greg	171 West Stadium Dr.	Stockton	CA	95204-3117
Gregg	Gregg	2305 Hooker Oak Ct.	Santa Rosa	CA	95401-5790
Gregory	Marc	943 Lincoln Blvd. Apt. C	Santa Monica	CA	90403-2829
Gregory	Silvia	718 Spring Street	Sausalito	CA	94965
Gregory	Greg	1895 Chestnut St., Apt. 11	San Francisco	CA	94123-2817
Grella	George J.	1390 Washington St. Apt. 201	San Francisco	CA	94109-4140
Grenot	Theresa	2046 Addison Way	Los Angeles	CA	90041-2733
Gressitt	K. B.	740 West Fig Street	Fallbrook,	CA	92028-2824
Greve	Anita	1079 Sycamore Ln.	San Jacinto	CA	92582-3883
Grey	Kathleen	8334 Kirkwood Dr.	Los Angeles	CA	90046-1926
Gribin	Richard J.	1036 No. Crescent Heights Blvd.	Los Angeles	CA	90046-6044
Griffin	Diana	4454 Bancrost	San Diego	CA	92116
Griffin	Joan B.	2253 Clinton Avenue	Alameda	CA	94501-4927
Griffin	Susanne	1424 4th Street Ste. 225	Santa Monica	CA	90401-2340
Griffin	Kelly	1106 Library Ln.	San Jose	CA	95116-2249
Griffin	Bill	11357 Donner Pass Rd.	Truckee	CA	96161-4958
Griffith	John	26 Deming Street	San Francisco	CA	94114-1823
Griffith	Katherine	740 Cassanova Ave. Apt. 1	Monterey	CA	93940-6849
Griffiths	Sue C.	430 Santiago Avenue	Long Beach	CA	90814-1939
Grigoryan	Lilit	7646 Milton Ave. Apt H	Whittier	CA	90602-1552
Grimes	Anna L.	1502 La Playa Avenue #6310	San Diego	CA	92109-6327
Grinnell	Jeffrey D.	205 McKendry Dr.	Menlo Park	CA	94025-2917
Grisham	Susanne B.	5978 Pilgrim Ave.	San Jose	CA	95129-4729
Grissett	Rufus	3697 San Jose Ave. Apt. 2	Merced	CA	95348-2248
Grissom	Kimberly	PO Box 216	Mokelumne Hill	CA	95245-0216
Grodjinsky	Maxine	150 Haight St. Apt. 604	San Francisco	CA	94102-5745
Groff	Susan	17 Traxler Rd.	San Anselmo	CA	94960-1514
Gronemeyer	Marianne	5937 Birdcage St., apt. 188	Citrus Heights	CA	95610-6845

Groot	Henriette	1000 Montecito Dr.	Cayucos	CA	93430-1528
Gross	Becky	2141 Rose Street	Berkeley	CA	94709
Gross	Margo	1289 McCallum Circle	Arcata	CA	95521-4860
Gross	Paul E.	25 Linda Street	San Francisco	CA	94110-1679
Grossman	Doree J.	810 Masonic Ave. Apt. 2	San Francisco	CA	94117-2049
Grothe	Alison M.	2223 31st Ave.	San Francisco	CA	94116-1640
Grove	Barbara A.	245 Duncan Street	San Francisco	CA	94131-2019
Grover	Jocelyn L.	1039 Laurel Ln.	Pebble Beach	CA	93953-3111
Groves	John	724 Lyon St.	San Francisco	CA	94115-4316
Guadagnolo	Gary	P.O. Box 4691	Stockton	CA	95204-0691
Gualtieri	Vicki	PO Box 1233	Freedom	CA	95019-1233
Gubelman	Joyce A.	1207-A 26th Avenue	San Francisco	CA	94122-1504
Guelzow	Elvira	596 Highland Ave.	Penngrove	CA	94951-8635
Guenter	Jodi A.	P.O. Box 19551	Sacramento	CA	95819-0551
Guenter	Elke	10817 Ambassador Dr.	Rancho Cordova	CA	95670-2429
Guerrero	Thomas	148 Panorama Drive	San Francisco	CA	94131-1245
Guice	Jon	843 Sevely Drive	Mountain View	CA	94041-1601
Guilland	Connie	2917 Macarthur Blvd., Apt. 4C	Oakland	CA	94602-3268
Gundaker	Lori	4 Commodore Dr., Apt. 231	Emeryville	CA	94608-1658
Gundran-Rosales	Theresa	45 Shawnee Ave.	San Francisco	CA	94112-3304
Gunther	Christopher	139 E. Tamarisk Rd. Apt. 5	Palm Springs	CA	92262-5508
Gurewitz	Gail	184 Brentwood Ave.	San Francisco	CA	94127-2102
Gurley	Susan	15 S. Knoll Rd., Apt. 3	Mill Valley	CA	94941-2450
Gutfeldt	Erik	2130 Birch St.	Palo Alto	CA	94306-1538
Guthrie	Elin	1295 South Cloverdale Ave.	Los Angeles	CA	90019-2838
Guthrie	Sean	211 Yacht Clu Way, Apt.304	Redondo Beach	CA	90277-2069
Gutierrez	Kerstin	118 Sunhaven Road	Danville	CA	94506-1901
Gutierrez	Kerstin	115 Ryan Industrial Ct. Ste. 111	San Ramon	CA	94583-1773
Gutierrez	Richard	3759 Inglewood Blvd.	Los Angeles	CA	90066-3211
Gutierrez	Chris	1516 Alabama St.	San Francisco	CA	94110-4712
Gutt	Lisa	348 Payran Street	Petaluma	CA	94952-3208
Guy	Hattie	142123 Edgewood Drive	Grass Valley	CA	95945
Guy	Ann	2642 Dana St.	Berkeley	CA	94704-3324
Guzley	Doris E.	2050 Springfield Dr., #321	Chico	CA	95928
Haage	Robert M.	9541 Tudor Avenue	Montclair	CA	91763-2219
Hache	Emily	48 Paloma Ave., Apt. 11	Venice	CA	90291-2488
Hacker	Richalene	14630 Wedgeworth Dr.	Hacienda Heights	CA	91745
Hadley	Ruth	3288 Vosburg Street	Pasadena	CA	91107-1240
Hagerty	Joe	8440 N. Millbrook Ave., Apt. 148	Fresno	CA	93720-2158
Haggarty	Patrick	2767 25th Avenue	Oakland	CA	94601-1334
Haggerty	Terry	PO Box 781	Woodacre	CA	94973-0781
Hagist	Fritz	34895 Kruse Ranch Rd.	Cazadero	CA	95421-9610
Hahn	Ava	3901 Middlefield Rd., Apt. J	Palo Alto	CA	94303-4734
Halderman	Irene	4620 Fairway Drive	Soquel	CA	95073-3022
Hale	Eileen A.	8430 Croydon Ave.	Los Angeles	CA	90045-3039
Hale	Frank	3722 Laguna Ave.	Oakland	CA	94602-3004
Hale	Jennifer	2381 Canyon Dr.	Los Angeles	CA	90068-2411
Hall	Cherie	370 Crest Drive	San Jose	CA	95127-1600
Hall	Clarence J.	4516 Dry Creek Rd.	Napa	CA	94558-9596
Hall	Elizabeth S.	3227 Gregory Street	San Diego	CA	92104-4712
Hall	Elton	130 Erbes Road	Thousand Oaks	CA	91362-2706
Hall	Kathryn	3313 Burdeck Drive Rear	Oakland	CA	94602-2624
Hall	Lynn	923 Sunset Dr.	Vista	CA	92083-6827
Hall	Leigh	729 Milwood Ave.	Venice	CA	90291-3828
Hall	Jeffree M.	10400 Highway 116, Bldg. Cottb	Forestville	CA	95436-9707
Halladin	Margaret	454 Las Gallinas Ave., Apt 149	San Rafael	CA	94903-3618
Hallam	Norman	1240 South Dora St.	Ukiah	CA	95482-6337
Halle	Shoshana	2225 Woolsey Street	Berkeley	CA	94705-1832
Halstead	Maria Christina	205 E. Magna Vista Ave.	Arcadia	CA	91006-4249
Ham	Jason A.	P.O. Box 1603	Bishop	CA	93515
Hamilton	Anna	P.O. Box 1611	Redway	CA	95560-1611
Hamilton	Elizabeth	5025 Fern Flat Road	Aptos	CA	95003-2621
Hamilton	JoAnne	2636 Spruce Street	Bakersfield	CA	93301-1710
Hamilton	Barbara	7777 Bodega Ave., Apt. F8	Sebastopol	CA	95472-3559
Hamilton	Steven	1448 Mariposa St.	Richmond	CA	94804-4937
Hamm	Maureen S.	1230 Ventura Avenue	Livermore	CA	94550-3024
Hammes	Mr. Paul	777 San Antonio Rd., Apt. 56	Palo Alto	CA	94303-4841
Hammock	Lassie	3134 Chesapeake Bay Avenue	Davis	CA	95616-2604
Hammond	Stephen	12026 Shadowmark Lane	Moreno Valley	CA	92555-2032

Hampson	Chandra	1421 Franks Ln.	Menlo Park	CA	94025-5904
Ham-Rosebrock	C.	9258 Gardendale Street	Bellflower	CA	90706-2125
Hamsayeh	Mehermaz	3244 Anza St.	San Francisco	CA	94121-3026
Han	Kelly M.	1987 S. Terrace Dr.	Napa	CA	94559-4113
Hancock	Brooke	730 West 21st Street	Long Beach	CA	90806-4103
Hancock	Nicholas W.	1848 Felton Street	San Francisco	CA	94134-1338
Hancock	Quentin	49 Paloma Ave.	Venice	CA	90291-8702
Hancock	Betty M.	11711 S. Birchbark Ln.	Orange	CA	92869-3040
Hand	Susan	320 10th St.	Arcata	CA	95521-5942
Handley	Margaret	2327 Stuart Street	Berkeley	CA	94705-1108
Hanes	Eugene A.	806 10th St.	Davis	CA	95616-2264
Hanigan	David	1369 Elizabeth Lake Rd.	Palmdale	CA	93551-3811
Hanks	Steven	15086 Stratford Dr.	San Jose	CA	95124-2727
Hanlan	Mary	1701 Sommerfeld St.	Santa Cruz	CA	95062-2026
Hanley	Christine	290 Via Casitas Apt. 306	Greenbrae	CA	94904-2304
Hanna	Caroline H.	1119 Lincoln Blvd. Apt. 3	Santa Monica	CA	90403-5264
Hanneman	Paul	P.O. Box 2072	Los Gatos	CA	95031-2072
Hansen	Dan L.	1307 Nutmeg Lane	Davis	CA	95616-1417
Hansen	Henrietta	24811 Community Blvd. Spc. 3	Hinkley	CA	92347-9779
Hansen	Marilyn	6 Chelsea Drive	Santa Rosa	CA	95403-5712
Hansen	April M.	1465 Fulton St.	San Francisco	CA	94117-1417
Hansen	Doug	14 Greens Ln.	Pleasonton	CA	94566-9761
Hanson	Chad T.	1210 Montecito Drive	Los Angeles	CA	90031-1639
Hanson	Donald N.	522 Moraga Way	Orinda	CA	94563-4241
Hanson	Larry J.	10448 Scenic Drive	Forestville	CA	95436-9332
Hanson	Rebecca	1300 Saratoga Ave. Unit 1605	Ventura	CA	93003-6424
Hanson	Bethany	3129 Harrison St., Apt.2	Oakland	CA	94611-5525
Hara	Mary O.	1024 Annerley Road	Piedmont	CA	94610-1110
Harb	Marina	PO Box 440	Cazadero	CA	95421-0440
Hardesty	Joanne	PO Box 5219	Salton City	CA	92275-5219
Hardin	Sarah	1706 San Pascual St.	Santa Barbara	CA	93101-4019
Hardin	Raymond	3609 Suffolk Dr.	San Diego	CA	92115-7126
Hardin	Kenneth J.	13312 Long Valley Rd.	penn Valley	CA	95946-9378
Harding	Jeffrey M.	20 Massasoit Street	San Francisco	CA	94110-5322
Harding	R.	3449 Palo Alto Ct.	Fairfield	CA	94533-7778
Hardwick	Elizabeth	3839 Randolph Avenue	Oakland	CA	94602-1208
Hardy	Bill	75 Glen Ave. Apt. 8	Oakland	CA	94611-4952
Hardy	Diane	508 Carmel Avenue	Pacific Grove	CA	93950-4431
Hardy	Paul	P.O. Box 4276	Quincy	CA	95971-4276
Hargis	Todd	566 Teresita Blvd.	San Francisco	CA	94127-1831
Harkins	Catherine J.	P.O. Box 387	Carmel Valley	CA	93924-0387
Harkins	Sara	P.O. Box 2397	Carmel Valley	CA	93924-2397
Harley	Margaret	P.O. Box 2509	McKinleyville	CA	95519-2509
Harman	Marilyn	3801 Maybelle Ave. Apt. 5	Oakland	CA	94619-2134
Harman	Susan	4114 39th Avenue	Oakland	CA	94619-2206
Harman	R. Michael	1424 Martin Luther King Way	Berkeley	CA	94709-1915
Harper	Sharon	7566 Stockton Ave.	El Cerrito	CA	94530-3034
Harper	Kathryn	309 Fair Ave.	Santa Cruz	CA	95060-6343
Harr	Eric	P.O. Box 1112	Ft. Bragg	CA	95437
Harrigan	Bonnie R.	233 Western Hills Dr.	Pleasant Hill	CA	94523-3167
Harriman	Mark	550 So. Los Robles Ave. #E	Pasadena	CA	91101-3812
Harris	Adam	P.O. Box 709	Applegate	CA	95703-0709
Harris	Becky	42326 Gatewood St.	Fremont	CA	94538-4126
Harris	Hester J.	411 Paris Street	San Francisco	CA	94112-2715
Harris	Jon	1731 Berkeley Way	Berkeley	CA	94703-1505
Harris	Jonathan	430 Redwood Avenue	Corte Madera	CA	94925-1358
Harris	Patricia L.	1955 Funston Avenue	San Francisco	CA	94116-1343
Harris	Roxie E.	P.O. Box 1061	El Cerrito	CA	94530-1061
Harris	Simone	1529 Sacramento Street	San Francisco	CA	94109
Harris	Susan L.	4171 Shafter Avenue	Oakland	CA	94609
Harris	Paul A.	4802 Kesling Ct.	San Diego	CA	92117-3128
Harris	Myra	529 Hunter Ln.	Santa Rosa	CA	95404-8708
Harris	Julie R.	2111 8th St.	Berkeley	CA	94710-2319
Harris	Jeffry	22700 Prospect Rd.	Saratoga	CA	95070-6555
Harrison	Diane	420 No. Civic Dr. Apt. 103	Walnut Creek	CA	94596-3348
Harrison	John	3783 20th Street Apt. 2	San Francisco	CA	94110-2252
Harrison	Mary E.	8668 Lookout Mountain Ave.	Los Angeles	CA	90046-1816
Harrison	Patricia E.	2021 Sandcreek Way	Alameda	CA	94501-6126
Harrison	Shelley	2595 Cameron Street	Ventura	CA	93001-4448

Harrison	Mary G.	8241 Mulberry St.	Dublin	CA	94568-1268
Harrold	Somer	1772 Kenneth St.	Seaside	CA	93955-3842
Hart	Deborah A.	9734 Walnut St.	Bellflower	CA	90706-5847
Hart	Stacey A.	PO Box 1214	Boulder Creek	CA	95006-1214
Hart	Tom	269 W. 36th Ave.	San Mateo	CA	94403-4201
Hartley	Cynthia	3189 Hilltop Drive	Ventura	CA	93003-1020
Hartman	Carrie	139 N. D St.	Lompoc	CA	93436-6911
Hartnett	Norinne	74 Robinhood Dr.	San Rafael	CA	94901-1458
Harvey	Darcie	1520 Madison St., Apt. 202	Oakland	CA	94612-4514
Harwell	Karen H.	1335 Dana Ave.	Palo Alto	CA	94301-3114
Harwood	Janice H.	312 Elm Street	Santa Cruz	CA	95060-4317
Haselkorn	Allan	218 Hawthorne Street	Salinas	CA	93901-3118
Haseman	Suki	288 Curtis St.	San Francisco	CA	94112-4441
Hass	Janet	78 Rosewood Drive	Novato	CA	94947-4789
Hass	James W.	1509 Golden Gate Ave., Apt. 301	San Francisco	CA	94115-4573
Hastings	William A.	319 Durant Way	Mill Valley	CA	94941-4090
Hatch	James	4521 20th Street	San Francisco	CA	94114-2719
Hatcher	Allison	375 45th Street	Oakland	CA	94609-2259
Hatcher	Ellen	1907 Grant Street	Berkeley	CA	94703-1509
Hatfield	John	1548 2nd Street	Duarte	CA	91010-1808
Hatfield	John S.	1520 Hoover Ave.	Burlingame	CA	94010-5525
Hatfield	Robert	P.O. Box 378	Mill Valley	CA	94942-0378
Hatrwell	Sherry L.	3016 Denver St.	San Diego	CA	92117-6165
Hatter	Carmella	1501 Madison St., Apt. 303	Oakland	CA	94612-4503
Hattori	Pilar M.	5592 Cerulean Ave.	Garden Grove	CA	92845
Hauck	Terri	1918 8th St.	Berkeley	CA	94710-2015
Haun	Maureen	520 North Avenue 53	Los Angeles	CA	90042-3310
Hauser	D. Caleb	263 Margarita Avenue	Palo Alto	CA	94306-2823
Hauser	Linda	7331 Bodega Ave.	Sebastopol	CA	95472-3727
Havah	Leora	726 Cherry St.	Santa Rosa	CA	95404-4205
Havasy	Alexander	966 Lantana Dr.	Sunnyvale	CA	94086-8631
Hawkes	Jeffrey	260 Monterey Rd.	Pacifica	CA	94044-1460
Hawkins	Teri	3414 Pierson St.	Oakland	CA	94619-3426
Hawkins-Smith	Christi	PO Box 304	Arcata	CA	95518-0304
Hawks	Darren	5886 Fern Flat Road	Aptos	CA	95003-2613
Hawley	Tory	61 Windsor Lane	Sierra Madre	CA	91024-1935
Hawn	Kirby	PO Box 597	Penngrove	CA	94951-0597
Hayes	Charlotte W.	2655 Brommer St. Spc. 27	Santa Cruz	CA	95062-3558
Hayne	Kaye	60 California Ave.	Mill Valley	CA	94941-3534
Haynes	Monica S.	611 North Bronson Ave.	Los Angeles	CA	90004
Hays	Brenda	5265 Meridian Avenue	San Jose	CA	95118-2929
Hays	Lanell	1231 So. Sierra Bonita Ave.	Los Angeles	CA	90019-2553
Haywood	Rebecca	4664 Cape May Ave.	San Diego	CA	92107-2224
Hazen	Pamela	1327 Caminito Septimo	Cardiff By The Sea	CA	92007-1043
Hazlett	Glynn	P.O. Box 324	Tecopa	CA	92389-0324
Hearn	Sharon	1323 Maple St.	Santa Monica	CA	90405-2603
Heath	Carolyn	1870 Park Newport Apt. 214	Newport Beach	CA	92660-5061
Heath	Matthew	500 W. Middlefield Rd. Apt. 68	Mountain View	CA	94043-3416
Heath	Michael	120 Kaden Dr.	Novato	CA	94947-4615
Heath	Laurel	645 Victorian Park Dr.	Chico	CA	95926-7134
Heaton	Emily	825 Cypress Avenue	Ukiah	CA	95482-3704
Heavens	Leonna	1031 Cornell Ave.	Albany	CA	94706-2303
Heavner	Robert	85 Menlo Place	Berkeley	CA	94707-1532
Hedin	Jennifer	6948 Saranac Street	San Diego	CA	92115-1746
Heffner	Christine	17175 Cougar Rock Rd.	Boulder Creek	CA	95006-8824
Heffron	Anna	P.O. Box 1654	Mendocino	CA	95460-1654
Heiles	Carl	3001 Dwight Way	Berkeley	CA	94704-2516
Heilpern	Michael Z.	1713 Shenandoah Dr.	Claremont	CA	91711-2942
Heiman	Laura	3523 21st Street	San Francisco	CA	94114
Heiman	Ellie	80 S. G St., Apt A	Arcata	CA	95521-6654
Hein	Mary	2744 Humphrey Ave.	Richmond	CA	94804-1277
Heinbockel	Ken	P.O. Box 263	Bayside	CA	95524-0263
Heine	John	3706 Cowell Rd.	Concord	CA	94518-1605
Heinsheimer	Gabriella	1152 Solano Ave. Upper Floor	Albany	CA	94706-1638
Heisinger	Gary	41394 Liley Mountain Dr.	Coarsegold	CA	93614-9569
Heisler	Melanie	625 Brighton Road	Pacifica	CA	94044-2817
Hejka-Elkins	April	325 North Broadway	Turlock	CA	95380-4740
Heller	Patricia R.	49 Pinehaven Dr.	Daly City	CA	94015-3545
Helmly	L. L.	1169 Market St. Apt. 501	San Francisco	CA	94103-1549
Helms	Kenneth	25350 Camino De Chamisal	Salinas	CA	93908-8926

Hencker	Mary Ann	985 Kingwood Street	Santa Rosa	CA	95401-6509
Henderson	Cammie	9600 Walker St. Apt. 19	Cypress	CA	90630-3864
Henderson	Lionel	P.O. Box 8141	Emeryville	CA	94662-0141
Henderson	Austin	PO Box 334	La Honda	CA	94020-0334
Henderson	Malika A.	100 Twin Ln.	Soquel	CA	95073-9716
Henderson	Donald	1232 S. Westlake Blvd., Unit E	Thousand Oaks	CA	91361-1956
Henderson	Kendal R.	44 Alta Vista Ave.	Mill Valley	CA	94941-1316
Henderson	Rich	3121 Magnolia Ave.	Clovis	CA	93611-6072
Hendriks	Julie	PO Box 167	Boulder Creek	CA	95006-0167
Henley	Jeanne	4318 W 28th St.	Los Angeles	CA	90018-2813
Henry	Diane	P.O. Box 740	Berkeley	CA	94701-0740
Henry	Marcia	4057 Whittle Avenue	Oakland	CA	94602-2435
Henry	Virginia	222 Altivo Avenue	Watsonville	CA	95076
Henry-Biskup	Stephan	218 Lighthouse Avenue	Santa Cruz	CA	95060-6127
Hepler	Bruce	548 Manhattan Ave.	Hermosa Beach	CA	90254
Herbert	Jan	1415 Fulton Rd. Ste. 205 A-19	Santa Rosa	CA	95403
Heredia	Amy M.	118 Palm Ave.	San Francisco	CA	94118-2516
Herigstad	Leann	62 Antelope Street	Woodland	CA	95695-2622
Heritage	Jean	P.O. Box 1113	Redway	CA	95560-1113
Herman	Jack	421 Cleveland Ave.	Santa Cruz	CA	95060
Hernandez	Risa	3315 Simmons Street	Oakland	CA	94619-3459
Heroes	Art	2617 Ivan Hill Terrace	Los Angeles	CA	90039-2714
Herrera	Michael	P.O. Box 521	Avalon	CA	90704-0521
Herrera	Maria Marta	40 Camino Alto, Apt. 10302	Mill Valley	CA	94941-5805
Herring	Kathleen	51930 Avenida Martinez	La Quinta	CA	92253-3164
Herrington	Heather	P.O. Box 2101-B	Berkeley	CA	94702-0100
Herriott	Dorothea	2635 Webster St.	Berkeley	CA	94705-2538
Herritt	Ebba	631 Lorna Lane	Los Angeles	CA	90049-4216
Herrmann	Miriam	3301 Yorba Linda Blvd. Apt. 216	Fullerton	CA	92831-1746
Herschman	Jill	1719 Delaware Street	Berkeley	CA	94703-1326
Hersey	Lori	1225 Alameda	Berkeley	CA	94709
Hertz	Andrew	1805 Monterey Avenue	Berkeley	CA	94707-2524
Hertzog	Christine	80 Loyola Avenue	Menlo Park	CA	94025-3811
Herzel	Joel	126 Yosemite St.	Santa Cruz	CA	95060-3039
Hewes	William R.	3476 37 Lockwood Ct.	Simi Valley	CA	93063
Hewitt	Linda	1014 Ohio Street	Vallejo	CA	94590-5260
Hewland	Wendy	1640 Bryn Mawr Ave.	Santa Monica	CA	90405-5835
Heyman	Rachel A.	5932 Chabot Rd.	Oakland	CA	94618-1253
Hiatt	Jane	17110 Pine Avenue	Los Gatos	CA	95032-5545
Hichman	Jeff	P.O. Box 151146	San Rafael	CA	94915-1146
Hickerson	Ryan	9331 Discovery Way Apt. A	La Jolla	CA	92037-1503
Hickey	Joyce	1002 Juliet Avenue	San Jose	CA	95127-3622
Hickman	Dean	4982 Mt. Bigelow Drive	San Diego	CA	92111-2533
Hicks	Robyn	238 Bennett Ave. Apt. B	Long Beach	CA	90803-1501
Hiestand	Nancy	526 So. Campus Way	Davis	CA	95616-3523
Higgins	Sidney	2827 Angus Street	Los Angeles	CA	90039-2630
Higgins	Brian	PO Box 1619	Mendocino	CA	95460-1619
Higginss	G. P.	151 Stony Ridge Place	Walnut Creek	CA	94596-4806
Highkin	John	1930 O Ave.	National City	CA	91950-6032
Hiken	Barbara	910 Moreno Avenue	Palo Alto	CA	94303-3731
Hilburg	Lore	21755 Ventura Blvd., Pmb #283	Woodland Hills	CA	91364
Hildebrand	Barbara	PO Box 448	El Verano	CA	94533-0448
Hilderbrand	Rebecca	1427 Chestnut Street	Oakland	CA	94607-2874
Hill	Eloise	40 Moss Ave. Apt 101	Oakland	CA	94610-1355
Hill	Ralph P.	1208 Colusa Avenue	Berkeley	CA	94707-2709
Hill	Kris	9983 Swasey Dr.	Redding	CA	96001-9728
Hill	Charles	352 N. Alfred St.	Los Angeles	CA	90048-2503
Hillgrove	Vivien	4153 Langner Avenue	Santa Rosa	CA	95407-7706
Hilliard	William	4612 Pavlov Avenue	San Diego	CA	92122-3834
Hillman	Shirley M.	PO Box 1516	Redway	CA	95560-1516
Hindes	Edward	601 Violet Way	Mount Shasta	CA	96067-9716
Hinds	M.	1747 Barry Avenue	Los Angeles	CA	90025-4051
Hines	Jack	18125 Riverside Drive	Sonoma	CA	95476-4275
Hinman	Meilani	P.O. Box 33	Covelo	CA	95428-0033
Hinman	Joe	8380 Lakewood Ave.	Cotati	CA	94931-4413
Hinman	Cameron D.	9755 La Honda Rd.	Redwood City	CA	94062-3755
Hirsch	Karen D.	5245 \II\" Street"	Sacramento	CA	95819-3542
Hirsch	Peter M.	88 King St., Apt. 605	San Francisco	CA	94107-4028
Hirsch	Carroll	8356 Madsen Ln.	Sebastopol	CA	95472-4914
Hirson	Elaine	3030 Santa Fe Ct.	Santa Cruz	CA	95062-5608

Hisserich	John	2527 Micheltorena St.	Los Angeles	CA	90039-2533
Hitchcock	Ralph T.	12223 Echo Drive	Nevada City	CA	95959-3540
Ho' Ohuli	Charlene	7777 Healdburg Ave., Apt.2	Sebastopol	CA	95472-3335
Hochberg	Brad	13691 Gavina Ave. Unit 445	Sylmar	CA	91342-2662
Hochman	Irving	35 Amber Drive	San Francisco	CA	94131-1623
Hodge	Colleen B.	9156 El Colorado Ave.	Fountain Valley	CA	92708
Hodges	Susan	5024 Fairfax Avenue	Oakland	CA	94601-5407
Hodges	Lauren	1843 N. Cherokee Ave., Apt. 210	Los Angeles	CA	90028-4775
Hodges	Robert R.	10091 Stonybrook Dr.	Huntington Beach	CA	92646-5418
Hodgson	Michael	1524 Cloverfield Blvd. Ste. A	Santa Monica	CA	90404-3545
Hodgson	John	1811 E. Grand Ave., Unit 99	Escondido	CA	92027-3230
Hodson	Cris	424 Newton Avenue	Oakland	CA	94606-1118
Hoeveler	Andrew M.	747 N. Lafayette Park Pl.	Los Angeles	CA	90026
Hoff	Harvey S.	3999 Old Town Ave., Apt. P2	San Diego	CA	92110-2989
Hoffman	Jon	2330 Fulton Street	Berkeley	CA	94704-1523
Hoffman	Sally F.	4137 Scranton Circle	Carmichael	CA	95608-1330
Hofmann	Nancy	1156 Lakeside Drive	Felton	CA	95018-9649
Hofmann	Michelle	3925 Illinois St.	San Diego	CA	92104-3006
Hogan	Jeanette	25200 Hidden Mesa Rd.	Monterey	CA	93940-6608
Hogan	Erin	1605 Bellford Ave.	Pasadena	CA	91104-1631
Hogan	Barbara	32 Hollowat Ave.	San Francisco	CA	94112-2338
Hoge	JoLynette	3111 So. Barrington Ave. Apt. 7	Los Angeles	CA	90066-1189
Hokans	Martha	320 Kirkham St.	San Francisco	CA	94122-3711
Holcomb	Gregory	2161 So. Beverly Glen Blvd.	Los Angeles	CA	90025-6041
Holden	Joan	17 Montcalm Street	San Francisco	CA	94110-5323
Holden	Steven	5102 Panama Ave.	Richmond	CA	94804-5420
Holden	Edward	738 Filbert St.	San Francisco	CA	94133-2730
Holland	Bridget M.	1430 Macken Ave.	Crescent City	CA	95531-7022
Holland	Kristina	1407 Cypress Street	Berkeley	CA	94703-1032
Holland	Russell C.	930 Post St. Apt. 35	San Francisco	CA	94109-5863
Holle	Janell M.	8016 Gosford Ave.	North Hollywood	CA	91605-1152
Hollingsworth	Richard C.	330 N. Orange Ave.	Monterey Park	CA	91755-2036
Hollins	Fiona	113 Francis Court	Santa Cruz	CA	95062-2633
Holloway	Rendon	20875 Valley Green Dr. Apt. 19	Cupertino	CA	95014-1710
Holly	Robert P.	P.O. Box 3184	San Diego	CA	92163-1184
Holman	Barbara L.	1178 Dolores Street	San Francisco	CA	94110-3657
Holman	Charles	P.O. Box 83	San Gregorio	CA	94074-0083
Holmes	Christian	5530 College Ave. Apt. 5	Oakland	CA	94618-1580
Holmes	Justine	2231 McKinley Ave.	Berkeley	CA	94703-1717
Holmes	Elizabeth	218 Matheson St.	Healdsburg	CA	95448-4110
Holmes	Tim	659 Broadmoor Blvd.	San Leandro	CA	94577-1951
Holmquist	Kirsten	505 Porpoise Bay Ter. Apt. C	Sunnyvale	CA	94089-4724
Holt	Carla	710 Escalona Drive	Santa Cruz	CA	95060-3437
Holt	Cathrine	10 So. Magnolia Ave. Apt. 6	Millbrae	CA	94030-3042
Holt	Jeffrey S.	1287 Rhode Island St.	San Francisco	CA	94107-3245
Holt	Alison	2065 Huntington Dr.	South Pasadena	CA	91030-4950
Holzer	Heidi	18760 Pendergast Ave.	Cupertino	CA	95014
Holzman	Robert	1153 Seminole Ave.	Ocotillo	CA	92259
Hom	Ivan	13603 Marina Pointe Dr.	Marina Del Rey	CA	90292-8503
Homer	Kenneth C.	83B Clark St.	San Rafael	CA	94901-3653
Honda	Victor	9623 Cedros Ave.	Panorama City	CA	91402-1005
Hook	Pamela	44 Bayview Avenue	Los Gatos	CA	95030-5906
Hook	Carrie	505 Waller St.	San Francisco	CA	94117-3330
Hooker	Emily	1275 Bonita Ave. Apt. 102	Berkeley	CA	94709-1901
Hooper	Mary E.	455 Cypress Avenue	Ukiah	CA	95482-3921
Hopkins	Elwood	8452 Harold Way	Los Angeles	CA	90069-1903
Hopkins	Thomas L.	12959 Woolman Lane	Nevada City	CA	95959-9700
Hopkins	Susan	12959 Woolman Ln.	Nevada City	CA	95959-9700
Hopkins	David	1502 Laurel Ave.	Richmond	CA	94805-1622
Hopper	Darrah L.	PO Box 186	Chester	CA	96020-0186
Hopper	Marie	4156 Greenwood Ave.	Oakland	CA	94602-1147
Horais	A.	7920 Rim Canyon Road	Sunland	CA	91040-2236
Horn	Bill	411 El Dorado Drive	Woodland	CA	95695-5431
Horn	Michael H.	2417 Oak Avenue	Fullerton	CA	92833-3112
Horton	Rosanna M.	1121 Carmelita Ave. #6	Burlingame	CA	94010-3672
Hosken	Lawrence	330 Parnassus Ave., Apt. 203	San Francisco	CA	94117-3736
Hoskins	Celena	12 Fairmont Ave.	Oakland	CA	94611-5917
Hosler	Catarina	1123 King Street	Santa Cruz	CA	95060-2459
Hostikka	Kris	248 5th Avenue	Venice	CA	90291-2641
Hotchkiss	Joanne	1822 Fell St. Apt. 6	San Francisco	CA	94117-2039

Hough	Robin L.	27240 Bear Terrace	Willits	CA	95490-8956
Houle	Karyann V.	4321 Fair Oaks Ave.	Menlo Park	CA	94025-2032
Hourcade	Catherine	1605 Argonne Dr.	Stockton	CA	95203-1552
House	James	377 E 7th Ave.	Chico	CA	95926-3415
Howard	Chris	438 Crane Blvd.	Los Angeles	CA	90065-5053
Howard	Hal	132 West 22nd Street	Chico	CA	95928-7025
Howard	Janet	845 North Fuller Ave.	Los Angeles	CA	90046
Howard	Jennifer	1151 Keith Avenue	Berkeley	CA	94708-1606
Howard	Katherine	717 9th Avenue	San Francisco	CA	94118-3707
Howard	Lisa	P.O. Box 1197	Idyllwild	CA	92549-1197
Howard	Margaret	427 Kenilworth Ave.	San Leandro	CA	94577-1913
Howard	Richard	2732 Garfield Ave.	Carmichael	CA	95608-4761
Howard	Tina	818 Brussels St.	San Francisco	CA	94134-1906
Howard	Thea	440 Whitman St., Apt. 46	Goleta	CA	93117-4068
Howden	Edward	191 Upper Ter.	San Francisco	CA	94117-4513
Howe	David	791 Alcatraz Ave. Apt. A	Oakland	CA	94609-1063
Howe	Roger K.	600 Zinnia Way	Modesto	CA	95356-1322
Howe	James	1410 Lesnick Ln., Suite A	Walnut Creek	CA	94596-2737
Howell	Keith	869 Irwin Lane	Santa Rosa	CA	95401-5648
Howes	Margaret K.	PO Box 268	Cedarville	CA	96104-0268
Howie	Shirley	446 South \E\" St. Apt. 9"	Santa Rosa	CA	95404-5131
Howind	Bruni	59B Sunshine Ave.	Sausalito	CA	94965-2306
Hoyer	Ann Rosseau	752 Cragmont Ave.	Berkeley	CA	94708-1302
Hoyt	Sharon A.	516 Patton Ave.	San Jose	CA	95128-2150
Hoyt	Kier	828 W. 29th St., Apt. C	San Pedro	CA	90731-6234
Huber	Elenore	P.O. Box 2217	Redway	CA	95560-2217
Huber	Lori M.	2036 Finch Ct.	Atwater	CA	95301-4841
Huber	Sondra	419 N. Jeanine Dr., Apt. A	Anaheim	CA	92806-3717
Hudgins	Jerry C.	PO Box 1227	Point Reyes Station	CA	94950
Hudson	David	P.O. Box 5438	Santa Rosa	CA	95402-5438
Hudson	Linda L.	1037 San Antonio Ave.	Alameda	CA	94501-3963
Hudson	Margaret	4247 North Thorne Ave.	Fresno	CA	93704-3513
Huestis	Gordon M.	922 Pennsylvania Pl.	Davis	CA	95616-2310
Huetter	Barbara	1411 Creekside Dr. Apt. 11	Walnut Creek	CA	94596
Huff	Rebecca	797 Cornell Drive #2	Santa Clara	CA	95051-5554
Huffman	Cynthia L.	PO Box 1847	Los Gatos	CA	95031-1847
Hughes	Lisa A.	1126 Chelsea Avenue	Santa Monica	CA	90403
Hughes	Barbara J.	17701 Avalon Blvd., Spc. 259	Carson	CA	90746-7044
Hughes	Bridget	1079 Dolores St.	San Francisco	CA	94110-2904
Hughes	Ms. Greta G.	625 Cayuga St.	Santa Cruz	CA	95062-2413
Huish	Lois R.	5756 Vicente St.	Oakland	CA	94609-1714
Huish	Susan	2219 Derby Street	Berkeley	CA	94705-1017
Hukill	Lorry M.	15954 Wolf Mountain Rd.	Grass Valley	CA	95949-7411
Hulme	Kenton	480 Museum Dr.	Los Angeles	CA	90065-5048
Huls	Lary A.	1105 Begier Avenue	San Leandro	CA	94577-3068
Hummel	Edward J.	6903 Hartcrest Dr.	Racho Palos Verdes	CA	90726
Hummel	Carlye	3950 Via Real, Spc 237	Carpinteria	CA	93013-1268
Hummingbird	Sara Ann	1539 Bonita Ave.	Berkeley	CA	94709-2019
Humphreys	Leonard A.	811 West Elm Street	Lodi	CA	95240-1807
Humphries	William E.	2240 Homestead Ct. Apt. 316	Los Altos	CA	94024-7326
Humple	Diana L.	4990 Shoreline Hwy.	Stinson Beach	CA	94970
Hunt	Steve	P.O. Box 1397	Gualala	CA	95445-1397
Hunt	Pamela	1839 Linwood St.	San Diego	CA	92110-1943
Hunt	Lorna	PO Box 24017	Santa Barbara	CA	93121-4017
Hunter	Susan E.	3044-A Halcyon Court	Berkeley	CA	94705-1914
Hunter	Richard D.	3470 Burnside Rd.	Sebastopol	CA	95472-9138
Huntington	Priscilla	6629 Round Oak Rd.	Penngrove	CA	94951-9700
Huorwitz	Jerry	1385 Brixton Rd.	Pasadena	CA	91105-1320
Hurley	Katherine A.	1234 Orpheus Ave.	Encinitas	CA	92024-1757
Hurwitz	Laura	7527 Kennedy Rd.	Sebastopol	CA	95472-5421
Hustace	Susan	1738 Canyon Dr., Apt.319	Los Angeles	CA	90028-5699
Husted	Sybil	6813 Appomattox Way	Carmichael	CA	95608-1524
Hutchinson	Brian	7958 McClellan Rd. Apt. 3	Cupertino	CA	95014-4107
Hutz	Margaret G.	250 Vincent Drive	Mountain View	CA	94041-2210
Huxel	Gary	841 San Rafael St.	Davis	CA	95616-6504
Hyll	Judyth	25 Brookside Road	Orinda	CA	94563-3417
Iaconi	Daria	PO Box 77288	San Francisco	CA	94107-0288
Iglesias	Ginger G.	5428 Evelyn Way	Livermore	CA	94550-2325
igney	Joseph G.	P.O. Box 8098	Santa Cruz	CA	95061-8098
Ihara	Danny	231 Dean Street	Arcata	CA	95521-9663

Ikehara	Marti	3251 Norris Ave.	Sacramento	CA	95821-4061
Ilona	Marina	1565 Creek St. Suite 107	San Marcos	CA	92069-2426
Iltis	Wilfred G.	1043 Lick Avenue	San Jose	CA	95110-3205
Imhof	Aviva	1740 Grant Street	Berkeley	CA	94703-1358
Indianer	Michelle	244 Oak Meadow Drive	Los Gatos	CA	95032-4452
Ingalls	James	1841 Santa Rosa Ave.	Pasadena	CA	91104-1136
Ingalls	Lisa	3367 3/4 Hamilton Way	Los Angeles	CA	90026
Ingalls	Patricia	5611 Carlton Way, Apt. 502	Los Angeles	CA	90028-6846
Ingro	Olaya	1879 Pepper Tree Lane	San Bernardino	CA	92404-4956
Inman	Sue J.	1235 W. Town And Country Rd., Apt 2109	Orange	CA	92868-4622
Innecken	Shirley	316 W. 4th Ave., Apt. B	Chico	CA	95926-3246
Ioli	Diana	3631 Seaview Way	Carlsbad	CA	92008-2767
Iosif	Katherine	2145 Kirkham St.	San Francisco	CA	94122-3219
Ireland	Gary	12660 Sir Francis Drake Blvd.	Point Reyes Station	CA	94956
Isaacs	J.	2331 Ward Street	Berkeley	CA	94705-1110
Isayo	Claudette T.	999 Bush St. Apt. 506	San Francisco	CA	94109-6350
Isenberg	Jody	PO Box 3925	San Bernadino	CA	92413-3925
isenby	Kathleen L	6211 East 5th Street	Long Beach	CA	90803-2111
Israel	Carolyn T.	260 High St. Apt. 204	Santa Cruz	CA	95060-2655
Itamoto	Kari	830 Bush St., Apt. 104	San Francisco	CA	94108-3323
Ivens	Jacqueline	1268 5th Avenue Apt. 5	San Francisco	CA	94122-2632
Iverson	Mark E.	1281 28th Avenue	San Francisco	CA	94122-1510
Iverson	Chuck	239 Marvilla Cir.	Pacifica	CA	94044-3308
Ivey	Nancy	PO Box 8567	Bodfish	CA	93205-8567
Iyall	Sandra	4533 N. Del Mar Ave.	Fresno	CA	93704-3905
J. Burke	Robin	2503 Devri Court	Mountain View	CA	94043-4109
Jackson	Jennifer	P.O. Box 2712	San Marcos	CA	92079-2712
Jackson	Matt	4855 Sawyer Ave. Apt. D	Carpinteria	CA	93013-1930
Jackson	Robin	629 Clayton Street	San Francisco	CA	94117-2926
Jackson	Theodora I.	14 East Doris Ave.	Porterville	CA	93257-2408
Jackson	Colette	1798 Scenic Ave., #449	Berkeley	CA	94709-1323
Jackson	Summer	1428 19th Ave., Apt. A	Oakland	CA	94606-4847
Jackson	Judy	45 Bret Harte Rd.	Berkeley	CA	94708-1608
Jackson	Joseph F.	1054 Knoll Parh Ln.	Fallbrook	CA	92028-1723
Jacobs	Janet	454 Jersey Street	San Francisco	CA	94114-3633
Jacobs	Steven	4859 Gardenia St.	Oceanside	CA	92057-5432
Jacobs	Wanda L.	985 Rose Lane	Santa Barbara	CA	93110-1215
Jacobs	Fern K.	1536 Curran St.	Los Angeles	CA	90026-2036
Jacobs	Amanda	336 40th St., Apt. 2	Oakland	CA	94609-2647
Jacobsen	Hayden	1820 9th Street	Berkeley	CA	94710-2103
Jacobsen	Vanessa	955 Bush St. Apt. 101	San Francisco	CA	94109-6309
Jacobsen	Helen	60 Park Ave.	Mill Valley	CA	94941-2704
Jacobson	Andrew	3420 Skillman Lane	Petaluma	CA	94952-8007
Jacobson	Andrew	337 Cleveland Ave,	Petaluma	CA	94952-1703
Jacobson	Risa K.	1489 Burrell Ct.	San Jose	CA	95126-1609
Jacobson	Margaret	41 Dorchester Dr.	Mountain View	CA	94043-2103
Jacobson	Elizabeth J.	2830 Freeport Blvd.	Sacramento	CA	95818-3050
Jacquet	Susan E.	401 Cornell Ave., Apt. 5	Albany	CA	94706-1248
Jahn	Joy	26622 Lope De Vega Dr.	Mission Viejo	CA	92691-3320
Jain	Anchal	660 Hudson St.	Redwood City	CA	94061-1527
Jakowatz	Erik	250 Chico Ave.	Santa Cruz	CA	95060-6238
Jalbert	Greg	2409 Parker St. Apt. 2	Berkeley	CA	94704-2811
Jameau	Maria	451 Lloyd Ln.	Angwin	CA	94508-9756
Jamerson	Janet	154 The Trees Drive	Concord	CA	94518-3705
James	Justin R.	4540 California St. Apt. 12	San Francisco	CA	94118-1236
James	Don	3626 Clarington Ave., Apt. 204	Los Angeles	CA	90034-5000
James	Wendy	1713 Alameda De Las Pulgas	Redwood City	CA	94061-3207
Janss	Nuriya	1121 Myrtle Dr.	Sunnyvale	CA	94086-8321
Jantzen	Martha	1455 Almador Ter.	Atwater	CA	95301-4519
Jaquish	Melissa	1686 Haight St.	San Francisco	CA	94117-2816
Jarrard	Steven	1131 Churchs Ct.	Burbank	CA	91501-1001
Jarvis	Dow S.	P.O. Box 90351	Santa Barbara	CA	93190-0351
Jarvis-Chevalier	Jennifer	27396 Iris Avenue	Mission Viego	CA	92692-4126
Jaundzems	Patricia	P.O. Box 572	Inverness	CA	94937-0572
Javier	Lyn	4527 Clairemont Mesa Blvd.	San Diego	CA	92117-2057
Javier	Rhodora	306 Jules Avenue	San Francisco	CA	94112-1726
Jay	Doris	718 Laurent St.	Santa Cruz	CA	95060-3550
Jefferies	Richard L.	3264 Oakdell Road	Studio City	CA	91604

Jeffreys	David	3932 Little Fairfield St.	Eureka	CA	95503-5825
Jelinek	Cynthia	450 Calle Cielo	Nipomo	CA	93444-9526
Jenefsky	Cindy	156 John St.	Oakland	CA	94611-4706
Jenkins	Ken L.	312-A Auburn Street	San Rafael	CA	94901-5210
Jennings	Elizabeth	PO Box 803	Mill Valley	CA	94942-0803
Jennings	Ericka	180 Beaver St., Apt.1	San Francisco	CA	94114-1539
Jenny	Lisa	109 Belvedere Ave.	San Carlos	CA	94070-4818
Jensen	Jennifer	461 Haight St.	San Francisco	CA	94117-3505
Jensen	Jennifer	463 Haight St.	San Francisco	CA	94117-3505
Jerome	L.	2818 Kingsland Avenue	Oakland	CA	94619-3325
Jersey	Todd	1218 Evelyn Avenue	Albany	CA	94706-2318
Jessup	Victoria	27 Encina Ave.	Monterey	CA	93940-3719
Jetton	Lindsay	7575 Brigadoon Way	Dublin	CA	94568-5550
Jevons	Corinna	246 Altivo Ave.	Watsonville	CA	95076-1604
Jewell	Douglas M.	612 Lighthouse Ave., Apt. 3	Monterey	CA	93940-1028
Jewett	Suzanne E.	1806 S. Watson St.	Visalia	CA	93277-4720
Jewett	Andrew	717 22nd St., Apt. 4	Sacramento	CA	95816-4076
Jewett	Lisa	1207 Birch Ave.	San Mateo	CA	94402-1975
Jex	J. J.	18578 Conejo View Drive	Agoura Hills	CA	91301-3368
Jirka	Amy L.	1780 Pecho Road	Los Osos	CA	93402-2006
Joachim	Kristin L.	P.O. Box 12761	Berkeley	CA	94712-3761
Johanning	Marla	861 Bette Ave.	Cupertino	CA	95014-4548
Johnsen	Deborah	455 Union St., Apt. 197	Arcata	CA	95521-6436
Johnson	Anne	162 Cordova Walk	Long Beach	CA	90803-5003
Johnson	Bruce	1933 So. Fitch Mountain Rd.	Healdsburg	CA	95448-4619
Johnson	Gregg	31000 Hasley Canyon Rd.	Castaic	CA	91384-3216
Johnson	Janet	5804 Alameda Ave.	Richmond	CA	94804-4823
Johnson	Jenny J.	1386 Haight Street	San Francisco	CA	94117-2909
Johnson	John A.	134 Hunt Way	Campbell	CA	95008-2711
Johnson	Judy	2811 Cold Springs Rd. #27	Placerville	CA	95667-4016
Johnson	Kimberly M.	1416 Polk Street	San Francisco	CA	94109-4616
Johnson	Marchelle G.	1145 Hayes St. Apt. 10	San Francisco	CA	94117-1601
Johnson	Pamela J.	1747-B Grand Ave.	Santa Barbara	CA	93103
Johnson	Richard	618 Alsace Loraine Ave.	Half Moon Bay	CA	94019-1855
Johnson	Sarah E.	3804 Evans St. Apt. 5	Los Angeles	CA	90027-3340
Johnson	Steven E.	1646 48th Avenue	San Francisco	CA	94122-2804
Johnson	William T.	581 Eldora Road	Pasadena,	CA	91104-3614
Johnson	R. Ann	288 Bouquet Cir.	Windsor	CA	95492-9609
Johnson	Paulette	6584 Claremont Ave.	Richmond	CA	94805-2043
Johnson	Elizabeth	1510 Josephine St.	Berkeley	CA	94703-1136
Johnson	Nan	4831 W. Alder St.	San Diego	CA	92116-2327
Johnson	Ken	130 Church St.	Redlands	CA	92374-2592
Johnson	Joan D.	3341 Balzac St.	Alhambra	CA	91803-3663
Johnston	Alison	425 Locust Street	Sausalito	CA	94965-1935
Johnston	Catherine B.	980 Middlefield Road	Berkeley	CA	94708-1510
Johnston	Maureen	116 Calle El Padre	Los Gatos	CA	95032-1237
Johnston	Phillip W.	10 Carriage Lane	Scotts Valley	CA	95066
Johnston	Todd	840 Central Avenue	Mountain View	CA	94043-4602
Johnston	Denis	2201 S. Bentley Ave.	Los Angeles	CA	90064-1901
Johnston	Viktoria	1399 9th Ave., Apt. 305	San Diego	CA	92101-4743
Joki	George	3650 Louis Rd.	Palo Alto	CA	94303-4407
Jones	Barbara L.	P.O. Box 8783	Mammoth Lakes	CA	93546-8783
Jones	Gabriel	636 Mt. Vernon Ave Fl Uppr	San Francisco	CA	94112-2424
Jones	Judy	920 Minnesota Ave.	San Jose	CA	95125-2421
Jones	Nancy	953 Winston Circle	Corona,	CA	92881-7467
Jones	Robyn	328 Stanford Avenue	Santa Cruz	CA	95062-1108
Jones	Sharon	260 Flagstone Terrace	San Rafael	CA	94903-1516
Jones	Susan A.	1224 106th Avenue	Oakland	CA	94603-3814
Jones	Pamela	10128 Forbes Ave.	Sepulveda	CA	91343-1003
Jones	Nancy	425 Raymond Ave.	Santa Monica	CA	90405-4303
Jones	Lynn	5865 Chandler Rd.	Quincy	CA	95971-9106
Jones	Ashley O.	1966 Green St. Fl. 2	San Francisco	CA	94123-4811
Jones	R Thomas	755 Carolina St.	San Francisco	CA	94107-2701
Jones	Monica	711 Solano Ave.	Albany	CA	94706-1516
Jordan	Timothy D.	8825 Orton St.	Elk Grove	CA	95624-1818
Jordan	Andrew	PO Box 13134	San Luis Obispo	CA	93406
Jorgensen	Diana	64 Oak Springs Drive	San Anselmo	CA	94960-1345
Joseph	Elouise	1474 Wildrose Way	Mountain View	CA	94043-4548
Jovanovic	Jelena	8114 Regents Rd., Apt. 204	San Diego	CA	92122-1364
Joyner	Kathryn	4329 W. 58th Pl.	Los Angeles	CA	90043-3407

Juarez	Amie K.	2928 Peppertree Ln. Apt. C	Costa Mesa	CA	92626-3847
Juberg	Richard K.	9356 Mesa Verde Dr., Apt. D	Montclair	CA	91763-1918
Judd	Bob	341 Central Avenue	Menlo Park	CA	94025
Judd	Rainer	2401 Lake View Ave.	Los Angeles,	CA	90039-3314
Judd	Kathryn A.	66 Corwin St., Apt. 1	San Francisco	CA	94114-2358
Judson	Laurie	2436 Schaeffer Rd.	Sebastopol	CA	95472-5559
Juliar	Jeff	408 Oak St.	San Francisco	CA	94102-5610
Jurvic	Thomas	PO Box 577	Redway	CA	95560-0577
Justen	Leila A.	3460 Kemble Avenue	Long Beach	CA	90808-3324
Kabrich	Robin D.	2316 Jackson Street	Fremont	CA	94539-5122
Kagan	Herman	8645 Neath Street	Ventura	CA	93004-2939
Kahan	Tom	5395 Walnut St.	Oakland	CA	94619-3233
Kahl	Frank	950 Kensington Dr.	Fremont	CA	94539-4519
Kahn	Gary	4719 Shannon View Rd.	Acton	CA	93510-1110
Kaine	Margie	P.O. Box 1023	Pacifica	CA	94044-6023
Kaiser	Katherine	1678 Shattuck Ave., Pmb 62	Berkeley	CA	94709-1631
Kalil	Nashua	2038 Hearst Ave. Apt. 2	Berkeley	CA	94709-2175
Kalish	Milton	23 Altarinda Rd.	Orinda	CA	94563-2600
Kallok	M.	P.O. Box 168	Graton	CA	95444-0168
Kalson	Arthur B.	25 Meda Ave.	San Francisco	CA	94112-2527
Kamath	Tara	1959 Cloverfield Blvd. Apt. 118	Santa Monica	CA	90404-4931
Kameon	Jean	8332 Livingston Way	Los Angeles	CA	90046-1930
Kamesar	Jack D.	PO Box 978	Woodacre	CA	94973-0978
Kamian	Paul H.	3630 Andrews Dr. Apt. 111	Pleasanton	CA	94588-3015
Kanarek	Nina	11010 Van Doren Rd.	Middletown	CA	94561
Kane	John	2255 Brookhaven Ct.	San Pablo	CA	94806-3402
Kane	Ronald S.	1660 Saratoga Avenue	Grover Beach	CA	93433-1864
Kaplan	V.	987 Dexter Street	Los Angeles	CA	90042-2224
Karcie	Robert W.	350 Bay Street	San Francisco	CA	94133
Karlsten	John	10301 Creston Dr.	Cupertino	CA	95014-1013
Karner, Jr.	George H.	707 13th St., Apt. 4	Sacramento	CA	95814-1916
Karpinski	Rebecca A.	504 Kay Mar Way	Santa Rosa	CA	95401-5051
Karsteadt	Larry	P.O. Box 8	Trinidad	CA	95570-0008
Kartman	Carrie	1038 Evelyn Avenue	Albany	CA	94706-2314
Kasow	Irving B.	32000 Riverside Drive	Lake Elsinore	CA	92530-7808
Kathary	Holly	2243 Olive Street	Paso Robles	CA	93446-1402
Katsuranis	Lauren	108 Addison Street	San Francisco	CA	94131-2623
Katz	Gerald	23139 Gertrude Ave.	Perris	CA	92570-7587
Kauflin	Anthony C.	928 Cornish Dr.	Encinitas	CA	92024-4518
Kaufman	Jean F.	913 West Bonita Avenue	Claremont	CA	91711-4193
Kaufman	Jefferey S.	1725 E. 2nd St.	Long Beach	CA	90802-5917
Kaufman	Carol	513 Molino St.	Los Angeles	CA	90013-2225
Kaufmann	Sandra H.	1877 Whaley Avenue	San Diego	CA	92104-5755
Kaufmann	Ann Bykerk	1994 Wild Oak Ln.	Chico	CA	95928-4027
Kaufmyn	Wendy	2132 Prince Street	Berkeley	CA	94705-1817
Kaumeyer	James	60 Davis Ln.	Penngrove	CA	94951-9704
Kavulla	C.	HC 79 Box 1126	Mammoth Lakes	CA	93546-9705
Kawashima	Susan L.	2301 Pearl St.	Santa Monica	CA	90405-2829
Kay	Tamara L.	438 65th St.	Oakland	CA	94609-1102
Kean	Andrea	1423 Campus Drive	Berkeley	CA	94708-2005
Kean	David	14997 Wolfgang Road	Truckee	CA	96161-6918
Kearns	William	P.O. Box 653	Oregon House	CA	95962-0653
Keating	Eddie	1411 No. Olive St. Rear Bldg.	Santa Ana	CA	92706-3740
Keefe	Jenifer	1650 Overlook Lane	Santa Barbara	CA	93103-2822
Keeler	Robert	131 5th St.	Pacific Grove	CA	93950-2921
Keene	Michael H.	213 Coyote Street	Nevada City	CA	95959-2521
Keith	Andrea M.	P.O. Box 53454	Irvine	CA	92619-3454
Kelekian	James	2927 Benvenue Ave.	Berkeley	CA	94705-2209
Kellen-Taylor	M.	14 Las Piedras	Orinda	CA	94563-2022
Keller	John	P.O. Box 3399	Idyllwild	CA	92549-3399
Keller	Denise	709 San Miguel Way	Sacramento	CA	95819-2723
Keller	Randy	2305 Ralston Ln.	Redondo Beach	CA	90278-5219
Kellett	Ian	3009 Mission Street #400	San Francisco,	CA	94110
Kelley	Alden	1223 Evergreen Ave., Apt. L3	Fullerton	CA	92835-2057
Kellman	Lisa	474 Day St.	San Francisco	CA	94131-2229
Kellogg	Mike	P.O. Box 5104	Blue Jay	CA	92317-5104
Kellogg	Doug	128 Rankin St.	Santa Cruz	CA	95060-5320
Kelly	Joann F.	3132 Central Ave.	Spring Valley	CA	91977-2512
Kelly	Leslie	48900 Paisano Road	Palm Desert	CA	92260-6306
Kelly	Mary	P.O. Box 117	Aptos	CA	95001-0117

Kelly	Charles	2720 Ivan Ct.	Los Angeles	CA	90039-2601
Kelly	Stephen	468A Hanover Ave.	Oakland	CA	94606-1116
Kelly	Ryan	11088 Ophir Dr.	Los Angeles	CA	9002-2060
Kelly	Beverly	248 La Verne Ave,	Long Beach	CA	90803-3515
Kelsey	Allison M.	6561 Mokelumne Ave.	Oakland	CA	94605-2210
Kemp	Judy	3206 Hannah St. Suite 2	Emeryville	CA	94608-4092
Kemp	Roberta	21 Grove St.	San Rafael	CA	94901-3650
Kemp	Kathy	762 Peralta Ave.	Berkeley	CA	94707-1842
Kendal	Terry R.	440 West Avenue 46	Los Angeles	CA	90065
Kendall	Frances	6909 Norfolk Rd.	Berkeley	CA	94705-1738
Kennedy	Donna	3056 Cedar St.	Riverside	CA	92501-2330
Kennedy	Geri	263 Alameda De Las Pulgas	Redwood City,	CA	94062-2834
Kennedy	Kathleen	14723 Doolittle Drive	San Leandro	CA	94577-6618
Kennedy	Mary	2961 Edell Place	San Diego	CA	92117-1618
Kenney	Gretchen J.	115 Fillmore St.	San Francisco	CA	94117-3517
Kenney	Mary E., Harry T.	7304 Calder Ave,	Sebastopol	CA	95472-4354
Kenny	Sally	1833 South Ditmar St.	Oceanside	CA	92054-6037
Kent	Margaret	6043 Shelter Bay Ave.	Mill Valley	CA	94941-3074
Kent	Suzanne	250 Calvin Place	Santa Cruz	CA	95060-3126
Kent	Esmerelda	126 Precita Ave.	San Francisco	CA	94110-4621
Kent	Thomas G.	PO Box 41	Inverness	CA	94937-0041
Keranen	Margaret	2004 Franklin Ave.	Stockton	CA	95204-4806
Kerans	Patrick	13365 McCulloch Ave.	Saratoga	CA	95070-4654
Kerman	Lynn A.	3532 Grand View Blvd.	Los Angeles	CA	90066-1904
Kern	Paul	457 Nicholas Dr.	Mountain View	CA	94034-5273
Kerollis	Jessica	433 14th Street	San Francisco	CA	94103-2315
Kerr	Deirdre	14950 Velma Street #15	San Leandro	CA	94579
Kerr	Douglas	19 Monte Vista Avenue	Larkspur	CA	94939-2120
Kerr	Douglas	P.O. Box 1069	Larkspur	CA	94977-1069
Kerr	Robyn A.	302 South 1st Avenue	Oakdale	CA	95361-3907
Kershaw	Kathleen	15214 Manzanita Diggins Dr.	Nevada City	CA	95959-2336
Kessler	Jeffrey	501 1/2 No. Madison Ave.	Pasadena	CA	91101-1116
Kessler	Peter	769 Los Robles Ave.	Palo Alto	CA	94306-3160
Keve	Steve G.	204 Appleton Dr.	Aptos	CA	95003-5002
Keyes	Lizann	1511 Hidden Terrance Ct.	Santa Cruz	CA	95062
Khamashta	Karen	PO Box 73501	Davis	CA	95617-3501
Khan	Marjorie	333 North 5th St. Apt. 10	San Jose	CA	95112-5277
Kibbee	Lucille	P.O. Box 2385	Weaverville	CA	96093-2385
Kiblinger	Rhonda C.	278 Ellwood Beach Dr. Apt 11	Goleta	CA	93117-2750
Kidd	Richard A.	73 W. Sierra Madre Blvd. Rm 200	Sierra Madre	CA	91024-2462
Kielarowski	Henry	1496 La Playa Street	San Francisco	CA	94122-2813
Kieler	William J.	4824 Circle Drive	San Diego	CA	92116
Kieschnick	Timothy	724 Cornell Avenue	Albany	CA	94706-1703
Kilbum	Kent L.	2032 S. Plano St.	Porterville	CA	93257-9127
Kilby	A. V.	P.O. Box 338	Arcata	CA	95518-0338
Kildebeck	Mardi	405 Davis Ct. Apt. 2406	San Francisco	CA	94111-2463
Killmar	Margaret	666 31st St.	Richmond	CA	94804-1568
Killou	Jamal	445 Summit Road	Watsonville	CA	95076
Kimbal	Rosemary	1770 Rubenstein Dr.	Cardiff By The Sea	CA	92007
Kimball	Barbara	431 Sunnyslope Avenue	Oakland	CA	94610-1458
Kimball	Anrda D.	1443 6th Ave., Apt. 3	Oakland	CA	94606-2942
Kimball	Chuck	PO Box 2408	Julian	CA	92036-2408
Kimes	Kenneth J.	1255 Hames Rd.	Aptos	CA	95003-9715
Kimme	Ernest	110 Laurel Street	Vacaville	CA	93422-6622
Kimmell	Robert Z.	16805 Walnut Avenue	Atascadero	CA	93422-6622
Kimura	Laraine	35 Bridgeview Dr.	San Francisco	CA	94124-2228
Kimura	Torsten Y.	925 Waverley St., Apt. 304	Palo Alto	CA	94301-2743
Kincheloe	Helen	8845 Shirley St.	Graton	CA	95444-9316
Kinchley	Ed	1731 Balboa Street	San Francisco	CA	94121
Kindle	Thomas	630 W. Orangeburg Ave.	Modesto	CA	95350-4245
King	Bill	P.O. Box 2683	Olympic Valley	CA	96146
King	Faith	1056 Eden Avenue	San Jose	CA	95117-3012
King	Jeff	13055 Falcon Point Pl.	Truckee	CA	96161-6451
King	Leslie	4006 Tracy Street	Los Angeles	CA	90027-3233
King	Lloyd	133 Connecticut Street	San Francisco	CA	94107-2414
King	Lucille	3344 Chessapeake Bay Ave.	Davis	CA	95616-2608
King	Nancy R.	2741 Garber St. Apt. 2	Berkeley	CA	94705-1345
King	Susan M.	6920 Pacific View Dr.	Los Angeles	CA	90068-2036
King	Jennifer	33365 Sandpiper Pl.	Fremont	CA	94555-1146

King	Jeffrey	2241 Quesada Ave.	San Francisco	CA	94124-1921
Kingsley	Eunice J.	1132 E. Meta St., Apt. 9	Ventura	CA	93001-3155
Kinkade	Martha	908 Diamond Street	San Diego	CA	92109-2505
Kinnally	Jon	1606 No. Laurel Ave. Apt. 107	Los Angeles	CA	90046-2583
Kiralla	Steven	103 Esparta Way	Santa Monica	CA	90402-2137
Kirchner	Shawn	2253 3rd St.	La Verne	CA	91750-4918
Kirk	Ethel	13 Marin View Drive	Novato	CA	94949-6725
Kirk	Susan	3641 Montgomery Drive	Santa Rosa	CA	95405-5212
Kirk	Mr. Paul K.	1420 Normal Ave.	Chico	CA	95928-6543
Kirk	Eric	PO Box 532	Garberville	CA	95542-0532
Kirkpatrick	D.	1108 Honeysuckle Way	Lompoc	CA	93436-3262
Kirsch	Susannah R.	85 Scott St., Apt. B	San Francisco	CA	94117-3262
Kirschner	Talia	1527 Oak Ave.	Davis	CA	95616-1002
Kirshner	Cyrus	9267 Via Vista Dr.	Buena Park	CA	90620-4131
Kisner	Theodore	4140 Via Real, Apt. 19	Carpinteria	CA	93013-1261
Kissell	Kelly	942 Pine Grove Avenue	Los Angeles	CA	90042-1354
Kissler	Saralyse	212 San Jose Ave.	Santa Cruz	CA	95060-6218
Kitchen	Phil	26990 County Road #95A	Davis	CA	95616-9443
Kizer	Wilfred	3911 Park Blvd. Apt. 1311	San Diego	CA	92103-3517
Klatt	Dana M.	31685 Lake Shore Dr.	Redlands	CA	92373-8724
Klausner	Thelma	11550 Crafton Avenue	Redlands	CA	92374-8252
Klein	David	18101 Superior Street	Northridge	CA	91325-1756
Klein	Richard	800 Larsen Rd.	Aptos	CA	95003-2639
Klein	Steven	2560 Knob Hill Road	Sonoma	CA	95476-9729
Klein	Lauren P.	1569 Merced St.	Richmond	CA	94804-5032
Kleinerman	Margy	1617 Chevy Chase Dr.	Brea	CA	92821-5933
Klems	Joseph	1870 San Lorenzo Ave.	Berkeley	CA	94707-1841
Klick	Andrea J.	4147 Texas Street	San Diego	CA	92104
Klimek	Alex C.	209 Fairmount Avenue	Santa Cruz	CA	95062-1117
Kloepping	Elizabeth	17 Bayo Vista Way	San Rafael	CA	94901-1619
Klyce	Nathaniel	2766 Pleasant Street	Oakland	CA	94602-2809
Knapp	Richard	1701 Casitas Ave.	Pasadena	CA	91103-1226
Knapton	Sylvia	77 Chestnut St., Unit 107	Santa Cruz	CA	95060-4980
Knight	James	368 Museum Drive	Los Angeles	CA	90065-5032
Knight	Sage	1206 Supi Lane	Topanga	CA	90290
Knight	Marla	566 Lombard St., Apt. 1	San Francisco	CA	94133-2340
Knight	Glydell	1501 Anza Ave., Spc 36	Vista	CA	92084-3219
Knighton	Jennifer	7629 Palisade Way	Fair Oaks	CA	95628-5723
Knoff	Laura J.	1508 Curits St.	Berkeley	CA	94702-1135
Knutson	April	PO Box 155	Lagunitas	CA	94938-0155
Ko	Jane	3901 Karen Lynn Drive	Glendale	CA	91206-1221
Kobayashi	Kathie	2680 Shadowvale Way	San Jose	CA	95132-1042
Koehler	Julie	5028 35th Street	San Diego	CA	92116-1910
Koel	Renee	373 Upper Ter.	San Francisco	CA	94117-4517
Koeppel	Martin	215 Frustuck Ave.	Fairfax	CA	94930-1979
Koester	Jay A.	2005 Burton St., #19	San Diego	CA	92111
Koike	Janet	2237 Prince St.	Berkeley	CA	94705-1854
Kolber	Richard	5786 Lake Lindero Drive	Agoura Hills	CA	91301-1414
Koleini	Patricia A.	760 Lincoln Ave.	Alameda	CA	94501-3314
Kolka	Carolyn	2331 Derby Street	Berkeley	CA	94705-1104
Kolkey	Zora	2442 Polk St.	San Francisco	CA	94109-1603
Koller	Shawn	405 W. Richmond Ave. Apt. 4	Pt. Richmond	CA	94801-3879
Koonce	Marie	PO Box 353	Onyx	CA	93255-0353
Kopinski	Vicki	PO Box 991464	Redding	CA	96099-1464
Koriagin	Jon	16651 Bartlett Ln., Apt. 2	Huntington Beach	CA	92647
Korn	N.	6570 Zumirez Dr.	Malibu	CA	90265-4311
Korpos	Michelle	710 Larkin Valley Rd.	Watsonville	CA	95076-8592
Koster	Margaret	PO Box 486	Covelo	CA	95428-0486
Koya	Riyad S.	874 47th Ave. Apt. 4	San Francisco	CA	94121-3239
Kraemer	Todd W.	5121 Patrick Creek Dr.	McKinleyville	CA	95519-8022
Kraft	Harry	2406 Overlook Drive	Walnut Creek	CA	94596-3009
Kraft	Herbert	66 Cleary Ct. Apt. 503	San Francisco	CA	94109-6502
Krag	Daniel	1004 Shell Ave.	Pacific Grove	CA	93950-2125
Krale	Dave	41 Windward Drive	Corte Madera	CA	94925-2033
Krall	Deborah	847 Commonwealth Avenue	Venice	CA	90291-2805
Kranz	Louis	3300 S. Sepulveda Blvd., Apt. F3	Los Angeles	CA	90034-5246
Kranz	Michael	4016 Kansas St., Apt. B	Oakland	CA	94619-2044
Kraus	Michael	12 Hillbarn Court	San Mateo	CA	94403-5137
Kraus	Ralph	2479 Wrigley Road	Eureka	CA	95503-9618
Krause	Roger	149 Rivoli Street	San Francisco	CA	94117-4340

Krauss	Kathleen	715 Park Ave.	Arcata	CA	95521-6519
Krchmar	Carolyn	1176 Monroe St. Apt. B	Santa Clara	CA	95050-4830
Krejsa	Richard J.	189 San Jose Court	San Luis Obispo	CA	93405-1532
Krentzel	Jarrett	151 Orange Dr.	San Louis Obispo	CA	93405
Kresse	David	760 El Verano Drive	Walnut Creek	CA	94598-4902
Kricheff	Greg	PO Box 31720	San Francisco	CA	94131-0720
Kring	Bryan	1341 58th Ave. Apt. 12	Oakland	CA	94621-3967
Kringel	Julia	326 Stanford Ave.	Menlo Park	CA	94025-6240
Kroger	Christine	1225 Oxford Way	Stockton	CA	95204-3042
Kropf	Greg A.	7 Benito Ave.	Watsonville	CA	95076-1705
Krow-Lucal	Steven C.	468 Nuestra Avenue	Sunnyvale	CA	94086-7555
Krull	Theresa	3440 Hardin Way	Soquel	CA	95073-2745
Kruse	John S.	45-A Hartford Street	San Francisco	CA	94114
Kruse	Autumn	422 Evelyn Ave., Apt. F	Albany	CA	94706-1327
Kucharczyk	Elizabeth	261 Wilson Avenue	Novato	CA	94947-4218
Kuhlman	Armin	5069 Catoctin Drive	San Diego	CA	92115-1516
Kuhlman	Rhea	3834 5th Ave.	San Diego	CA	92103-3141
Kuhn	E. Matthew	2622 39th Avenue	San Francisco	CA	94116-2753
Kuhn	James L.	1024 Santa Ynez Way	Sacramento	CA	95816-5428
Kuhr	Wendy A.	4504 Greene Street	San Diego	CA	92107-1418
Kunath	Kate	1450 12th Street	Oakland	CA	94607-2035
Kurani	Kenneth S.	7311 Ridge Rd.	Newcastle	CA	95658-9430
Kurzman	Pat	2115 28th Avenue	San Francisco	CA	94116-1732
Kusiak	Mary Jo	7777 West 91st St. #E-1132	Playa Del Rey	CA	90293-8310
Kusmiak	Eugene	3425 Sunset Drive	Fallbrook	CA	92028-8221
Kutcher	Celia	34681 Calle Los Robles	Capistrano Beach	CA	92624
Kutzer	Norma	218 W. Micheltorena St. Apt. A	Santa Barbara	CA	93101-8575
Kyes	Nancy L.	1101 Columbia St.	South Pasadena	CA	91030-1711
Kyrias	VaLinda	145 Vista View Dr.	Cloverdale	CA	95425-3374
Kyzyzanowski	Lidia	8516 La Madrina Drive	Rosemead	CA	91770-4302
La Bounty	Shannon	4660 Grisham Ave.	Long Beach	CA	90805-6928
La Brue	Janice	P.O. Box 304	Meridian	CA	95957-0304
La Mar	Kathryn R.	21295 Birch St.	Hayward	CA	94541-1537
Lacelle	Denise	609 Washington Ave., Apt E	Santa Monica	CA	90403-3951
Lackenbauer	Orlena	649 Sterling Drive	Martinez	CA	94553-5929
Ladewig	Carol	3756 Balfour Ave.	Oakland	CA	94610-1705
Ladrech	Jacqueline	67 Elda Dr.	San Rafael	CA	94903-3723
Laffranchini	Jennifer	14505 Yerxa Road	Desert Hot Springs	CA	92240-6861
Lahr	Taya	238 Keller Street	Petaluma	CA	94952-2858
Laine	Pam E.	1124 Linda Drive	Campbell	CA	95008-4507
Laine	Mike	401 Vine St.	Menlo Park	CA	94025-6149
Lalor	Dennis	511 Swift St. Suite B	Santa Cruz	CA	95060-5860
Lamb	Caroline	130 Serra Ct.	Santa Cruz	CA	95060-5232
Lamb	Michael D.	1635 Jackson St.	Santa Clara	CA	95050-4238
Lambart	Eric	1131 Page Street	Berkeley	CA	94702-1019
Lambert	Betina	355 Coronado Ave., Apt. 16	Long Beach	CA	90814-8179
Lamborn	Celia	20305 Gresham St.	Winnetka	CA	91306-1122
Lamboy	Kendra	13 Oliva Dr. Apt. C	Novato	CA	94947-2149
Lamkin	Laura	147 Bixby St.	Santa Cruz	CA	95060-5104
Lamont	Douglas	855 West 29th Street	San Pedro	CA	90731-6254
Lance	Jeanne	218 Appleton Drive	Aptos,	CA	95003-5002
Land	Mar Gwen	3290 Loma Riviera Dr.	San Diego	CA	92110-5513
Landau	Saul	1902 Morgan Avenue	Claremont	CA	91711-2617
Landes	Ronda	P.O. Box 541	Willits	CA	95490-0541
Landis	David	4507 Carriage Hill Dr.	Santa Barbara	CA	93110-2023
Landis	Toby Y.	6540 Perr Crrek Rd.	Somerset	CA	95684-9525
Landkamer	Mark L.	396 Marietta Drive	San Francisco	CA	94127
Landrum	Christine	1515 Shady Glen Ave.	Santa Clara	CA	95050-6124
Landsbaum	Holly	1626 Virginia St.	Berkeley	CA	94703-1234
Lane	Susan	4276 Lindblade Dr. Apt. 10	Los Angeles	CA	90066
Lane	Brook	2431 Park Blvd.	Oakland	CA	94606-1519
Lane	Kathleen E.	5853 Fremont St.	Oakland	CA	94608-2611
Lang	Diane	217 Villa Garden Dr., Apt. C	Mill Valley	CA	94941-3671
Langenthal	Joshua M.	632 Vicente Ave.	Berkeley	CA	94707-1524
Langlois	Matthew	1851 Fulton St. Apt. 1	San Francisco	CA	94117-1244
Lantrip	David B.	701 Poli Street	Ventura	CA	93001-2910
Lanum	Jackie	4424 Campbell Drive	Los Angeles	CA	90066-6214
Lapidus	Karen	11327 1/2 Blix Street	North Hollywood	CA	91602-1257
Lardie	Deborah A.	PO Box 460399	San Francisco	CA	94146-0399
Larijani	Sherin	1777 Euclid Ave.	Berkeley	CA	94709-1251

Larkin	Sarah	930 Ventnor Avenue	Windsor	CA	95492-8800
Larque	Laura	1133 Rutledge Avenue	Santa Rosa	CA	95404-5812
Larsen	Rick L.	612 Windsor St.	Santa Cruz	CA	95062-2453
Larsen	Holly	2624 San Jose Ave.	Alameda	CA	94501-5320
Larson	Catherine	4000 Lakeshore Ave.	Oakland	CA	94610-1140
Larson	Donna	69861 Willow Lane	Cathedral City	CA	92234
Larson	Annie	201 Holly Park Cir.	San Francisco	CA	94110-5903
Larvey	Gerald F.	776 Purdue Court	Santa Clara	CA	95051-5527
Laschke	William H.	PO Box 35	Ojai	CA	93024-0035
Lasota	Nancy E.	5735 Lake Lindero Dr.	Agoura Hills	CA	91301-1413
Lassen-Willems	James R.	504 Burnham Rd.	Oak View	CA	93022-9323
Lathers	Phyllis M.	115 W. Central Ave.	Hemet	CA	92543-5905
Lathrop	Jean	5957 Sunset Rd.	Joshua Tree	CA	92252-2043
Latorre	Lise	69 Glen Ave., Apt. 306	Oakland	CA	94611-4900
LaTraille	Gregory	2188 3rd Ave.	Sacramento	CA	95818-3102
Laughlin	Heather V.	823 Pacific Ave.	Santa Rosa	CA	95404-2857
Laughlin	Elray A.	107 Shady Ln.	Antioch	CA	94509-1844
Lauren	Lauren	308 Eureka Street #A	San Francisco	CA	94114-2713
Laurence	Marvin	1640 Carmel Dr.	San Jose	CA	95125-1855
Laurin	Cindy	438 Marshall Avenue	San Jose	CA	95125
Lavelle	Bob	P.O. Box 12941	San Luis Obispo	CA	93406-2941
Lavelle	Alice	3313 Grand Ave, #101	Oakland	CA	94610-2738
Lawler	Curtis	2767 East Ct.	San Pablo	CA	94806-1836
Lawrence	Lorretta	2616 5th Street Apt. 202	Santa Monica	CA	90405-4202
Lawrence	Elizabeth D.	315 Park View Ter., Apt. 403	Oakland	CA	94610-4642
Laxson	Robert	1040 38th Ave., Spc. 42	Santa Cruz	CA	95062-4428
Laycook	Catherine	3401 E. Wilton St., Apt. 304	Long Beach	CA	90804-1964
Layten	Denise	2158 Penny Ln.	Napa	CA	94559-3601
Lazo	Myra	25912 Hayward Blvd., Apt. 308	Hayward	CA	94542-1648
Le Gette	Marc	5049 Grimsby Drive	San Jose	CA	95130-1928
Le Vine	Judith E.	733 Loma Verde Ave. Apt. C	Palo Alto	CA	94303-4163
Lea	Meri	449 37th St., Apt. 3	Oakland	CA	94609-2812
Leab	Stacey L.	725 Saint Lawrence Ct.	Pacifica	CA	94044-3836
Leach	Averil	1455 Linden Rd.	West Sacramento	CA	95691
Leach	Amy Talbott	1768 Tierra Nueva Ln.	Oceano	CA	93445-9190
Leaf	Sheryl	8 Tait Avenue	Los Gatos	CA	95030-5939
Leask	Natalia	PO Box 1213	Sebastopol	CA	95473-1213
Lebowitz	Susan	1257 Shell Avenue	Pacific Grove	CA	93950-2041
Lecount	Suzanne	PO Box 24	Forest Knolls	CA	94933-0024
Leddy	George S.	7336 Santa Monica Blvd., #582	West Hollywood	CA	90046-6616
Ledel	Tracey	1540 Linda Mar Blvd.	Pacifica	CA	94044-4329
Lederer	Gale	1121 Contra Costa Dr.	El Cerrito	CA	94530-2509
Ledgerwood	Janice C.	14031 Visions Drive	La Mirada	CA	90638-6564
Lee	Gloria A.	340 Page St. Apt. 205	San Francisco	CA	94102-5662
Lee	Heather	171 Eaton Street	Santa Cruz	CA	95062-3921
Lee	Lisa	302 Island Ave. Apt. 318	San Diego	CA	92101-6983
Lee	Michelle	1936 Belmont Ct.	Santa Rosa	CA	95404-3243
Lee	Margie	500 Colorado Ave.	Palo Alto	CA	94306-2508
Lee	Christina	2020 26th St.	Sacramento	CA	95818-1814
Lee	Ruth	425 N. 2nd St.	Lompoc	CA	93436-5425
Lee	Linda	1204 N. B St.	Lompoc	CA	93436-3426
Lee	Ardath	1714 Spring Creek Dr.	Santa Rosa	CA	95405-6646
Leech	Felicie E.	3437 Sonoma Avenue	Santa Rosa	CA	95405-5161
Leedy	Robert	6945 Pinehaven Road	Oakland	CA	94611-1017
Lefler	Jacque	120 Pleasant Hill N #150	Sebastopol	CA	95472
Legate	Blair	8935 Lawrence Ave.	Rosemead	CA	91770-1347
Lehman	Brian	15 Roosevelt Ave.	San Rafael	CA	94903-4109
Lehmer	Aaron	1250 Anina Way, Apt. B	Arcata	CA	95521-5139
Leigh	Andrea	2130 1st Avenue Apt. 3	San Diego	CA	92101-2051
Leigh	Ysa R.	2535 Regent St., Apt. 14	Berkeley	CA	94704-2932
Leinfelder	Pauline	5992 So. Jack Tone Rd.	Stockton	CA	95215-9609
Leleux	Angeline M	145 Rooselvelt Ave. Apt. 18	Redwood City	CA	94061-2358
Lemaire	Jaime	84 Pond Street	San Francisco	CA	94114-1607
Lemire	David	2318 El Dorado St.	Torrance	CA	90501-2526
Lemmer	David	P.O. Box 781	Occidental	CA	95465-0781
Lemon	David S.	435 South 14th St.	San Jose	CA	95112-2216
Lemon	Roberta	11842 Pine St.	Los Alamitos	CA	90720-4163
Lenney	Candice	3333 Wentworth Drive	Jamul	CA	91935-1531
Lenox	Kate	4823 C St.	Sacramento	CA	95819-2903
Leon	Barbara	236 Moosehead Dr.	Aptos	CA	95003-4552

Leone	Christine	4443 Fairway Drive	Soquel	CA	95073-3000
Lerman	Steven	644 \N\" Street"	Sacramento	CA	95814-4319
Lemer	Ellen	P.O. Box 853	Orinda	CA	94563-0853
Lemer	Lora	4940 Thurber Lane	Santa Cruz	CA	95065-1151
Leslie	Solveig	6825 Ethel Avenue	No. Hollywood	CA	91605-4702
Leslie-Bole	Benjamin	25 Camino Del Diablo	Orinda	CA	94563-2003
Lessing	Graciela	5832 Ridgebrook Drive	Agoura Hills	CA	91301-4620
Lester	Keith	37 Broadview Drive	San Rafael	CA	94901-2367
Letkey	Kathryn A.	290 Lee St., Apt. 204	Oakland	CA	94610-4313
Letson	Janette M.	2642 Abbey Street	Oakland	CA	94619-1056
Lettice	Marilyn	3814 Chelsea Drive	La Verne	CA	91750-2606
Leube	Alberta	800 Bush St., Apt. 402	San Francisco	CA	94108-3344
Leung	Nancy	4293 Bellmawr Drive	Livermore	CA	94550-0129
Leusch	Margaret M.	73315 Country Club Dr., #N203	Palm Desert	CA	92260-8665
Levario	Christina	411 San Pascual Avenue	Los Angeles	CA	90042-3725
Leveen	Louis	10649 Riverside Dr.	North Hollywood	CA	91602-2341
Leverett	Erica	4193 Wilshire Blvd.	Oakland	CA	94602-3423
Levers	Janet	36750 County Road 20	Woodland	CA	95695-9239
Levin	Michael A.	4155 Cesar Chavez St. Apt. 1	San Francisco	CA	94131-1934
Levin	Shoshana	322 Rigg Street	Santa Cruz	CA	95060-3541
Levine	Daniel	2426 Hastings Drive	Belmont	CA	94002-3320
Levine	Marty	4081 Stephens Street	San Diego	CA	92103
Levine	Philip	4549 No. Van Ness Blvd.	Fresno	CA	93704-3727
Levine	Joanna	2601 Russell St.	Berkeley	CA	94705-2109
Levy	William	801 Tupper St., Apt. 1112	Santa Rosa	CA	95404-5004
Lewis	Abigail	1042 Florida Street	San Francisco	CA	94110-3437
Lewis	Colleen F.	5815 E. La Palma Ave. Spc. 262	Anaheim	CA	92807-2241
Lewis	John	1522 Kronborg Drive	Solvang	CA	93463-2029
Lewis	Kathleen	109 Ascot Ct. Apt. A	Moraga	CA	94556-1466
Lewis	Leslie N.	757 Sunset Avenue	Venice	CA	94970-0623
Lewis	Luther R.	2726 Feather Pl.	Davis	CA	95616-2918
Lewis	Kathryn	2031 Redbush Ter.	San Jose	CA	95128-1233
Lewis	Linda D.	525 Walnut Ave.	Santa Cruz	CA	95060-3635
Lewis	Shale	533 N. Edinburgh Ave.	Los Angeles	CA	90048-2309
Lewis-Oritt	Nicole N.	339 W. Frances Willard Ave.	Chico	CA	95926-4513
Leykamm	Frank J.	284 Topaz Way	San Francisco	CA	94131-2537
Leyse	Karen E.	2106 E. 8th St.	Davis	CA	95616-2508
Liberatore	Paul	P.O. Box 623	Stinson Beach	CA	94970-0623
Liberatore	Tom	P.O. Box 178	Talmage	CA	95481-0178
Lichter	Michael	2347 Ocean Park Blvd., Apt. C	Santa Monica	CA	90405-5111
Liddell	Michelle	8655 Lake Murray Blvd. Apt. 15	San Diego	CA	92119-2805
Liddell	Sandy	22206 German St. Unit 3	Chatsworth	CA	91311-0220
Lieberman	Yehudit	124 Laurel Place	San Rafael	CA	94901-2009
Lightfoot	Jenny	14772 Lime Kiln Road	Grass Valley	CA	95949-8506
Likover	Lewis	PO Box 312	Bolinas	CA	94924-0312
Lile	Jerry	522 Felix Way #20	San Jose	CA	95125-1919
Lilian	Lilian	3455 Flora Vista Ave.	Santa Clara	CA	95051
Lincoln	John	PO Box 114	Rutherford	CA	94573-0114
Lindberg	Helen	65 Birch Avenue	Corte Madera	CA	94925-1081
Lindblade	Vicki	4630 Huggins St.	San Diego	CA	92122-2610
Lindemuth	Carrie Popiel	4036 Waterhouse Rd.	Oakland	CA	94602-1841
Lindgren	Jean	389 Guerrero St. Apt. 10	San Francisco	CA	94103-3341
Lindgren	Margaret	4144 Lafayette Pl.	Culver City	CA	90232-2818
Lindsay	Constance R.	7777 Bodega Ave. Apt. A-2	Sebastopol	CA	95472-3554
Lindsay	William S.	741 Mermaid Ave.	Pacific Grove	CA	93950-2223
Lindstrom	W.	110 Mountain Ave.	Sonoma	CA	95476-3439
Linenthal	Frances J.	801 27th Street	San Francisco	CA	94131
Link	David	1900 Benita Dr. Apt. 1	Rancho Cordova	CA	95670-2672
Linn	Jerri A.	20 Laurel Ave.	San Anselmo	CA	94960-2106
Linney	Warren	7899 Saint Helena Rd.	Santa Rosa	CA	95404-8601
Lipkin	Judith G.	826 22nd St., Apt.404	Santa Monica	CA	90403-1034
Lipschultz	Fred	57 Saturn St., Apt.1	San Francisco	CA	94114-1420
Lish	Ozan	40 Sussex Dr.	Santa Rosa	CA	95403-1422
Lissol	John	44775 Gordon Lane	Mendocino	CA	95460-9758
Lista	Cassandra B.	4120 Whistler Ave.	Santa Rosa	CA	95407-7710
Little	Kevin	3441 \V\" Street"	Sacramento	CA	95817-1237
Littlejohn	Rebecca K.	1798 Scenic Avenue #445	Berkeley	CA	94709-1323
Littlejohn	Randall O.	PO Box 563	Oakhurst	CA	93644-0563
Litvak	Lawrence	14 Midhill Dr.	Mill Valley	CA	94941-1420
Litwin	Craig	P.O. Box 371	Sebastopol	CA	95473-0371

Lively	Jim	1015 Shotwell St. Apt. 3	San Francisco	CA	94110-4045
Livingston	Joshua	22 Skylark Dr. Apt 118	Larkspur	CA	94939-1255
Livingston	Pamela	145 Greenfield Ave.	San Rafael	CA	94901-2622
Livingston	Penelope	PO Box 627	Point Reyes Station	CA	94958
Livnat	Yehiel	5 Snowapple	Irvine	CA	92614-7412
Lizarraga	Jorge	17226 Columbia Dr.	Castro Valley	CA	94552-1605
Lizotte	Sharon	4648 Reinhardt Drive	Oakland	CA	94619-2948
Llc	Pizzetta	209 23rd Avenue	San Francisco	CA	94121
Lleuad	Greer	25200 Carlos Bee Blvd. #389	Hayward	CA	94542-1541
Lloyd	Dawn	3001 Logan Street	Oakland	CA	94601-1926
Lloyd	Debbie	PO Box 370707	Montara	CA	94037-0707
Loar	Terry	P.O. Box 248	La Granada	CA	94018-0248
Locatelli	Julie	165 Robin Meadow Lane	Watsonville	CA	95076-8602
Locke	Kim	815 Pine St.	Santa Cruz	CA	95062-2444
Lockett	Ellen F.	2818 San Luis St.	Richmond	CA	94804-5921
Lococo	Kimberley K.	860 32nd St.	Richmond	CA	94804-1330
Lodge	Suellen	507 Marview Lane	Solana Beach	CA	92075-1319
Lodwig	Richard G.	1341 Thousand Oaks Blvd.	Albany	CA	94706-1455
Loeb	Thomas O.	530 Divisadero St. #PMB278	San Francisco	CA	94117-2213
Loeffler	Donna	409 Clipper Street	San Francisco	CA	94114-3622
Loew	Marti	P.O. Box 2269	Sebastopol	CA	95473-2269
Loewy	Joyce	221 Easy St. Apt. 14	Mountain View	CA	94043-3773
Logas	Joseph	1304 Page St.	San Francisco	CA	94117-3028
Logie	Carole P.	805 Santa Clara Ave. Apt. B	Alameda	CA	94501-3417
Logue	Lawrence	2108 Laura Dr.	Escondido	CA	92027-1167
Loh	Henry	3601 Grand Ave. #2	Oakland	CA	94610-2009
Lohman	Tracy L.	1131 Kains Ave., Apt. D	Albany	CA	94706-2244
Lohman	John	3897 Whittle Ave.	Oakland	CA	94602-2466
Lohr	Katherine	1189 Rhode Island St.	San Francisco	CA	94107-3216
Lohr	Janet	66 Granada Ave.	San Francisco	CA	94112-2240
Lomac	Lara	1018 Cortland Ave., Apt. 6	San Francisco	CA	94110-5644
Lombard	Marla	142 Hermosa Avenue	Long Beach	CA	90802-6131
Lombard	Ruth	514 Baines Ave.	Sonoma	CA	95476-3969
Lombard	Adam	5654 Aldea Ave.	Encino	CA	91316-1414
Londe	Joanne	4153 Brookcrest Ct.	Moorpark	CA	93021-3724
London	Josef	Esalen Institute/Housekeeping	Big Sur	CA	93920
London	Montgomery	PO Box 639	Big Sur	CA	93920-0639
Lonergan	Mary	29 Silva Avenue	Millbrae	CA	94030-2039
Long	Debbie	1940 Channing Way	Berkeley	CA	94704-1977
Long	Rebecca	1685 Sargent Court	Los Angeles	CA	90026
Long	Sharon	23758 Livewood Lane	Harbour City	CA	90710-1215
Long	John	996 E. Ojai Ave.	Ojai	CA	93023-2900
Long	Elizabeth	726 Adeline Pl.	Davis	CA	95616-4004
Longtin	Jeannette	27 Blossom Dr,	San Rafael	CA	94901-5213
Loomis	Laura	231 Jack London Ct.	Pittsburg	CA	94565-3661
Loomis	Cindy	1021 16th St., Apt. C	Santa Monica	CA	90403-4329
Lopes	Valerie	555 Jean Street Apt. 426	Oakland	CA	94610-1961
Lopez	Don T.	777 Maher St., Unit A	Watsonville	CA	95076-9014
Lord	Pauline	653 Kingman Ave.	Santa Monica	CA	90402-1333
Lord	Rosalind C.	1330 Funston Avenue #A	San Francisco	CA	94122-2107
Lorente	Ross	362 Bolinas Rd.	Fairfax	CA	94930-1904
Lorentzen	Lois A.	124 Professional Centre Pkwy.	San Rafael	CA	94903-2747
Lorenzen	Elizabeth	623 Sunset Dr.	Brawley	CA	92227-1530
Losa	Gillian	203 Edgemont Ave.	Vallejo	CA	94590-3507
Lossy	David	2309 25th St.	San Francisco	CA	94107-3232
Louis-Dreyfus	Emma	1828 Broadway Apt. 204	San Francisco	CA	94109-2222
Loulan	Joann	4370 Alpine Rd. Suite 205	Portola Valley	CA	94028-7927
Loulan	JoAnn	151 Los Trancos Cir.	Portola Valley	CA	94028-8118
Love	Robert	600 Nevada St.	Sausalito	CA	94965-1616
Love	Nicholas	PO Box 291758	Los Angeles	CA	90029-8758
Love	Beth	1010 Columbia St.	Santa Cruz	CA	95060-6018
Lovejoy	John	266 Persimmon Dr.	Brentwood	CA	94513-1904
Lovelace	Marcia	307 Jayne Avenue	Oakland	CA	94610-3329
Lovell	Sara	126 North Norton Ave.	Los Angeles	CA	90004
Lovell	Victor R.	885 Sherman Dr.	Menlo Park	CA	94025-6206
Lovell-McLaughlin	Susan	20110 Observation Drive	Topanga	CA	90290-3334
Lovett	Marguerite D.	1509 East Luray St.	Long Beach	CA	90807-1217
Lowe	Christen	1801 Franklin St., Apt. 403	San Francisco	CA	94109-3450
Lowe	Patsy L.	78 Bonanza Rd.	Palm Springs	CA	92262-1132

Lowe	Nancy	855 Granite Ridge Dr.	Santa Cruz	CA	95065-9753
Luba	Russ	545 N. 2nd. St.	San Jose	CA	95112-5329
Lubisch	Karen	110 Faith Street	San Francisco	CA	94110-5371
Lucas	Catharine	1048 Sierra Street	Berkeley	CA	94707-2527
Lucero-Fleck	John M.	4163 Culver Street	Oakland	CA	94619-1801
Luckey	Ariel	855 35th St.	Emeryville	CA	94608-4316
Lucks	Linda	30 Wavecrest Ave.	Venice	CA	90291-3211
Luddy	Timothy	415 Bosworth Street	San Francisco	CA	94112-1411
Lukas	John	5641 San Luis Ct.	Pleasanton	CA	94566-7740
Lukes	John	P.O. Box 2768	Fremont	CA	94536-0768
Luna	William J.	1331 Seelert Ln.	Rosemead	CA	91770-4241
Lund	Jane M.	59 Celia Drive	Pleasant Hill	CA	94523-3008
Luoma	Barbara	4014 Salem Street	Concord	CA	94521-1716
Lupenko	Andy A.	8555 Golden Avenue	Lemon Grove	CA	91945-2615
Lusebrink	Anita	2128 Stonehaven Dr.	Los Altos	CA	94024-7045
Lustgarten	Celia S.	317 3rd Avenue	San Francisco	CA	94118
Lutz	Leslie	17831 Linda Dr.	Yorba Linda	CA	92886-3345
Lyall	Pamela J.	770 8th Av.	Trinidad	CA	95570-9747
Lyga	Georgia	651 55th St.	Sacramento	CA	95819-3304
Lynch	Catherine C.	1637 Curtis Street	Berkeley	CA	94702-1328
Lynch	Charles	4095 California St., #2	San Francisco	CA	94118-1420
Lynch	Fredrick	1327 E. 3rd St.	Long Beach	CA	90802-3696
Lynch	Loretta F.	401 Santa Clara Ave., Apt. 316	Oakland	CA	94610-1974
Lynes	Kristina	5522 Cantalope Avenue	Sherman Oaks	CA	91401-5803
Lynes	Michael	671 7th Ave. Apt. A	San Francisco	CA	94118-3806
Lynn	Henry T.	1275 Cerritos Dr.	Laguna Beach	CA	92651-2814
Lyon	Phyllis	651 Duncan Street	San Francisco	CA	94131-1840
Lyons	Myla	2330 10th St.	Berkeley	CA	94710-2328
Lysne	Robin Heerens	915 Elsie Mae Dr.	Boulder Creek	CA	95006-9425
Ma	Joseph	220 N. Bowling Green Way	Los Angeles	CA	90049-2816
Mac Beth	Joan	1244 Hearst Ave. Apt. 5	Berkeley	CA	94702-1473
Mac Donald	Lynn	740 Keller Ave.	Berkeley	CA	94708-1322
Mac Donaugh	Kathleen A.	69 Domingo Avenue	Berkeley	CA	94705-2437
Mac Intyre	James R.	887 Bucks Lake Rd.	Quincy	CA	95971-9508
Mac Queen	Melanie	426 So. Norton Ave. Apt. B-102	Los Angeles	CA	90020-4648
Macdougall	Carolyn	1720 Las Canoas Rd.	Santa Barbara	CA	93105-2347
Machado	Emily	418 1/2 N. Alisos St.	Santa Barbara	CA	93103-2602
Macinka	Elise A.	22996 Caminito Brisa	Laguna Hills	CA	92653-1105
MacIver	Diane	3005 Bonnie Ln.	Pleasant Hill	CA	94523-4547
Mackenzie	Alice	450 Cinderella Lane	Santa Barbara	CA	93111-2511
Mackenzie	Elizabeth	P.O. Box 43126	Santa Barbara	CA	93140-3126
Mackey	Heather	91 Central Ave. Apt. 101	San Francisco	CA	94117-4153
Mackey	Maryann	37640 2nd St.	Fremont	CA	94536-2923
Macqueen	Donald R.	35 Howarth Court	Santa Rosa	CA	95405-5240
Madden	Neahle	3656 Evergreen Drive	Santa Rosa	CA	95405-7639
Madell	Marlene M.	30 Fuente Ave.	San Francisco	CA	94132-2426
Mader	Thomas W.	519 Seabright Ave. Ste. 211	Santa Cruz	CA	95062-3482
Madison	Roger	1116 Dartmouth Pl.	Davis	CA	95616-2312
Madoff	Jane E.	29502 Harvester Road	Malibu	CA	90265-3815
Madonik	Alex	1533 Keoncrest Drive	Berkeley	CA	94702-1226
Maeder	Susan	PO Box 1484	Mendocino	CA	95460-1484
Magee	Mary	1731 Balboa Street	San Francisco	CA	94121-3128
Maggiore	Maryanne	P.O. Box 870	Fairfax	CA	94978-0870
Magid	Michelle	732 Laurel Ave.	Burlingame	CA	94010-2714
Maguire	John	PO Box 398	Garberville	CA	95542-0398
Mahany	Kathleen	1026 Vera Ave.	Redwood City	CA	94064-1522
Mahon	Betty	P.O. Box 346	Littleriver	CA	95456-0346
Mahon	Kathryn	1641E. El Norte Pkwy.	Escondido	CA	92027-1302
Mahoney	Elizabeth	855 Swiss Trails Rd.	Duarte	CA	91010-2179
Mahoney	Michael	10101 De Soto Ave., Apt. 6	Chatsworth	CA	91311-3258
Maier	Jean	138 Espana Way	Windsor	CA	95492-8872
Maiorca	Angela	475 1/2 E. Del Mar Blvd.	Pasadena	CA	91101-3615
Majesky	Carol	1388 Keenan Way	San Jose	CA	95125-5992
Makel	Carey A.	2333 Portola Dr. Apt. 66	Santa Cruz	CA	95062-4256
Malcomson	Julie	1721 Palm Street	Bakersfield	CA	93304-2036
Malin	Marlene	11 Calle Cinco De Mayo	Oak View	CA	93022-9508
Mallet-Koch	Rosemary	PO Box 912	Morongo Valley	CA	92256-0912
Mallett	Jennie	5221 Cypress Avenue	El Cerrito	CA	94530
Malone	Lona	36140 Olive Street	Lucerne Valley	CA	92356-7825
Malone	Patricia A.	2833 Putnam St.	Los Angeles	CA	90039-2641

Maloney	Janice	621 Elizabeth St.	San Francisco	CA	94114-3229
Mamet	Julie	150 Ross Street	San Rafael	CA	94901-5913
Manchester	Austin	79 Central Ave.	San Francisco	CA	94117-4114
Manchester	Rosemary	619 Sexton Rd.	Sebastopol	CA	95472-9442
Mancianti	Maria-Laura	7277 Woodrow Dr.	Oakland	CA	94611-1434
Mandel	Anne L.	840 Quince Ave. Apt. 32	Santa Clara	CA	95051
Mandel	David	7201 Potrero Avenue	El Cerrito	CA	94530-2046
Mandel	Melissa	4638 Benevides Ave.	Oakland	CA	94602-1816
Mandis	Kathleen	19395 Montevina Rd.	Los Gatos	CA	95033-9128
Mandish	Michelle	5105 Marlborough Dr.	San Diego	CA	92116-2031
Mandler	Doug	631 Waltermire st., Apt. 7	Belmont	CA	94002-2867
Manhart	Claire	601 Van Ness Ave. Apt. 542	San Francisco	CA	94102-3259
Manne	Shelly	10457 La Tuna Canyon Rd.	Sun Valley	CA	91352-2108
Manning	John	PO Box 4751	Arcata	CA	95518-4751
Manoogian	Arthur	128 W. Mariposa	San Clemente	CA	92672-4615
Manor	Devin	PO Box 149	Honeydew	CA	95545-0149
Mantha	Andre	339 Carl St.	San Francisco	CA	94117-3702
Manuel	Beth H. L.	37343 3rd Street	Fremont	CA	94536-2843
Mapes	John	16871 Chestnut St.	Yorba Linda	CA	92886-1500
Mar	Bahia	P.O. Box 44	El Portal	CA	95318-0044
Marcelius	Deborah	13881 Green Valley Rd.	Forestville	CA	95436-9708
March	Antonia	935 West 13th St. Apt. 3	San Pedro	CA	90731-3962
Marchand	Chris	5172 Tisdale Way	San Jose	CA	95130-2244
Marchessault	Michael	PO Box 1119	Felton	CA	95018-1119
Marchetti	Maichael P.	1567 Hawthorne Ave.	Chico	CA	95926-2968
Marcontell	Brian E.	6774A Sueno Rd.	Goleta	CA	93117-4904
Marcus	Elizabeth E.	96 Parnassus Road	Berkeley	CA	94708-2057
Marcuse	Carol	371 Granite Creek Rd.	Santa Cruz	CA	95065-9780
Mardesich	Daniel J.	27 Quarry Rd.	San Rafael	CA	94901-1701
Margolf	Leo T.	3223 Folsom St. Apt. B	San Francisco	CA	94110
Margolis	Joshua	1441 Willard St. Fl Uppr	San Francisco	CA	94117
Margucci	Ann S.	16845 Gresham St.	Northridge	CA	91343-4501
Margulies	Jolie	8526 Alcott St. Apt. 1	Los Angeles	CA	90035-4901
Margulies	Matthew	12983 Spanish Lane	Nevada City	CA	95959-9550
Margulies	Matthew F.	9669 Stonehurst Avenue	Sun Valley	CA	91352-1656
Mari	Jean	PO Box 1317	Occidental	CA	95465-1317
Marinell	Daniel	4070 La Colina Road	El Sobrante	CA	94803-2918
Marinelli	Barney	1255 Bernal Ave.	Burlingame	CA	94010-5618
Marion	Althea	511 Stannage Avenue	Albany	CA	94706-1222
Mariotte	Jeff	3515 Brookshire St.	San Diego	CA	92111-4740
Mariz	Carl	25 Acacia Tree Lane	Irvine	CA	92612-2201
Mark	Mark	10986 Via Banco	San Diego	CA	92126-7422
Marks	James	331 Gambier St.	San Francisco	CA	94134-1341
Markson	Craig	406 Via Rosa Unit B	Santa Barbara	CA	93110
Marlinghaus	Ryan E.	18385 Swathmore Dr.	Saratoga	CA	95070-4716
Marr	Sannon	786B 1/2 Pine St.	Monterey	CA	93940-1260
Marsden	Kim	4243 Copeland Ave., Apt. 3	San Diego	CA	92105-1234
Marsh	Douglas	733 East Michigan Avenue	Fresno	CA	93704-5526
Marsh	Judith W.	677 8th Avenue	San Francisco	CA	94118-3701
Marsh	Tim	404 N. James St.	Orange	CA	92869-2808
Marshall	Dorothy	403 Court Avenue	Ventura	CA	93003-1716
Marshall	James	988 Patricia Way	San Jose	CA	95125-2369
Marshall	John	1660 Sutter St. Apt. 302	San Francisco	CA	94109-5222
Marshall	Carol A.	4695 Pomona St.	Ventura	CA	93003-1923
Marshburn	Thomas	820 La Jennifer Way	Palo Alto	CA	94306-2645
Marsted	Barbara	14130 Gyrfalcon Street	Truckee	CA	96161-6864
Marsted-Elbers	Faith	1055 Fell St. Apt. 10	San Francisco	CA	94117-2362
Marsten	Kenny	5421 Willis Ave.	Sherman Oaks	CA	91411-3761
Martelli	Paula	2506 Oppelt Way	Turlock	CA	95380-4459
Marth	Nina M.	3197 Cape Verde Pl.	Costa Mesa	CA	92626-2227
Martin	Charlyne	121 Daniels Ave.	Vallejo	CA	94590-3037
Martin	Fredricka	735 Marine St. Apt. #1	Santa Monica	CA	90405
Martin	Glenn	3035 23rd Street	San Francisco	CA	94110-3315
Martin	Jayne	P.O. Box 786	Los Olivos	CA	93441-0786
Martin	Jeff	P.O. Box 1410	Occidental	CA	95465-1410
Martin	Madeline	44 San Ramon Way	Novato	CA	94945-1640
Martin	Mary C.	1058 Westchester Drive	Sunnyvale	CA	94087-2047
Martin	Molly	1000 Cedar Ave.	West Haven	CA	95570-9750
Martin	Monty	617 Park Avenue	Arcata	CA	95521-6617
Martin	Susannah	4067 24th Street	San Francisco	CA	94114-3715

Martin	Thea	P.O. Box 18016	So. Lake Tahoe	CA	96151-8016
Martin	John	122 Paul Dr., Ste. A	San Rafael	CA	94903-2030
Martin	Patricia	3599 W. Menlo Ave.	Fresno	CA	93711-0854
Martin	C.M.	5610 Monalee Ave.	Sacramento	CA	95819-2424
Martin	Molly	290 Napoleon St. Unit H	San Francisco	CA	94124-1017
Martin	Sarah C.	1037 La Londe Ln.	Napa	CA	94558-3804
Martinelli	Peter J.	PO Box 237	Bolinas	CA	94924-0237
Martinez	Jose	4732 Kensington Drive	San Diego	CA	92116-2510
Martinez	Tim	3034 Hermosa Rd.	Santa Barbara	CA	93105-3316
Martinez	Hugo	711 Tupper St.	Santa Rosa	CA	95404-5048
Martinez	Suzanne	131 Richardson Dr.	Mill Valley	CA	94941-2413
Martinez	Marian	704 Bronte Ave.	Watsonville	CA	95076-3614
Martini	Rich	4535 Balboa Street	San Francisco	CA	94121-2411
Martz	Mary	56 Kingston Way	Cotati	CA	94931-4357
Marxmiller	Alexis M.	2032 Springland Ln.	Upland	CA	91784-7968
Maser	Laura	746 St. Mary's Rd.	Lafayette	CA	94549-5339
Masri	Kristin	47 Shell Road	Mill Valley	CA	94941-1551
Massa	Michele	596 Henrietta Ave.	Los Osos	CA	93402-2522
Massey	Barbra	62 Lincoln Drive	Sausalito	CA	94965-1641
Mast	Bruce	2002-B Oxford Ave.	Austin	TX	78704-4012
Mathewson	Jane	10765 Slattery Road	Glen Ellen	CA	95442-9732
Matson	Clive	472 44th Street	Oakland	CA	94609-2136
Matsumoto	Graig T.	1461 Golden Meadow Sq.	San Jose	CA	95117-3615
Matteson	Ann	PO Box 248	Yosemite Park	CA	95389-0248
Matthews	Jaxon	759 Teresi Court	San Jose	CA	95117-2549
Matthews	Kathryn	560 Summit Springs Rd.	Woodside	CA	94062-4245
Matthews	Michael	1239 15th Avenue	San Francisco	CA	94122
Matthews	Rachel M.	994 Vermont Street	Oakland	CA	94610-1636
Matthews	Melissa	5703 Van Fleet Ave.	Richmond	CA	94804-5933
Matthews	Dina	10260 Black Mountain Rd., #129	San Diego	CA	92126-3816
Mattison	Peg	PO Box 5236	Oroville	CA	95966-0236
Mattson	Katherine H.	5918 Martin Luther King Jr. Way	Oakland	CA	94609-1408
Matty	William	526 B St., Apt. K	Santa Rosa	CA	95401-5236
Matura	Milan	702 So. Mariposa Ave. #202	Los Angeles	CA	90005-2007
Matz	Kathleen H.	1028-B Evelyn Avenue	Albany	CA	94706-2314
Mau	Sally V.	1232 Stanley Ave.	Chico	CA	95928-6946
Maufer	Thomas	20050 Rodrigues Ave. Apt. B	Cupertino	CA	95014-3148
Maul	David	360 Guerrero St. Apt. 215	San Francisco	CA	94103-3375
Maupin	Ann	2436 Ronda Vista Drive	Los Angeles	CA	90027-4604
Mauro	Andrew A.	808 Capri Road	Encinitas	CA	92024-1211
Maxwell	Francis J.	1361 W. Cerritos Ave. Apt 92	Anaheim	CA	92802-2230
Maxwell	Zsazsa R.	5144 Village Grn.	Los Angeles	CA	90016-5206
Maxwell	Donald	543 S. Helberta Ave.	Redondo Beach	CA	90277-4354
May	Garth	3030 Ingalls Street	San Francisco	CA	94124-3639
May	Linda	P.O. Box 244	Silverado	CA	92676-0244
May	Leonard	2437 Gold St.	Redding	CA	96001-2416
Mayeda	Mark	12282 Herbert Way	Los Angeles	CA	90066-4916
Mayer	M.	10450 McClemont Ave.	Tujunga	CA	91042
Mayer	Cynthia	3706 Corte De Los Reyes	Thousand Oaks	CA	91360-7024
Mayhew	Donald	3625 Moore Street	Los Angeles	CA	90066-3044
Maynard	Carlene	208 So. Dexter Street	La Habra	CA	90631-5619
Mays	Alan	23 Wreden Avenue	Fairfax	CA	94930-1618
Mays-Salin	Sarah	PO Box 758	Fairfax	CA	94978-0758
Mazon	Richard	437 Stedman Place	Monrovia	CA	91016-1612
Mazur	Blair	Psr Box 450 1798 Scenic Ave.	Berkeley	CA	94709
Mazurek	Maryjo	P.O. Box 4443	Arcata	CA	95518-4443
Mc Afee	Karen	455 Crescent St., Apt. 401	Oakland	CA	94610-2661
Mc Clellan	Vincent	PO Box 210	Boulder Creek	CA	95006-0210
Mc Cormick	Saralee	145 Seaborg Pl.	Santa Cruz	CA	95060-3131
Mc Fadden	Jean W.	407 Ferne Ave.	Palo Alto	CA	94306-4621
Mc Nulty	Candace B.	640 S. Lake Ave., Apt. 305	Pasadena	CA	91106-3960
McAdam	Peter	7556 Cowan Avenue	Los Angeles	CA	90045-1205
Mcafee	Bill	62 Creek Ct.	Cotati	CA	94931-5137
McAlpine	Shelli	4841 51st St.	San Diego	CA	92115-2029
McArthur	Emma	860 Oak St., Apt. 7	San Francisco	CA	94117-2430
McBride	Brenda	6319 Jackie Avenue	Woodland Hills	CA	91367-1426
McBride	Marguerite E.	1021 Cedar Street	Fort Bragg	CA	95437-3840
McBride	Renee	13840 Calle De Los Pinos Rd.	Lake Elsinore	CA	92530-6543
McCabe	Carol A.	P.O. Box 268	Occidental	CA	95465-0268
McCain	Barbara G.	2060 Maciel Ave.	Santa Cruz	CA	95062-1919

McCamic	Chris	544 Rose Ave. Apt 1	Venice	CA	90291-8647
McCann	Magda	P.O. Box 384	La Honda	CA	94020-0384
Mccaslin	Megan	1490 Edgewood Dr.	Palo Alto	CA	94301-3119
McCaughna	Jill	2919 Florence Street	Berkeley	CA	94705-2003
McClellan	David	P.O. Box 302	Felton	CA	95018-0302
McCloud	Elizabeth	6782 Las Olas Way	Malibu	CA	90266-4138
McClung	Lawrance	952 Fresno Avenue	Berkeley	CA	94707-2305
McClung, Padecky	Darlene, Triece	4308 Goodson Way	Rohnert Park	CA	94928-1510
McClure	Tim	429 Sherman St.	Healdsburg	CA	95448-3762
Mccluskey	Tobi	3866 24th St., Apt. 3	San Francisco	CA	94114-3839
McClusky	Paris	200 7th Street Apt. 12	Arcata	CA	95521-6472
McColl	Janet	1231 Peralta Ave.	Berkeley	CA	94706-2405
McCombs	Janet	46340 Iverson Road	Point Arena	CA	95468-9402
McConnell	Judith A.	2911 Hawthorn Street	San Diego,	CA	92104-5523
McConnell	Rob	5518 Atlas Street	Los Angeles	CA	90032-1312
McCord	Rachel	2600 Northcoast St. Apt. 6-B	Santa Rosa	CA	95403-3337
McCotter	Kathryn C.	3101 North Old Stage Rd.	Mt. Shasta	CA	96067-9739
McCourt	Linda K.	601 Middle Rd., Apt. 17	Belmont	CA	94002-2348
McCoy	Robin D.	18591 Madison Avenue	Castro Valley	CA	94546-1644
McCoy	Carolyn	231 E. Blithedale Ave.	Mill Valley	CA	94941-2033
McCracken	Kristi	1491 N. Beverly St.	Porterville	CA	93257-1036
McCray	James	1903 High Meadow Trail	South Lake Tahoe	CA	96150-6840
Mccrea	Bruce	PO Box 3035	Sausalito	CA	94966-3035
McCredie	Brian	3706 Corte De Los Reyes	Thousand Oaks	CA	91360-7024
McCredie	Gail	322 Hames Holw	Aptos	CA	95003-9300
McDargh	Elizabeth	1876 Stanley Ave.	Signal Hill	CA	90806-6014
McDermott	Elizabeth	1068 Bush St. Studio Apt.	Santa Rosa	CA	95404-5152
McDermott	Michelle	1800 6th St., Apt. H	Berkeley	CA	94710-1873
McDonald	Carmen	1439 9th Avenue Apt. 6	San Diego	CA	92101-2854
McDonnell	Trisha	3220 Sacramento St.	San Francisco	CA	94115-2007
Mcdonough	Susan	2120 Cowper St., Apt. C	Palo Alto	CA	94301-3917
Mcdougal	Lila	4531 Maryland St.	San Diego	CA	92116-1107
McEwen	Karen	29 E. Phillips Road	Watsonville	CA	95076-0815
Mcfarland	Juanita	22629 Copper Hill Dr. Unit 101	Santa Clarita	CA	91350-4209
McFeeters	Randy	1093 Tanland Dr. Apt. 101	Palo Alto	CA	94303-3757
McGaugh	Patrick K.	5384 Dahlia Lane	Riverside	CA	92507-6349
McGee	Thomas	716 No. Ventura Rd. PMB-290	Oxnard	CA	93030-4405
Mcgilvray	Duncan	1833 Queens Way	Vista	CA	92084-3613
Mcginnis	Michael	317 Hewett St.	Santa Rosa	CA	95401-6115
Mcgovern	Betty	4295 Witherby St.	San Diego	CA	92103-1132
Mcgrath	Kelly	3952 Rhoda Ave.	Oakland	CA	94602-3439
McGraw	Donald J.	824 South Shore Dr.	Chula Vista	CA	91913-3427
McGrayel	Michael	P.O. Box 113	North Fork	CA	93643-0113
Mcguire	Claudia	1271 Florida Street	San Francisco	CA	94110-4112
Mcguire	Diane	346 Los Gatos Blvd. #B	Los Gatos	CA	95032-5457
McHugh	Patricia	2125 12th Ave., Apt. 7	Sacramento	CA	95818-4358
McIntosh	Beverly	27 Cedar St., Apt. B	San Anselmo	CA	94960-2747
McIntre	Kimberly A.	13901 Bessemer St.	Van Nuys	CA	91401-3504
McIntyre	Rita J.	30 \J\" Street"	Chula Vista	CA	91910-6011
McKalson	Mary	2875 Morseman Ave., Spc 121	Chico	CA	95973-9144
McKay	Martin	1069 Poli Street #B	Ventura	CA	93001-3006
McKay	Tim	712 8th Ave.	Trinidad	CA	95570-9747
McKenna	Kathryn M.	618 Cedar Street	Pacific Grove	CA	93950-3910
McKenna	Theodorah	2061 Valderas Dr. Apt. A	Glendale	CA	91208-1348
McKenzie	Jeanne	2852 Folsom Street	San Francisco	CA	94110-4014
McKey	Sandra	PO Box 538	Janesville	CA	96114-0538
McKinley	Thompson	2016 Grant St., Apt.A	Berkeley	CA	94703-1512
McKinnon	Mr. Gerald D.	1429 Westerly Ter.	Los Angeles	CA	90026-1651
Mckown	Joan	563 Lilac Ave.	Boulder Creek	CA	95006-9703
McKuhen	Ralph	3225 Dryden Ave.	Gilroy	CA	95020-9072
McLain	Peter	128 Robinson Lane	Santa Cruz	CA	95060-2350
McLane	Gary	P.O. Box 878	Monte Rio	CA	95462-0878
Mclaughlin	Mary	22911 Califa Street	Woodland Hills	CA	91367-4212
McLaughlin	Oakley	150 San Francisco Blvd.	San Anselmo	CA	94960-1623
McLeod	Lauren	2515 San Joaquin Street	Richmond	CA	94804-5436
McLeod	Mary Jo	4239 Grand Avenue	Ojai	CA	93023-9389
Mcleod	Carmen A.	1455 Spruce St., Apt. 3	Berkeley	CA	94709-1477
Mcleod	Lauren	PO Box 70472	Richmond	CA	94807-0472
McManigal	Lisa	11837 Darlington Ave., Apt. 6	Los Angeles	CA	90049-5449

McManis	Dean C.	849 Chapman Street	San Jose	CA	95126-1606
McMann	Michael	1136 Poderosa Dr.	Petaluma	CA	94954-4348
McManus	Michael R.	2980 Mack Road Apt. C	Arcata	CA	95521-8254
Mcmaster	Glen	1493 Green Oak Rd.	Vista	CA	92083-8739
Mcmillan	Tracy	4100 Bison Ave., Trlr A39	Irvine	CA	92612-3030
McMurray	Ian	751 Racquet Club Circle	Rohnert Park	CA	94928-2526
McNally	Ann	3866 Shamrock Ave.	Riverside	CA	92501-1835
McNeil	Michelle	1720 S. Hutchins St., Apt. 2	Lodi	CA	95240-6136
McPhail	Heather	1175 E. Woodbury Rd.	Pasadena	CA	91104-1337
McPherson	Downs	4008 Santa Monica Blvd.	Los Angeles	CA	90029-3024
Mcrae	Donald	100 No. Rodeo Gulch Rd. Spc. 170	Soquel	CA	95073-2062
McRae	Jolie	168 Montecito Ave., Apt. E	Oakland	CA	94610-4537
McRann	Penelope	1860 Ft. Stockton Drive	San Diego	CA	92103-1604
McShane	Johanna	496 Marshall Drive	Walnut Creek	CA	94598-4850
McSweeney	Brian	936 Pulteney Place	Windsor	CA	95492-8843
McTernan	Deborah	170 Laurel Drive	Felton	CA	95018-9216
Meade	Kathryne A.	12626 Enramada Dr.	Tustin	CA	92780-2815
Meadows	Marie	1129 Oliver Ave,	San Diego	CA	92109-5138
Mealey	John	52090 Avenida Montezuma	La Quinta	CA	92253-3251
Means	Carolyn	67 Bolinas Avenue	San Anselmo	CA	94960
Mears	Sally	2712 Nathan Avenue	Modesto	CA	95354-4021
Meckstroth	Andrew W.	1028 Magnolia Street	Oakland	CA	94607-2231
Medanic	Rachel	365 Warwick Ave. Apt. 201	Oakland	CA	94610-3316
Medrano	Shawn M.	3634 Roseview Avenue	Los Angeles	CA	90065
Meehan	Kathryn L.	107 Taylor St. Front Apt.	San Rafael	CA	94901-4924
Meeker	Paul	17560 Van Arsdale Road	Potter Valley	CA	95469-9726
Meier	Jack	582 Main Street	Nevada City	CA	95959-2237
Meindl	Irmi	1323 Hopkins Street	Berkeley	CA	94702-1113
Meine	Jane	3400 Via Campesina	Rancho Palod Verdes	CA	90275
Meinke	Melinda	1456 Jones St. Apt. 26	San Francisco	CA	94109-3267
Meints	Deborah	73302 Highway 111	Palm Desert	CA	92260-3904
Mellgren-Kerwin	Geri A.	1210 No. Clybourn Ave.	Burbank	CA	91505-2101
Melloy	David	1009 So. McDowell Blvd.	Petaluma	CA	94954-5433
Melnick	Andrew J.	2071 Plymouth St., Apt. N	Mountain View	CA	94043-1745
Melton	Samuel N.	122 Hilton Way Apt. 7	Pacifica	CA	94044-2742
Mencher	Kenneth	1041 55th St. Lower Unit	Emeryville	CA	94608-3103
Mencher	R.J.	1235 Ordway St.	Albany	CA	94706-2517
Menendez	Michele	714 No. Croft Ave. Apt. 4	Los Angeles	CA	90069
Menke	Guenter	1149 Gantlin St.	Simi Valley	CA	93065-4424
Mennen	Peter G.	PO Box 421	Saint Helena	CA	94574-0421
Mentzer	Sally	79 Duane St., Apt. 1	Redwood City	CA	94062-1568
Merchant	Marilyn L.	4336 California St. Apt. 1	San Francisco	CA	94118-1344
Merino	Chris	18835 Melvin Ave.	Sonoma	CA	95476-4624
Merk	James B.	734 Cutting Way	Sacramento	CA	95831-4948
Merk	Richard T.	P.O. Box 620052-KR	Woodside	CA	94062-0052
Merline	Richard	P.O. Box 591	3 Rivers	CA	93271-0591
Merrill	Anne	2881 Huntington Blvd. Apt. 224	Fresno	CA	93721-2319
Merritt	Robert	925 Laguna Avenue	Burlingame	CA	94010-3621
Merritt	Anne F.	5747 Vicente St., Apt. C	Oakland	CA	94609-1740
Merryman	Mary	820 Ofarrell St. Apt. 111	San Francisco	CA	94109-9024
Mertens	Meta	388 Edgewood Ave. Bldg. Cot.	Mill Valley	CA	94941-2630
Merwin	Z.	PO Box 309	Redway	CA	95560-0309
Mesches	Leanore	722 Spring St.	Santa Rosa	CA	95404-3902
Messerich	Julee	790 12th Avenue	Menlo Park	CA	94025-1906
Messinger	Mike	982 York Street Apt. A	San Francisco	CA	94110-2813
Messinger	Ellen O.	670 Vernon St., Apt. 306	Oakland	CA	94610-1405
Metcalf	Chuck	2 Anchor Drive	Emeryville	CA	94608-1556
Metz	Rebecca	1443 1/2 Hazelwood Ave.	Los Angeles	CA	90041-3412
Metzger	Maurice	820 Elm Street	El Cerrito	CA	94530-2921
Metzler	Elizabeth M.	220 Mar Vista Dr. Spc. 1	Aptos	CA	95003-3723
Metzner	Ralph	18210 Robin Avenue	Sonoma	CA	95476-4042
Meuser	Pamela	3919 21st Street	San Francisco	CA	94114-2804
Meuter	Mike	P.O. Box 7553	Spreckels	CA	93962-7553
Meyer	Celia P.	88 Perry Street Apt. 749	San Francisco	CA	94107-1378
Meyer	Chris	4006 Milaca Place	Sherman Oaks	CA	91423-4423
Meyer	Cynthia	1051 Dorrit Drive	Santa Rosa	CA	95401-9110
Meyers	Ellen	2336 McKinley Ave. Apt. A	Berkeley	CA	94703-1720

Meyers	Robert	120 Montgomery St. Ste. 2290	San Francisco	CA	94104-4326
Mical	Connie	P.O. Box 555	Twain Harte	CA	95383-0555
Micale	Linda	238 Knollglen	Irvine	CA	92614-7492
Michaels	Ruth	2571 Virginia Street	Berkeley	CA	94709-1108
Mielke	Robert B.	1444 Neilson St.	Berkeley	CA	94702-1118
Milkowski	Tiffany	4908 Lockhaven Ave.	Los Angeles	CA	90041-1812
Miller	Barbara	625 Ashbury Avenue	El Cerrito	CA	94530
Miller	Barbara S.	465 Walnut Avenue	Walnut Creek	CA	94598-3750
Miller	Christopher	1106 Norwood Avenue	Oakland	CA	94610-1872
Miller	Courtney	632 1/2 Midvale Avenue	Los Angeles	CA	90024-2392
Miller	Cristanne	3020 Lansbury Avenue	Claremont	CA	91711-4144
Miller	Genevieve	800 Blossom Hill Rd. #264	Los Gatos	CA	95032-3562
Miller	James E.	229 Ivy Street	San Diego	CA	92101-2027
Miller	Jason	1450 Maureen Drive	Santa Rosa	CA	95407-7746
Miller	John P.	P.O. Box 888	Ferndale	CA	95536-0888
Miller	Margo	P.O. Box 2415	Olympic Valley	CA	96146-2415
Miller	Travis	4600 Welch Place	Los Angeles	CA	90027-3113
Miller	Valentine	RR 1 Box 69	Carmel	CA	93923-9803
Miller	Jonathan D.	PO Box 1700	Soquel	CA	95073-1700
Miller	Melissa	315 Crestview Dr.	Santa Clara	CA	95050-6505
Miller	Lori	28126 Orangegrove Ave.	Menifee	CA	92584-8889
Miller	Terry	5050 Vine Hill Rd.	Sebastopol	CA	95472-2019
Miller	Vivian	31000 Hasley Canyon Rd.	Castaic	CA	91384-3216
Millet	Richard	25405 Adams Rd.	Los Gatos	CA	95033-8174
Millhoff	Jane	802 Kingfisher Terr.	Sunnyvale	CA	94087-2938
Mills	Constance W.	1021 College Avenue	Menlo Park	CA	94025-5209
Mills	Suni	2421 Spyglass Court	Santa Maria	CA	93455-1669
Millsplaugh	Kay	13240 N. Day Rd.	Grass Valley	CA	95945-7940
Milne	George	2591 Regent Road	Carlsbad	CA	92008-6409
Mink	Katie	311 The Spiral	Berkeley	CA	94708-1533
Mink	Katie M.	1720 Bancroft Way	Berkeley	CA	94703-1710
Mirch	Casey	668 Sierra Point Rd.	Brisbane	CA	94005-1622
Mireles	Maria	4530 25th St.	San Francisco	CA	94114-3529
Miro	Steve C.	736 Lincoln Ave. Apt. 201	Alameda	CA	94501-3303
Mistry	Sonia	1515 Solano Avenue	Berkeley	CA	94707-2106
Mitchell	Carmen	6617 Orange St. Apt. 302	Los Angeles	CA	90048
Mitchell	Gabrielle	510 Walnut St. Apt. 2	San Carlos	CA	94070-2356
Mitchell	Kate	151 Waldo Avenue	Piedmont	CA	94611-3942
Mitchell	Laura	315 East Figueroa St.	Santa Barbara	CA	93101-1412
Mitchell	Lenora	933 Lucas Pl. Apt. B	Corona	CA	92881-3296
Mitchell	Laureen	951 Keniston Ave.	Los Angeles	CA	90019-1706
Mitchell	Lloyd	5320 Riverton Ave., Apt. 2	North Hollywood	CA	91601
Mitchell	John	2017 5th Ave.	San Rafael	CA	94901-1713
Mix	Evangeline	106 La grande Ave.	Moss Beach	CA	94038-9745
Miyazake	Alicia Payton	77 Fredrick Ave., Bldg. Rear	Atherton	CA	94027-2203
Mize	Scott	598 Wisconsin St.	San Francisco	CA	94107-2732
Mizicko	Adam	5434 Carriage Drive	El Sobrante	CA	94803-3897
Moffett	Betty A.	450 Boynton Avenue	Berkeley	CA	94707-1702
Moffette	Jacqueline	3420 Luna Avenue	San Diego	CA	92117-2621
Mohammed	Aisha	2540 College Ave. Apt. 112	Berkeley	CA	94704-3021
Mohammed	Amna	307 Tradewinds Dr. Apt. 2	San Jose	CA	95123-6026
Molinelli	Amy	4975 Desmond Street	Oakland	CA	94618-1007
Molloy	Shama	149 Scenic Ave.	San Anselmo	CA	94960-2233
Molnar	Frank E.	991 N. Wonder View Dr.	Orange	CA	92869-1250
Molyneux	Judy R.	PO Box 216	Bolinas	CA	94924-0216
Mondeau	Summer	2178 Ahneita Dr.	Pleasant Hill	CA	94523-3405
Monroe	J.C.	632 San Bruno Ave., Apt. 6	San Francisco	CA	94107-2655
Monsalve	Martin	36140 Teaford Poyah	North Fork	CA	93643-9790
Monsees	Wayne	7785 E. Roseland Dr.	La Jolla	CA	92037-4015
Monsen	Maren	95 Palmer Lane	Portola Valley	CA	94028-7917
Monson	James	P.O. Box 1029	Point Reyes Station	CA	94956
Montagnino	Scot	139 San Jose Ave.	San Francisco	CA	94110-3024
Montalbano	Andrea	5006 Webster Street #B	Oakland	CA	94609-2119
Mont-Eton	Jean	4333 Ulloa St.	San Francisco	CA	94116-2068
Montoya	Amanda	1611 Putterbaugh St. Apt. 7	San Diego	CA	92103-3752
Moon	Dave	P.O. Box 281	Willits	CA	95490-0281
Moon	Delia	P.O. Box 990	Occidental	CA	95465-0990
Moon	Gerald E.	1131 T St.	Sacramento	CA	95814-6503
Moon	Stella C.	471 Corbett Ave.	San Francisco	CA	94114-2217
Mooney	Barbara	165 Green Road	Kneeland	CA	95549-9025

Mooney	Mark	222 Goldman Ln.	Petaluma	CA	94952-3606
Mooney	Ramona	PO Box 393	Santa Rosa	CA	95402-0393
Moore	Charles B.	300 Bella Vista Way	San Francisco	CA	94127-1802
Moore	Eric H.	735 Teresita Blvd.	San Francisco	CA	94127-2366
Moore	Gail B.	14741 Cumpston Street	Sherman Oaks	CA	91411-3730
Moore	Laurie	P.O. Box 63	Alameda	CA	94501-0363
Moore	Maureen	197 Woodland Pkwy. #104-592	San Marcos	CA	92069-3020
Moore	Harriet G.	85 Turquoise Way	San Francisco	CA	94131-1645
Moore	Patricia A.	44A Lundys Ln.	San Francisco	CA	94110-5163
Moore	Michael	2301 Alva Ave.	El Cerrito	CA	94530-1539
Moore	Mark W.	6725 Lucas Valley Rd.	Nicasio	CA	94946-9716
Moore	Brandice	446 Silvia Way	San Rafael	CA	94903-3190
Moore	Kimber	527 Lander St., Ste 101	Reno	NV	89509-1500
Moore	Irene	2958 Shasta Rd.	Berkeley	CA	94708-2142
Morales	Sandra	950 Begonia Street	Escondido	CA	92027-1724
Morales	Mirka	22 Russ St.	San Francisco	CA	94103-2819
Morales	Christopher	753 Cole St., Upper Floor	San Francisco	CA	94117-3945
Moran	Sharon	1223 S. Arkle St.	Visalia	CA	93292-5202
Morea	Anne	710 16th St.	Santa Monica	CA	90402-3006
Morello	Frank	2819 Knode Avenue	Torrance	CA	90501-4714
Moreno	Jose	1110 So. Winchester Blvd.	San Jose	CA	95128-3902
Moreno	Micaela	857 So. Dickel Street	Anaheim	CA	92805-4603
Moreno	Paul	28872 Escalona Drive	Mission Viejo	CA	92692-3918
Moretti	Rachael	44 Jade Ct., Apt. 5	Novato	CA	94945-2362
Morez	Julia Forest	360 Sycamore Pl.	Sierra Madre	CA	91024-1347
Morgan	Rodney M.	765 Dolores Street	San Francisco	CA	94110-2224
Morgan	Thomas	4001 San Leandro St., Ste. 18	Oakland	CA	94601-4054
Morgan	K. Fiona	1460 Sutter St., Apt. 15	San Francisco	CA	94109-5430
Morgan	Teresa	PO Box 276	Sebastopol	CA	95473-0276
Morgan	Nicole	28 Timothy Ave.	San Anselmo	CA	94960-1330
Morgen	Kathleen	1654 Holly Circle	Pleasanton	CA	94566-4796
Morgenrath	Helen	Pfeiffer Ridge #4	Big Sur	CA	93920
Morgenstern	R.	2108 Seven Gables Way	Capitola	CA	95010-2055
Moriarty	Susan	133 Lily Street	San Francisco	CA	94102-5849
Moritz	Max	2127 Price St.	San Luis Obispo	CA	93401
Morris	Michael H.	3516 E. St.	Eureka	CA	95503-5329
Morris	Robert C.	366 Reservation Rd., Apt. F3	Marina	CA	93933-3271
Morris	Nathan T.	492 Grove St., Apt. 8	San Francisco	CA	94102-4303
Morris	Michael	957 Oak St., Apt. B	San Francisco	CA	94117-2310
Morrison	Margaret	20 Hatton Avenue	Watsonville	CA	95076
Morrison	Susan E.	701 Clayton Rd.	Crescent City	CA	95531-9676
Morrison	Ian	905 Adobe Cyn. Rd.	Kenwood	CA	95452-9052
Morrison	Mirra	328 Washburn Dr.	Fremont	CA	94536-2850
Morrissey	Ann	874 Vallombrosa Ave.	Chico	CA	95926-4042
Morrow	Frank	5514 Masonic Ave.	Oakland	CA	94618-2638
Morton	Patricia A.	2185 Ponet Drive	Los Angeles	CA	90068-3642
Morton	Shadow	755 Vienna Street	San Francisco	CA	94112-3528
Moseley	Howard E.	5140 Sandburg Dr.	Sacramento	CA	95819-1605
Moser	Majorie A.	5856 Florence Terr.	Oakland	CA	94611-2104
Moser Smith	Mildred	635 Alden rd., Apt. B	Claremont	CA	91711-4252
Moses	William	324 Sequoia Ave.	Redwood City	CA	94061-3427
Mosesman	Michael	4643 Rosemont Ave.	La Crescenta	CA	91214-3144
Mosgofian	Karl	519 Douglas Ave.	Redwood City	CA	94063-3435
Mosier	Richard	151 Baden St.	San Francisco	CA	94131-3217
Mott	Richard	2810 Ruddell Rd. SE, Apt.4-8	Lacey	WA	98503-3774
Moulton	Tammy	2804 Grinnel Drive	Davis	CA	95616-1624
Moulton	Mark	561 Lakeview Way	Redwood City	CA	94062-3320
Mountain	John A.	PO Box 114	Jenner	CA	95450-0114
Mowen	John	18271 Round Mountain Ranch Rd.	Nevada City	CA	95959-8616
Mowry	Kay F.	3970 Mt. Vernon Avenue	Riverside	CA	92507-4800
Moyer	Pamela	709 Winstead Court	Sunnyvale	CA	94087-2318
Moyer	Michael	3265 11th Ave.	Sacramento	CA	95817-3511
Mudd	Alexandra	69 Glen Ave. Apt. 103	Oakland	CA	94611-4905
Mueller	Tara	4 San Carlos Ave.	El Cerrito	CA	94530-4147
Muentz	Donald	10348 Old Dairy Place	Grass Valley	CA	95945-6000
Muhl	Paul	2416 Selrose Ln.	Santa Barbara	CA	93109-1861
Mulford	Robert	276 S. 20th St.	San Jose	CA	95116-2713
Mulhall	Shelley L.	3849 Buell Street	Oakland	CA	94619-2801
Mulholland	Stephanie	18485 Main Blvd.	Los Gatos	CA	95033-8392
Mullins, Koch	Kathleen,	820 Wright St.	Modesto	CA	95350-5952

Mundy	Trevor William	PO Box 112	Kaweah	CA	93237-0112
Munguia	Janel	5636 N. Burton Ave.	San Gabriel	CA	91776-1730
Munro	Gordon	14 Camilla Drive	Napa	CA	94558-4109
Munson	Bev	3769 Cory Lane	Sonoma	CA	95476-6007
Murchison	Mary	1229 Wilkinson Ct.	Placerville	CA	95667-9618
Murphy	Eileen	253 Moore Street	Santa Cruz	CA	95060-2513
Murphy	Kevin	305 Olive Street	Santa Cruz	CA	95060-4748
Murphy	Mary N.	533 W. Harvard Ave.	Fresno	CA	93705-4519
Murphy	Scott D.	610 Dexter St.	Santa Rosa	CA	95404-2439
Murphy	Erroll E.	6639 Brennan Ave.	West Hills	CA	91307-3308
Murphy	Amanda	2280 Froude St.	San Diego	CA	92107-1737
Murphy	George	1046 Rhode Island St.	San Francisco	CA	94107-3215
Murphy	Garrett	2341 Valley St., Apt. 4	Oakland	CA	94612-2443
Murphy	Erica	1325 Seabright Ave.	Santa Cruz	CA	95062-2524
Murphy-Ellis	Cassie	25 E. Pozo Rd.	Santa Margarita	CA	93453
Murray	Bob	29216 Northpointe St.	Lake Elsinore	CA	92530-1200
Muscatel	Darcy	125 Renz Ln.	Geyserville	CA	95441-9697
Mutch	Linda	HC 89 Box 32	Three Rivers	CA	93271-9798
Myers	Adele	P.O. Box 261	Meadow Valley	CA	95956-0261
Mynster	Patricia	75 Butler Street	Milpitas	CA	95035-4807
Nagel	Nancy A.	17249 Deer Park Rd.	Los Gatos	CA	95032-5730
Nagel	Stori	37149 Floral Creek Cir.	Murrieta	CA	92562-3253
Naifeh	Kh	2059 New Brunswick Dr.	San Mateo	CA	94402-4043
Najia	Rose	5 Schirado Pl.	San Rafael	CA	94901-2347
Nanji	Zarina	11248 Playa Court	Culver City	CA	90230-6127
Nanna	Nancy C.	514 S. School St.	Ukiah	CA	95482-5461
Napoli	James	2826 Avenel St. Apt. 6	Los Angeles	CA	90039-2038
Napoli	Stephen	1616 Virginia Street	Berkeley	CA	94703-1234
Naramore	Tristan	33 Madrona Street	Mill Valley	CA	94941-1811
Naranjo	Yvonne	6600 Warner Ave., Apt. 50	Huntington Beach	CA	92647
Nash	Susan L.	3138 Brockton Avenue	Riverside	CA	92501-2327
Nash	Tom	699 Gravenstein Hwy No. Apt 35	Sebastopol	CA	95472-2833
Nathe	Gayle	558 Lincoln Avenue	Palo Alto	CA	94301-3232
Natwick	Clark	1108 Valencia Way	Pacifica	CA	94044-3533
Nauman	David	2705 Ridge Rd., Apt. 8	Berkeley	CA	94709-1063
Navidi	Joseph	5935 Keith Avenue	Oakland	CA	94618-1545
Neal	Marilyn	1761 Ross Ave.	El Centro	CA	92243-3701
Neale	Robert	1771 46th Ave.	San Francisco	CA	94122-3911
Needle	Patricia R.	102 Corbett Avenue	San Francisco	CA	94114-1815
Neel	Ann	10119 SW Burton Drive	Vashon	WA	98070-7008
Neely	Edward	5581 Taft Avenue	Oakland	CA	94618-1518
Neely	Leslie B.	1483 Royal Way Apt. A	San Luis Obispo	CA	93405-6374
Negron	Henry R.	1031 3/4 No. Croft Ave.	West Hollywood	CA	90069
Neil	George Neville	3538 18th St., Apt. 8	San Francisco	CA	94110-1636
Neill	Mary	1730 Marlin Way	Newport Beach	CA	92660-4328
Neiman	Susan	605 Hanley Way	Los Angeles	CA	90049-1931
Neiman	Ellen	386 S. Burnside Ave., Apt. 101	Los Angeles	CA	90036-5470
Neimanis	Mara S	2406 23rd Ave.	Oakland	CA	94606
Nellajoy	Ersala	434 66th Street	Oakland	CA	94609-1104
Nelson	Barbara	1407 Glendale Avenue	Berkeley	CA	94708-2027
Nelson	Matt	729 East 36th Street	Long Beach	CA	90807-4633
Nelson	William	247 Andover Drive	Claremont	CA	91711-1803
Nelson	Dency L.	2425 Silverstrand Ave.	Hermosa Beach	CA	90254-2664
Nelson	Jennifer	7 Santa Fe Ave.	El Cerrito	CA	94530-4152
Nelson	R.	10690 San Marcos Rd.	Atascadero	CA	93422-2221
Nelson	Eleanor	1770 San Miguel Dr. Apt. 2	Walnut Creek	CA	94596-4819
Neptune	Joan	21353 Oak Park Lane	Anderson	CA	96007-9761
Nesin	Brian	1315 No. Poinsetta Pl. Apt. 5	Los Angeles	CA	90046-4359
Nespor	Cheryl D.	545 Yale Ave.	Claremont	CA	91711-4342
Ness	Beryl	2465 Chestnut St. Apt. 203	San Francisco	CA	94123-2523
Neubauer	Tania	1425 Harrison St. Apt. 422	Oakland	CA	94612-3986
Neuenschwander	Fran	3401 Eastview Drive	Shingle Springs	CA	95682-9531
Neuman	Cynthia J.	1329 Howe Ave., Ste 201	Sacramento	CA	95825-3363
Neuroth	Emily A.	P.O. Box 277	Leggett	CA	95585-0277
Neuzil	Deinse	1225 25th St., Apt. C	Santa Monica	CA	90404-1423
Nevling	Carolyn	1268 Manzanita Way	San Luis Obispo	CA	93401-7811
Newcomb	Julia C.	2704 Corona Dr.	Davis	CA	95616-0114
Newhaus	Eve	2031 McCollum Street	San Luis Obispo	CA	93405-2105

Newman	Catherine	3100 College Ave. Apt. 9	Berkeley	CA	94705-2724
Newman	Eleanor	137 Forest Avenue	Santa Cruz	CA	95062-2622
Newman	Joanne S.	949 Karen Drive	Chico	CA	95926-2825
Newman	Sherrie	22493 Yerba Santa Rd.	Sonora	CA	95370-9629
Newman	Barbara	20 Quickstep Ln., Apt. 1	San Francisco	CA	94115-4251
Newman	Paul	940 23rd St.	Santa Monica	CA	90403-2104
Newstead	John	P.O. Box 348	Navarro	CA	95463-0348
Newstedt	Armida	PO Box 636	Bolinas	CA	94924-0636
Newton	Belinda	PO Box 60819	Sunnyvale	CA	94088-0819
Newton	Norine	PO Box 783	Fort Bragg	CA	95437-0783
Neyon	Jaimila	4252 Terrace St.	Oakland	CA	94611-5128
Nicholas	Jim	1794 Hayes St., Apt. 3	San Francisco	CA	94117-1251
Nicholls	Tim	6267 Girvin Drive	Oakland	CA	94611-2446
Nichols	H.F.	830 Betlin Ave.	Cupertino	CA	95014-4547
Nichols	Jane	2858 58th St.	Sacramento	CA	95817-1739
Nicholson	Bill	415 Morro Bay Blvd.	Morro Bay	CA	93442-2143
Nickelsen	Abby W.	4 Sheldrake Court	San Rafael	CA	94903-1435
Nickols	Rheva A.	15128 Vose St.	Van Nuys	CA	91405-2935
Nicodemus	Andrea	554 Edward Street	El Cajon	CA	92020-2722
Nicodemus	Sharon	6919 Centennial Way	Sacramento	CA	95842-1978
Nicodemus	Karla	10641 Bamett Valley Rd.	Sebastopol	CA	95472-9256
Nicoll	Susan	6132 Frazier Mountain Pk. Rd. #89	Frazier Park	CA	93225-9201
Niederman	Michael	659 Ashbury St.	San Francisco	CA	94117-2922
Nielsen	Erica	11121 Erwin Street	No. Hollywood	CA	91606-4924
Nielsen	Sven	10270 Drumcliff Ave.	San Diego	CA	92126-3633
Niemoeller	Diana	669 Oakland Ave., Apt.1A	Oakland	CA	94611-4596
Nies	Nancy A.	606 Hillcrest Drive	Bakersfield	CA	93305-1413
Nikkel	Diana	PO Box 193	Soquel	CA	95073-0193
Nilsson	Eric	1178 Filbert Ave.	Chico	CA	95926-2859
Noble	Ruth M.	86 San Benancio Rd.	Salinas	CA	93908-9132
Noble-Olms	Barbara	86 San Benancio Road	Salinas	CA	93908-9132
Nolan	Rebecca	103 Manor Place	Santa Cruz	CA	95060-6139
Nolan	Rosy	129 No. Oxford Ave. Apt. 307	Los Angeles	CA	90004-4221
Nollendorfs	Ainis	520 Humboldt Road	Brisbane	CA	94005-1632
Norback	Ernest H.	1145 Rosefield Way	Menlo Park	CA	94025-5571
Norbosh	Shawna	240 Fort Mason	San Francisco	CA	94123
Norby	Lorraine	12-A Grove Street	Mill Valley	CA	94941-2005
Norcross	Clayton	951 Galloway Street	Pacific Palisades	CA	90272-3850
Nordley-Knox	Meridel P.	5548 Carlton St.	Oakland	CA	94618-1732
Nordstrom	Zoanne	P.O. Box 31372	San Francisco	CA	94131-0372
Norquist	Peter D.	1542 Calle Enrique	Pleasanton	CA	94566-5924
Norrell	Andrew	13220 Woodstock Dr.	Nevada City	CA	95959-8958
Norris	Gary	58085 El Dorado Dr.	Yucca Valley	CA	92284-6236
Norris	Wendy E.	P.O. Box 375	Willits	CA	95490-0375
Norwood	Ken	2337 Parker St. Apt. 9	Berkeley	CA	94704-2841
Norwood	Nancy	467 Luneta Dr.	San Luis Obispo	CA	93405
Nourafchan	Tori	302 Amalfi Drive	Santa Monica	CA	90402-1128
Nourse	Everett F.	PO Box 429	Vineburg	CA	95487
Nourse	Jeanne	PO Box 429	Vineburg	CA	95487-0429
Novelli	Barbara	112 Laurent St,	Santa Cruz	CA	95060-4222
Nudelman	Janet	4539 18th Street	San Francisco	CA	94114-1831
Nuese	Robert	414 Grant Street	Healdsburg	CA	95448-3924
Nulsen	Margaret	777 Barry Rd.	Kneeland	CA	95549-9031
Nulton	Roger	2204 Bancroft St.	San Diego	CA	92104-5608
Nuttycombe	Craig	1367 7th Street	Los Osos	CA	93402-1222
Nye	Steve	1538 Martin Luther King Jr. Way	Berkeley	CA	94709-2024
Nygrens	Bu	227 Roosevelt Way Apt. A	San Francisco	CA	94114-1431
Nyhan	Gail	284 Barbara Ave.	Mountain View	CA	94040-3106
Oakden-Parsons	Joan	2130 Pine St.	Napa	CA	94559-3123
Oakley	Jeanne	819 14th Street Apt. 6	San Francisco	CA	94114-1208
Oaks	Christopher	217 Bassett St.	Petaluma	CA	94952-2668
Obershaw	Lynda L.	330 Cordova St., Unit 167	Pasadena	CA	91101-2466
Oberweiser	Edward M.	2080 7th Avenue	Santa Cruz	CA	95062-1630
Oblath	Patricia	3487 Wade St.	Los Angeles	CA	90066-1533
O'Brien	Marcie	3400 Vinton Ave. Apt. 209	Los Angeles	CA	90034-4575
O'Brien	Jill	1040 Pine Ln.	Lafayette	CA	94549-2949
Ochoa	Karen	1098 Judson Dr.	Mountain View	CA	94040-2311
Ockwell	Barbara	4639 Rubio Ave.	Encino	CA	91436-3203
O'Connell	Chris	766 Green Street	San Francisco	CA	94133

O'Connor	Gayle	1680 Portola State Park Rd.	La Honda	CA	94020
O'Connor	Meaveen	2409 McKinley Avenue	Berkeley	CA	94703-1927
Odawa	Michael	38 Miller Ave., Apt.504	Mill Valley	CA	94941-1927
Odegaard	Clotilde C.	111 No. Hildalgo Ave.	Alhambra	CA	91801-2673
Oden	Terry L.	827 Link Ln.	Santa Rosa	CA	95401-5315
Odlum	Judith	20 Woodpine Drive	Irvine	CA	92604-4574
Offereins	Karen	247 7th Ave., Apt. A	San Francisco	CA	94118-2319
Ogata	Tamaki	800 Blossom Hill Rd. E-323	Los Gatos	CA	95032-3568
O'Grady	Kathleen	PO Box 1097	Mendocino	CA	95460-1097
Ogul	Michael	8 Beverly Court	Kensington	CA	94707-1313
O'Hanleigh	Sabrina	227 University Avenue	Davis	CA	95616-4506
Ohanneson	Beth	417 Spruce Street	San Francisco	CA	94118
ohansen	Kristen J	808 West Harriet St.	Altadena	CA	91001-4543
O'Henley	Neil	5226 Locksley Ave.	Oakland	CA	94618-1041
O'Herin	Barbara	1991 Sierra Nevada Drive	Atwater	CA	95301-3815
Ohl	Zoe	809 S. Bundy Dr., Apt. 317	Los Angeles	CA	90049-5296
okabout	Eleonore H	210 Ironwood Road	Alameda	CA	94502-6611
Okeefe	Raymond	9000 Sunset Blvd., #709	West Hollywood	CA	90069-5807
Oken	Nancy	555 Liberty St., Apt. 4	El Cerrito	CA	94530-3636
O'Leary	Maureen	5533 Broadway	Oakland	CA	94618-1747
Olhoffer	Mari-Ann	11050 Daniels Drive	Nevada City	CA	95959-9476
Olivas	Joan H.	744 North Sanchez St.	Montebello	CA	90640-2765
Olivencia	Kenneth	P.O. Box 683	Fairfax	CA	94978-0683
Oliver	Elouise	1200 Lakeshore Ave. Apt. 16-E	Oakland	CA	94606-1627
Oliver	William J.	2022 Mayfield Court	Fairfield	CA	94533
Oliver	Heather	1681 9th Ave.	San Francisco	CA	94122-3620
Oliver	Denise W.	PO Box 553	Nevada City	CA	95959-0553
Olsen	Joan L.	4032 Centre St. Unit 5-E	San Diego	CA	92103-2645
Olsen	D.	25093 Coulter Dr.	Idyllwild	CA	92549
Olsen	Donna H.	37890 Alta Dr.	Fremont	CA	94536-7031
Olsen	Bruce D.	1001 Hammond St., Apt. 12	West Hollywood	CA	90069-3829
Olsen	Jennifer	2001 Manzanita Dr.	Oakland	CA	94611-1148
Olson	Eric	2269 Fickle Hill Road	Arcata	CA	95521-9058
Olson	Linda	1718 Alameda Ave. Apt. C	Alameda	CA	94501-4057
Olson	Gail	4409 Florida St.	San Diego	CA	92116-4003
Olson	Peter R.	4152 Park Blvd., Apt. A	Oakland	CA	94602-1207
Olson	Marjorie	141 Doris Ct.	Vacaville	CA	95688-3808
Oman	Lisa	2100 Jarvis Rd.	Santa Cruz	CA	95065-9724
O'Meara	Cherry A.	858 Granville Ave. Apt. A	Los Angeles	CA	90049-5462
O'Meara	Maeve	1212 Arguello Blvd.	San Francisco	CA	94122-2704
O'Merde	Deidra	601 Van Ness Ave. Apt. 725	San Francisco	CA	94102-3256
O'Merde	Deidra	601 Van Ness Ave,	San Francisco	CA	94102-3200
Omodt	Winnifred	194 Cypress Ave.	San Bruno	CA	94066-5421
Ondrejka	John	P.O. Box 309	Mt. Hermon	CA	95041
O'Neill	John M.	801 West El Camino Real	Mountain View	CA	94040-2511
ones	Shirmaine J	685 Cannery Row Ste. 103	Monterey	CA	93940-1056
Ongerth	Steve	605 23rd, Apt. 1	Oakland	CA	94612
Onifer	Dana Onifer	101 Buna Road	Seaside	CA	93955-7004
ood	Kathryn H	909 West Monterey St.	Orland	CA	95963-1125
oore	Sally M	687 Ensenada Avenue	Berkeley	CA	94707-1510
Opdyke	Pete/Julie	5349 Locksley Avenue	Oakland	CA	94618-1122
Oppenheim	Irene	P.O. Box 69913	West Hollywood	CA	90069-0913
Oppenheimer	Todd	40 White St.	San Francisco	CA	94109-2610
Orchard-Hays	Linda M.	15778 Maubert Ave.	San Leandro	CA	94578-2015
Ore-Giron	Eamon	1947 Mission St. Ste. A	San Francisco	CA	94103-3404
Orlando	Leslie	5360 Mill Creek Road	Healdsburg	CA	95448-9759
Orlando	Lisa	5421 Valley View Rd.	El Sobrante	CA	94803-3465
Orloff	Andrew	4611 Welch Pl.	Los Angeles	CA	90027-3112
Ornett	Charlotte	153 Lexington St.	San Francisco	CA	94110-1728
O'Rourke	Donald P.	3863 Shadowhill Drive	Santa Rosa	CA	95404-2726
Orozco	Joseph	P.O. Box 932	Hoopa	CA	95546-0932
Orozco	Rafael	5232 Corteen Pl. Apt. 1	Valley Village	CA	91607
Orr	Leigh A.	4344 Latona Avenue	Los Angeles	CA	90031-1426
Orr	Mary	3223 Redwood Drive	Aptos	CA	95003-2510
Orr	Matt	686 22nd Avenue	San Francisco	CA	94121-3703
Ortega	Carmen	1 Montsalas Dr.	Monterey	CA	93940-5283
Orth	Jeffery	10408 Woodside Dr.	Forestville	CA	95436-9726
Osborn	Elizabeth	6350 Ridgewood Dr.	Castro Valley	CA	94552-5200
Osborne	S.A.	3633 Independence Rd.	Fremont	CA	94538-6107
O'Shaughnessy	Kerry	240 River St., Apt. 5	Santa Cruz	CA	95060-2771

Osier-Mixon	Jeffrey	901 Aspen Way	Petaluma	CA	94954-4410
Osman	Eric	21600 Big Basin Way Unit 10	Boulder Creek	CA	95006-9064
Osmer-Newhouse	Carol	4084 Lambert Rd.	El Sobrante	CA	94803-1710
Ossipoff	Tanya	PO Box 832	Ben Lomond	CA	95005-0832
Ossman	Greta	8879 Woodman Way	Sacramento	CA	95826-2157
Osterman	Julie	78 Work Ave.	Monterey	CA	93940-5534
Osullivan	Brenda	859 Montezuma Drive	Pacifica	CA	94044-4149
Ota	Amy H.	3914 1/2 Huron Avenue	Culver City	CA	90232-3804
Ott	Marguerite	1020 Fiesta Drive	San Mateo	CA	94403-1514
Otterstrom	Jim	1024 Robinhood Blvd.	Big Bear City	CA	92314-9657
Ottman	Janna	1388 Metz Avenue	Seaside	CA	93955-3209
Otto	David T Jr.	225 N. Beachwood Dr., Apt. 211	Los Angeles	CA	90069-2994
Ousley	Maria	738 Victoria Ave.	San Leandro	CA	94577-2013
Ousterman	Blythen	51 Loring Avenue	Mill Valley	CA	94941-3409
Ove	Daniel	11862 Edmunds Dr. Apt. 6	Truckee	CA	96161-4976
Overman	Greg	P.O. Box 817	Glen Ellen	CA	95442-0817
Overmann	Laura	1043 Laguna Ave.	Burlingame	CA	94010-3623
Owen	David	1891 San Juan Avenue	Berkeley	CA	94707-1621
Owens	Paul	2150 Clinton Ave. Apt. D	Alameda	CA	94501-4938
Owens	Sean B.	14241 Adoree St.	La Mirada	CA	90638-1915
Owsianiak	Lisa	1066 47th Ave., Apt. 11	Oakland	CA	94601-5157
Ozonoff	Alex	950 Miramonte Drive Apt. 4	Santa Barbara	CA	93109-1316
Pachtner	Kay	153 Vicksburg Street	San Francisco	CA	\ 94114-3326
Padula	Fred	47 Shell Road	Mill Valley	CA	94941-1551
Paganelli, Anderson	Sergio, Shirley	59 Pierce St.	San Francisco	CA	94117-3318
Page	Greg	P.O. Box 3186	Arnold	CA	95223-3186
Page	William L.	4444 Harding Avenue	Los Angeles	CA	90066-6123
Pageler	Larry	930 Granite Creek Rd.	Santa Cruz	CA	95065-9656
Paige	Dave	1174 Salinas Hwy.	Monterey	CA	93940-5247
Paine	Bruce	44 Thornton Ave.	Venice	CA	90291-2518
Painter-Thorne	Nathan R.	801 D St., Apt. 25	Davis	CA	95616-2288
Palacios	Alejandra	2157 Valentine St.	Los Angeles	CA	90026-1929
Palaganas	Tamara	660 Vernon St. Apt. 12	Oakland	CA	94610-1470
Paley	Daniel	519 Grand St.	Redwood City	CA	94062-2065
Palladino	John	1173 Fetlock Way	Riverside	CA	92506-5613
Pallis	Katherine C.	9-B Dwight Road	Burlingame	CA	94010-2968
Palmer	Linda J.	1408 Scenic Drive	Modesto	CA	95355-4904
Palmer	Debbie	526 Fuller Ave.	San Jose	CA	95125-1544
Palmer	Barton	2193 Edinboro Ave.	Claremont	CA	91711-1919
Palmisano	Tia	836 Sanborn Ave. Apt. 307	Los Angeles	CA	90029-3054
Pancook	Mikey	1588 Hayes St. Apt. 3	San Francisco	CA	94117-1351
Paniaqua	Marie	927 Aqua Tibia Ave.	Chula Vista	CA	91911-2208
Pankratz	Alan	2828 E. Dakota Ave.	Fresno	CA	93726-4910
Panter	Nicole	PO Box 862	Venice	CA	90294-0862
Papaleo	Rick	PO Box 2529	Kings Beach	CA	96143-2529
Papalexis	Christine	2125 Baxter St.	Los Angeles	CA	90039-3914
Pappas	Marie R.	P.O. Box 9057	Berkeley	CA	94709-0057
Paquette	Nancy	601 So. Sanderson Way	Ft. Bragg	CA	95437-4537
Parcells	Barbara A.	15805 Avenida Venusto #527	San Diego	CA	92128-3394
Parish	P. William	1442 8th Ave.	San Francisco	CA	94122-3707
Parker	Jim	1625 Shoeshone Dr.	Bishop	CA	93514-1975
Parker	Timothy S.	1625 Endriss Drive	Martinez	CA	94553-5333
Parker	David	PO Box 316	Bolinas	CA	94924-0316
Parker	John	1321 N. Las Palmas Ave., Apt. 107	Los Angeles	CA	90028-7777
Parker	Timothy	3814 35th Ave.	Oakland	CA	94619-1432
Parker	Paige	4934 Scotia Ave.	Oakland	CA	94605-5648
Parker	Kenton	PO Box 681	Watsonville	CA	95077-0681
Parker	Maude F.	333 Redrock Dr.	Antioch	CA	94509-6978
Parkerson	Phillip	133 Santa Marina St.	San Francisco	CA	94110-5523
Parker-Swanzy	Marian	2115 Haste St. Apt. 101	Berkeley	CA	94704-2010
Parmeter	Sarah-Hope	132 Peyton St.	Santa Cruz	CA	95060-3619
Parris	Patricia G.	4160 Manzanita Drive	San Diego	CA	92105-4508
Parrish	Olivia S.	228 Vila Rd.	Forestville	CA	95436-9523
Parrish	Sam	705 Ellsworth Pl.	Palo Alto	CA	94306-2539
Parrott	Kelly	901 Fell St., Apt. 12	San Francisco	CA	94117-2422
Parry	Catherine	13165 Redwood Ave.	Boulder Creek	CA	95006-9248
Parry	William R.	221 Costa Mesa St.	Costa Mesa	CA	92627-2207
Parshall	Alice W.	401 E. Sola St.	Santa Barbara	CA	93101-1220

Parsons	Elizabeth	631 Edna Way	San Mateo	CA	94402-2607
Parsons	Jeanette	1055 #101 Casitas Pass Rd.	Carpinteria	CA	93013-2151
Partansky	A.M.	1406 Barbis Way	Concord	CA	94518-1220
Passarotti	Theresa	60 Citation Dr.	Los Altos	CA	94024-7136
Pastor	Fernando	80 Elgin Park, Apt. A	San Francisco	CA	94103-1124
Patel	Darshana R.	6309 Palo Verde Rd.	Irvine	CA	92612-4323
Patenaude	Richard	21355 Santos Street	Hayward	CA	94541-2021
Patterson	Jana	2374 Baggett Drive	Santa Rosa	CA	95401-6426
Patterson	John	116 Myrtle Street #B	Santa Cruz	CA	95060-4939
Patterson	Paul	6121 Butterfly Ave.	Dunsmuir	CA	96025-2504
Patterson	William D.	2624 4th Avenue	Sacramento	CA	95818-3232
Patterson	James R.	9312 N. Santa Margarita Rd.	Atascadero	CA	93422-6307
Patterson	Hilary Anne	4740 Shady Tree Ln.	Santa Rosa	CA	95405-7841
Patton	Alethea	P.O. Box 452	Bolinas	CA	94924-0452
Patton	Frank	2358 27th Avenue	San Francisco	CA	94116-2322
Patton	Kermit	119 Easy St. Apt. 4	Mountain View	CA	94043-3700
Patton	Wesley	270 Judson Avenue	San Francisco	CA	94112-1849
Patton	Laurie	55 Carter Rd.	Santa Cruz	CA	95060-9723
Pauker	Jethro	824 Amoroso Pl.	Venice	CA	90291-3902
Paul	Caroline	50 Wurr Road	Loma Mar	CA	94021-9702
Paul	Susan L.	212 Parrot Lane	Fountain Valley	CA	92708-5720
Paul	Mary C.	842 E. Villa St., Apt. 319	Pasadena	CA	91101-1284
Paule	Rebecca J.	P.O. Box 125	Drytown	CA	95699-0125
Paulson	Nils E.	P.O. Box 1586	Glen Ellen	CA	95442-1586
Pavao	Dennis	8202 Holanda Ln.	Dublin	CA	94568-1438
Payette	Mona S.	2808 Elmhurst Cir.	Fairfield	CA	94533-1334
Payne	Leslie Kellas	3864 E. Holland Ave.	Fresno	CA	93726-3603
Payne	Rex	1340 Van Ness Ave.	Fresno	CA	93721-1714
Peach	Kathleen	301 East \I\" Street"	Benicia	CA	94510-3425
Peacock	Janet	1585 Mariposa Ave.	Palo Alto	CA	94306-1025
Pearce	John B.	P.O. Box 190302	San Francisco	CA	94119-0302
Pearce	Miranda	3322 16th St., Apt. 4	San Francisco	CA	94114-1733
Pearl	Art	4567 Opal Cliff Drive	Santa Cruz	CA	95062-5225
Pearl	Juliana	583 So. 11th St. Apt. 12	San Jose	CA	95112-2378
Pearson	Elizabeth	919 Rose Drive	Vista	CA	92083
Pearson	Doug	7812 Joel Ave.	Stanton	CA	90680-3118
Pearson	Winifred	21425 Avalon Blvd., Spc 18	Carson	CA	90745-2248
Pearson	Rand	580 29th St.	San Francisco	CA	94131-2239
Peccolo	Mary	PO Box 3843	San Diego	CA	92163-1843
Peck	Matt	1704 Oak Creek Dr., Apt.307	Palo Alto	CA	94304-2109
Peck	Eleanor	88 Malaga	Tustin	CA	92780-5957
Peck	Pamela L.	37 1st St.	Rodeo	CA	94572-1001
Peddle	Courtenay	4136 Mera Street	Oakland	CA	94601-4246
Pedersen	Sheila	1220 Monticello Road	Lafayette	CA	94549-3026
Peet	Julian	120 Porteous Avenue	Fairfax	CA	94930-2028
Peet	Cheryl	856 Moss Ave.	Chico	CA	95926-2849
Peetz	Gertrude	2885 Willow Rd., Trlr 24	San Pablo	CA	94806-3759
Peggy J.	Peggy J.	4213 36th Street	San Diego	CA	92104-1506
Pellegrin	Thelma	1024 Royal Oaks Dr. #1402	Monrovia	CA	91016-5420
Pellegrino	Michelle	3017 W. Clark Ave.	Burbank	CA	91505-3204
Peloso	Kim	652 Hensley Avenue	San Bruno	CA	94066-3510
Peltzer	Mary	886 Boyce Avenue	Palo Alto	CA	94301-3003
Pena	Robert B.	P.O. Box 933	Sausalito	CA	94966-0933
Penner	Bob	P.O. Box 400	Lagunitas	CA	94938-0400
Penner	John	1940 N. Vermont Ave., Apt. 3	Los Angeles	CA	90027-1859
Penny	Alec D.	8760 Elden Street	La Mesa	CA	91942
Penny	Melanie	438 Crane Blvd.	Los Angeles	CA	90065-5053
Penziner	Bernard	1557 Rosewood Dr.	Healdsburg	CA	95448
Peppas	Meletios	6 Linda Ave.	Piedmont	CA	94611-4828
Perez	Catalina	10 Bertie Minor Ln. Apt. 3	San Francisco	CA	94115-3730
Perez	Yvonne P.	5400 Radford Ave., Apt. 2	Valley Village	CA	91607-2249
Perez	Elena	2703 1/2 T St.	Sacramento	CA	95816-7323
Perin	Margo	322 Anderson St.	San Francisco	CA	94110-6001
Perkins	Jeff	441 Tustin Ave.	Newport Beach	CA	92663-4818
Perkins	Kathy A.	PO Box 385	Woodacre	CA	94973-0385
Perkins	Genevieve	6 Ellis Ct.	Petaluma	CA	94952-2618
Perlow	Erin	687 Tampico	Walnut Creek	CA	94598-2922
Perman	Ray	217 San Carlos Ave.	Piedmont	CA	94611-4116
Perrault	Michele	227 So. Irena Ave. Unit 4	Redondo Beach	CA	90277-3468
Perry	Lewis B.	1317 Albina Avenue	Berkeley	CA	94706-2505

Perry	Jennifer	2722 Bryant St.	San Francisco	CA	94110-4226
Perry	Robin	1893 Melvin Rd.	Oakland	CA	94602-2024
Persky	Jerry	5657 Wilshire Blvd., Ste. 340	Los Angeles	CA	90036-3740
Persons	Philip E.	3899 Jalama Rd.	Lompoc	CA	93436-9504
Pescovitz	Robert	1756 Micheltorena Street	Los Angeles	CA	90026-1128
Peshette	Eugene W.	7934 Holly Drive	Citrus Heights	CA	95610-1444
Peters	David	290 Lombard St., #20	San Francisco	CA	94133-2439
Petersen	Kurt	4214 Elenda St.	Culver City	CA	90230-3752
Petersen	Keley R.	6295 Montcalm Ave.	Newark	CA	94560-2438
Peterson	Edward	683 Thalia Street	Laguna Beach	CA	92651
Peterson	Erik	1365 Ruby Ct. Apt. 2	Capitola	CA	95010-2921
Peterson	Gloria	70 Village Circle	San Rafael	CA	94903-4244
Peterson	Julie	19794 Sprague Court	Castro Valley	CA	94546-4019
Peterson	Teresa	1210 Grant Avenue	Arcata	CA	95521-5332
Peterson	Val	P.O. Box 221028	San Diego	CA	92192-1028
Peterson	Heather	PO Box 646	La Honda	CA	94020-0646
Petlock	Chris	723 1st St. W	Sonoma	CA	95476-7005
Pettee	Alene M.	1278 Excelsior Ave.	Oakland	CA	94610-2844
Petterson	Jackie	18316 Vanderbilt Dr.	Saratoga	CA	95070-4720
Pettit	Cynthia	421 Clarence St.	Richmond	CA	94801-3701
Petty	Robert J.	1329 Parker St.	Berkeley	CA	94702-2316
Pexton	Thomas	940 Old Round House Rd.	McKinleyville	CA	95519-9749
Pezzini	Norma	1206 Morrill Court	San Jose	CA	95132-2735
Pezzuto	Rena	456 So. Catalina St.	Ventura	CA	93001-3627
Phaeton	Christine	1130 Guerrero St. Apt. 8	San Francisco	CA	94110-2952
Phan	Michael	24875 Danafir	Dana Point	CA	92629-1152
Pheideas	Laban	1503 Allesandro Street	Los Angeles	CA	90026-2402
Phelan	Lawrence	PO Box 246	Big Sur	CA	93920-0246
Phelps	Janis	736 Panoramic Way	Mill Valley	CA	94941-1707
Philips	Ann	1100 Alisos Ave.	Santa Ynez	CA	93460-9388
Phillipps, Lockridge	Benjamin, Ellen	249 Prospect Ave.	San Francisco	CA	94110-5134
Phillips	Bruce D.	P.O. Box 1235	Nevada City	CA	95959-1235
Phillips	Harry L.	11241 Vellutini Road	Forestville	CA	95436-9714
Phillips	Tanya L.	914 Cerrito Street	Albany	CA	94706-1522
Phillips	Bob	PO Box 187	Yosemite Ntpk	CA	95389-0187
Phillips	Bruce	6109 Del Valle Dr.	Los Angeles	CA	90048-5303
Phillips	Donna Lee	2319 Ohio St.	Eureka	CA	95501-3427
Phillips	Sally	50 Del Casa Dr.	Mill Valley	CA	94941-1322
Piatt	Sherry	910 Embarcadero Del Norte	Isla Vista	CA	93117-5197
Picard	James S.	832 Brown Street	Healdsburg	CA	95448-3715
Picard	Cathleen	11000 Morrison St., Apt. 308	North Hollywood	CA	91601
Picciotto	Sally	4655 33rd St. Apt. 5	San Diego	CA	92116-3384
Picco	Michael	3400 Mortar Court	Placerville	CA	95667-8312
Pichey	Mary	3314 M St.	Eureka	CA	95503-5460
Pickett	Kerith	850 Athens Ave., Apt. B	Oakland	CA	94607-3428
Picklesimer	S.	1827 Scott St.	San Francisco	CA	94115-2611
Picklum	Roger	3132 Carlsen St.	Oakland	CA	94602-4037
Picon	Ruth J.	390 Bartlett St. Apt. 11	San Francisco	CA	94110-3845
Pielenz	Christine	1925 23rd St.	San Francisco	CA	94107-3313
Pierce	Jefery	1483 Shotwell Street	San Francisco	CA	94110-5201
Pierce	Marcella	7532 Gates Dr.	Sebastopol	CA	95472-4713
Pierce	June L.	6771 Evergreen Ave.	Sebastopol	CA	95472-4530
Pieropan	Patricia	7934 Cora St.	Sunland	CA	91040-3308
Pietrzyk	John	5066 Ananheim Loop	Union City	CA	94587-5523
Pilling	William	RR 2Box 46R	Bishop	CA	93514-9261
Pillsbury	Lesley	597 \G\" Street"	Petaluma	CA	94952-4222
Pincus	Sally	696 Mariposa Ave. Apt. 3	Oakland	CA	94610-1383
Pinto	Francis	802 So. Plymouth Blvd.	Los Angeles	CA	90005
Pinto	Sonja	3540 Bedford Circle	Carlsbad	CA	92008-2005
Piper	James	310 Mountain View Ave.	Petaluma	CA	94952-5504
Pisoni	David	11423 Ohio Ave. Apt. 6	Los Angeles	CA	90025-3123
Pittman	Nicki	39500 Comptche Ukiah Rd.	Mendocino	CA	95460-9785
Pitts	Carol	496 58th Street	Oakland	CA	94609-1541
Pitzel	Chris	17822 Erwin Street	Encino	CA	91316-7218
Pizer	Becky	84 Monte Vista Ave. Apt. 1	Oakland	CA	94611-4984
Place	Gerry	2940 Lomita Road	Santa Barbara	CA	93105-3318
Plagmann	Don	2 Arundel Road Apt. 3	Burlingame	CA	94010-3062
Plank	Jodi L.	504 Lennon St., Apt. B	Mount Shasta	CA	96067-9793
Plante	Douglas T.	24511 Castelo Cir.	Mission Viejo	CA	92691-5005

Platt	Eric	25 Roque Moraes Ct., Apt. 3	Mill Valley	CA	94941-4606
Platt	Ron	PO Box 2383	Santa Cruz	CA	95063-2383
Pledger	John	54 Spring Ln.	Fairfax	CA	94930-2014
Plewak	Beverly	36 Haldeman Road	Santa Monica	CA	90402-1004
Pluim	Ellen	2 Hillcrest Ct.	Berkeley	CA	94705-2805
Plum	Susan	3017 Wheeler St. (Upper)	Berkeley	CA	94705-1826
Plummer	Judith E.	1000 Continentals Way Apt. 227	Belmont	CA	94002-3109
Plutchok	Cathleen M.	2697 Marshall Drive	Palo Alto	CA	94303-3654
P'Manolis	Gus	1805 Chaparral Rd.	Santa Rosa	CA	95404-2603
Poage	Jan	710 Larkin Valley Rd.	Watsonville	CA	95076-8592
Pochapin	Cheryl	1387 Virginia St.	Berkeley	CA	94702-1458
Poleri	Steve	1610 Leavenworth St., Apt. 10	San Francisco	CA	94109-2724
Polin	Abby	12971 Cree Court	Poway	CA	92064-3829
Politano	Kim	1552 Elm St.	Chico	CA	95928-6106
Polk	Daphne S.	451 North Orange Dr.	Los Angeles	CA	90036-2611
Pollack	Nathaniel	1120 Cornell Ave., #2	Albany	CA	94706-2362
Pollak	Jeannie	2672 Honeysuckle Drive	Oxnard	CA	93030-6210
Pollock	Mark	790 2nd St. East	Sonoma	CA	95476-7104
Polon	Lawrence J.	621 Curtis Street	Albany	CA	94706-1420
Pomerleau	Renee H.	2501 7th Avenue Apt. 1	Oakland	CA	94606-1503
Poole	Lawrence R.	2850 Chattleton Ln.	San Pablo	CA	94806-3753
Pope	Matthew	1928 North Hoover St.	Los Angeles	CA	90027-2806
Pope	Stina	259 Los Altos Dr.	Kensington	CA	94708-1133
Porter	Jack	350 27th Street	San Francisco	CA	94131-2012
Porter	Patricia	6401 18th Avenue	Sacramento	CA	95820-3309
Porter	Robert S.	3143 Bern Drive	Laguna Beach	CA	92651-2005
Porter	Steve	1447 Stanford St. Apt. A	Santa Monica	CA	90404-3153
Porter	Susan L.	955 Napa Avenue	Morro Bay	CA	93442-1923
Porter	Janeen	26857 Hayward Blvd., Apt. B	Hayward	CA	94542-2068
Poteraj	Robert	11150 Regent St. Apt. 10	Los Angeles	CA	90034-6864
Potter	Sara T.	32 Linda Ave. Apt. 311	Piedmont	CA	94611-4814
Potter	Bryan	PO Box 92	Hyampom	CA	96046-0092
Poulton	Julie	10682 Quail Creek Rd.	Grass Valley	CA	95949-7171
Povlsen	Niels	1201 Brickyard Way, Apt. 111	Richmond	CA	94801-4140
Powell	Nancy	206 Purdue Avenue	Kensington	CA	94708-1137
Powell	Robert	737 Ashbury St., Apt. 3	San Francisco	CA	94117-4048
Powell	Barbara	6924 Colton Blvd.	Oakland	CA	94611-1322
Powers	Neville	1865 Brentwood Rd.	Oakland	CA	94602-2008
Prasser	Roger M.	3 Firenze Ct.	Newport Coast	CA	92657-1532
Prather	V. Matthew	409 Vista Del Mar Dr.	Aptos	CA	95003-4846
Preble	Patricia J.	2065 Turk Blvd., Fl. 2	San Francisco	CA	94115-4326
Prendergast	Peggy M.	455 California St. Apt. 7	Salinas	CA	93901-3554
Presler	Presler	3512 Pacific Ave. Apt. 8	Marina Del Rey	CA	90292-5797
Presley	Doris	545 East Oberlin Rd.	Yreka	CA	96097-9600
Prestwood	L.	184 Manferd St.	Milpitas	CA	95035-2612
Price	Joseph V.	PO Box 3301	Santa Cruz	CA	95063-3301
Prichard	Dianne M.	158 Carl Street Apt. A	San Francisco	CA	94117-3906
Prieto	Ms. Marie	P.O. Box 22721	Carmel	CA	93922
Priga	Basia	5938 Cahill Ave.	Tarzana	CA	91356-1208
Prignano	Teresa	35 Edgecroft Rd.	Kensington	CA	94707-1412
Proctor	Nancy	2012 Slater Street	Santa Rosa	CA	95404-2426
Prosise	John	1903A Bonita Ave,	Berkeley	CA	94704-1013
Provenzano	James J.	3438 Merrimac Rd.	Los Angeles	CA	90049-1034
Prugh	Charles	36 Salinas Avenue	San Anselmo	CA	94960-1641
Prugh	Eleanor	36 Salinas Avenue	San Anselmo	CA	94960-1641
Pryor	Geoff	1561 San Anselmo Ave.	San Anselmo	CA	94960-1831
Przak	Timothy	895 31st Avenue Apt. 7	San Francisco	CA	94121-3540
Ptucha	G. I.	627 Atherton Place	Hayward	CA	94541-6600
Pulcini	June	2230 The Strand	Hermosa Beach	CA	90254
Purcell	John	P.O. Box 411	Whittier	CA	90608-0411
Purcell	Gloria A.	1081 Granada St.	Belmont	CA	94002-2814
Purcell	William	66 Glen Ave., Apt. 1	Oakland	CA	94611-4903
Purzycki	Christine	600 Wilbur Ave., Apt. 1081	Antioch	CA	94509-7545
Pusey	Rachel M.	2010 10th Avenue	San Francisco	CA	94116-1303
Pusey	John C.	1913 261st St.	Lomita	CA	90717-3204
Putnam	Kathleen	409 Lawton St. #A	San Francisco	CA	94122-3628
Quade	Lynn K.	535 45th Ave.	San Francisco	CA	94121-2420
Queen	Carol A.	308 Fell St.	San Francisco	CA	94102-5143
Quigley	Mark V.	712 Morissette Way	Vacaville	CA	95687-7326
Quinlan	Alby	141 Beechtree Dr.	Encinitas	CA	92024-4031

Quinn	Mary K.	8019 Nightingale Way	San Diego	CA	92123-2730
Quinn	Charles	PO Box 484	Dunsmuir	CA	96025-0484
Quintana	Helena	1726 W. Brighton Ave., Unit A	El Centro	CA	92243-2245
Raab	W. A.	1800 West Walnut St.	Lodi	CA	95242-3160
Raadsma	Nicola	617 Seaview Drive	El Cerrito	CA	94530-3361
Rabinowitz	Jacquie	306 Centre Street	Healdsburg	CA	95448-4102
Rabkin	Sarah	413 Semple Ave.	Aptos	CA	95033-5249
Rabovsky	Jean	824 Liberty St. Apt. 2	El Cerrito	CA	94530-2861
Raday	Sophia	945 Cornell Avenue	Albany	CA	94706-2011
Radin	Florence M.	111 9th Ave. Apt. 206	San Mateo	CA	94401-4239
Radin	Pat	2495 Creekside Ct.	Hayward	CA	94542-2359
Radin	David	1491 Hopkins St., Fl. Upper	Berkeley	CA	94702-1244
Radu	Mary	2015 Lyon Ave.	Belmont	CA	94002-1636
Rae	Shauna	138 Rideout Way	Marysville	CA	95901-3842
Raeder	Andrew	PO Box 114	Lagunitas	CA	94938-0114
Rahn	Sherry S.	6231 Melita Road	Santa Rosa	CA	95409
Rahn	Brooke	455 Union St., Apt. 143	Arcata	CA	95521-6495
Rainville	Michelle	4532 Auhay Dr.	Santa Barbara	CA	93110-1706
Ralston	Randy	14200 Polk St. Unit 33	Sylmar	CA	91342-2965
Ralston	Charlene	644 Beachcomber Dr.	Seal Beach	CA	90740-5732
Ramer	David T.	10535 National Blvd. Apt. 5	Los Angeles	CA	90034-3611
Ramirez	Lupe	3328 Myrtle Ave,	Long Beach	CA	90807-4616
Ramirez-Gyatso	Trudy	1901 12th Street Apt. B	Santa Monica	CA	90404-4603
Ramos	Joan M.	2564 Colgate Way	Riverside	CA	92507-2744
Ramsay	Sarah	3201 Conifer Ln.	Garden Valley	CA	95633-9636
Ramsey	Joan	123 Grove Street	Nevada City	CA	95959
Ramstrom	Carl E.	2208 Athens River Ct.	Rancho Cordova	CA	95670-2841
Ranch	Carolynn	341 Kandrick Ln.	Vacaville	CA	95687-6661
Rand	Robert	6700 Aubuyn St., #20	Bakersfield	CA	93306
Rand	Patrick	172 S. Sycamore Ave.	Los Angeles	CA	90036-2923
Randall D.	Randall D.	541 Del Medio Ave. Apt. 121	Mountain View	CA	94040-1129
Randolph	Sheri	36703 Bel Air St.	Barstow	CA	92311-1621
Rands	M.J.	4119 San Ramon Way	San Jose	CA	95111-3539
Rangel	Mr. John	15332 Antioch St. #308	Pacific Palisades	CA	90272-3628
Ranger	Walter C.	1120 W. Avenue H7	Lancaster	CA	93534-1434
Ransom	Catherine	PO Box 26385	Los Angeles	CA	90026-0385
Ranzoni	Angela	3152 24th Street	San Francisco	CA	94110-4033
Rasco	Carey	906 Carmel Avenue	Albany	CA	94706-2106
Rasmussen	John	817 Oxford Street	Berkeley	CA	94707-2013
Rassmussen	John	630 West Bonita Ave. #9-C	Claremont	CA	91711-4580
Rath	Karen	4606 Tulip Avenue	Oakland	CA	94619-2717
Rathod	David	87 Ridge Rd.	Fairfax	CA	94930-1920
Rattner	Judy	387 Western Dr.	Richmond	CA	94801-3754
Rauch	Laura	68 Julian Avenue	San Francisco	CA	94103-3507
Raucher	Esther	1412 Old Topanga Canyon Rd.	Topanga	CA	90290-3923
Rawlings	Dorelle	1333 Thomas Ave. Apt. 17	San Diego	CA	92109-4257
Rawlinson	John A.	1207 B Neptune Ave.	Encinitas	CA	92024-1430
Ray	George G.	545 Pierce St. Apt. 3201	Albany	CA	94706-1072
Ray	C. Keith	1131 Compass Ln., Apt. 202	San Mateo	CA	94404-3433
Raymond	Marianna	1839 Hopkins Ave.	Redwood City	CA	94062-1913
Raymond	Anthony	1602 Victor Blvd.	Arcata	CA	95521-9665
Rea	James E.	5921 Colgate Ave.	Los Angeles	CA	90036-3264
Read	Nancy	PO Box 714	Los Alamos	CA	93440-0714
Reager	Lisaa	15 Forrest Ave. Apt. 1	Los Gatos	CA	95032-4455
Ream	David	1285 Montecito Ave., Apt. 39	Mountain View	CA	94043-4537
Reames	Heather	635 Central Avenue	San Francisco	CA	94117-1314
Redclay	Mary	747 Haverford Ave.	Pacific Palisades	CA	90272
Redd	Jay K.	2054 Overland Ave.	Los Angeles	CA	90025-6307
Redfern	Thomas C.	355 Orange Ave. Apt. E	Long Beach	CA	90802-3541
Reece	Craig	809 Channing Way	Berkeley	CA	94710-2419
Reed	Charles	208 15th Street	Huntington Beach	CA	92648-4411
Reed	Iyan	836 East Harvard Ave.	Fresno	CA	93704-5521
Reed	Robert	4521 Campus Drive #318	Irvine	CA	92612-2621
Reed	William S.	P.O. Box 3	Whitethorn	CA	95589
Reed	Michael S.	1629 Kilbourn St.	Los Angeles	CA	90065-2613
Reed	Rex	1954 Kobara Ln.	San Jose	CA	95124-1516
Reed	Thomas	3900 Bones Rd.	Sebastopol	CA	95472-9754
Reed	Michelle	246 Cumberland St.	San Francisco	CA	94114-2609
Reed	Mary	3900 Bones Rd.	Sebastopol	CA	95472-9754

Reetz	Alvin C.	110 Escalona Dr.	Santa Cruz	CA	95060-2603
Regalado	Julie	1188 6th St., Bldg. 77	Berkeley	CA	94710-1243
Regan	Barb	1896 Creek Drive	San Jose	CA	95125-1842
Regan	Lara	4219 1/2 Avocado St.	Los Angeles	CA	90027-2101
Regan	Margery E.	4243 Caledonia Way	Los Angeles	CA	90065-4711
Rehkugler	Elli	2565 Carpenter Canyon Rd.	San Luis Obispo	CA	93401
Reich	Andrew	439 1/2 No. Stanley Ave.	Los Angeles	CA	Los Angeles, CA
Rein	Erika	2891 \I\" Street Ext."	Petaluma	CA	94952-9521
Reinbold	Linda	911 Poppy St.	Chico	CA	95928-6940
Reindorp	Donna	PO Box 678	North Hollywood	CA	91603
Reinhard	Susan	80 Main St.,, Ste C	Belvedere Tiburon	CA	94920
Reiremo	Randi	8930 Petaluma Hill Road	Penngrove	CA	94951-8700
Reis	Rita	9158 Locust St.	Elk Grove	CA	95624-2040
Reiss	Haydn	126 Meadowcroft Dr.	San Anselmo	CA	94960-1507
Reitter	Ursula	2628 Ponce Ave.	Belmont	CA	94002-1541
Reller	Joanie	321 Modoc Avenue	Oakland	CA	94618-2536
Relph	John M.	3859 20th Street	San Francisco	CA	94114-3018
Rendall	Amanaa	1041 King Street	Redwood City	CA	94061-1509
Reno	Vera L.	6442 Edgmoor Way	San Jose	CA	95129-2927
Repon	Susan	2303 25th Avenue	Oakland	CA	94601-1211
Resnick	William J.	500 Westbourne Drive	West Hollywood	CA	90048-1914
Retsek	Stephanie	498 Fall Creek Road	Felton	CA	95018
Rettenwender	Elizabeth	1626 Norvell st.	El Cerrito	CA	94530-2244
Reusswig	Susan	1486 Waller st., Apt. 6	San Francisco	CA	94117-2933
Revier	Paul	1799 Euclid Ave. Apt. 3	Berkeley	CA	94709-1261
Reyes	Jean	2627 Benvenue Avenue	Berkeley	CA	94704-3404
Reyes	Judith	2333 Avenida Sevilla Apt. B	Laguna Woods	CA	92653-2383
Reynolds	Ruth	702 Lagunaria Lane	Alameda	CA	94502-6750
Reynolds	Scott	420 S. 3rd St., Apt. 34	San Jose	CA	95112-5720
Reynolds	Jan	6310 San Vicente Blvd., Ste. 410	Los Angeles	CA	90048-5427
Reynolds	Del	15709 Duggans Rd.	Grass Valley	CA	95949-7605
Rezos	Ruth	2701 Corabel Ln., Apt. 38	Sacramento	CA	95821-5233
Rhodes	Jane	888 Princenton Drive	Sonoma	CA	95476-4179
Rhodes	Debra	226 Descanso	Avalon	CA	90704
Rhude	Paula	1653 11th St.	Arcata	CA	95521-5716
Ribas	Mirta E.	613 Sparkes Road	Sebastopol	CA	95472-5042
Ribbin	Mara	9997 Green Valley Rd.	Sebastopol	CA	95472-9312
Ricca	Ethan	PO Box 273	Alderpoint	CA	95511-0273
Ricci	Nadia	119 N. E Street	Lompoc	CA	93436-6808
Rice	Ann L.	37734 2nd Street	Fremon	CA	94536-2925
Rice	David	433 Garfield Drive	Petaluma	CA	94954-3818
Rice	Julie	3709 Veteran Avenue	Los Angeles	CA	90034-7012
Rice	Bob	872 Peralta Ave.	San Francisco	CA	94110-6230
Rice	Juanita J.	2581 Ione St.	Sacramento	CA	95821-6528
Rich	Edward	166 Commonwealth Ave.	San Francisco	CA	94118-2604
Rich	Jonothon H.	1970 Curtis St., Apt. 8	Berkeley	CA	94702-1658
Rich	Jeanne M.	124 Hugo St.	San Francisco	CA	94122-2713
Rich Jr.	Edward J.	166 Commonwealth Ave. ,	San Francisco	CA	94118-2604
Richard	Brian	P.O. Box 865	Cardiff By The Sea	CA	92007-0865
Richard	Kathleen	8033 Earl St.	Oakland	CA	94605-3633
Richard	Glen	4817 Excelente Dr.	Woodland Hills	CA	91364-4010
Richards	Leslie A.	711 1/2 Robinson Ave.	San Diego	CA	92103-4312
Richards	Lora	184 Permanente Way Apt. 4	Mountain View	CA	94041-1063
Richards	Ralph	8585 O'Donovan Road	Creston	CA	93432-9749
Richards	Wynn E.	P.O. Box 24	Lagunitas	CA	94938-0024
Richards	Rebecca D.	851 37th Ave.	San Francisco	CA	94121-3407
Richardson	Ted	17556 Taylor Lane	Occidental	CA	95465-9286
Richardson	Laurie	2230 Marshall Way	Sacramento	CA	95818-3546
Richeson	Michael	1325 Imola Ave., PMB #208	Napa	CA	94559-4350
Richman	Darryl L.	333 Castle Dr.	Santa Cruz	CA	95065-1013
Richman	Heather	333 Castle Dr.	Santa Cruz	CA	95065-1013
Richmond	Heather	2726 Barnard Dr.	San Pablo	CA	94806-2706
Richmond	Marilyn K.	1472 Southgate Avenue	Fullerton	CA	92833-3923
Richter	Ann	134 Cumberland Way	Alameda	CA	94502-6455
Rideout	Amanda J.	PO Box 337	Big Sur	CA	93920-0337
Ridgway	Donald	659 Murray Drive	El Cajon	CA	92020-4134
Ridgway	Iris	5831 Huntington Ave.	Richmond	CA	94804-5509
Ridley	Sandra Glick	18703 Nathan Hill Dr.	Canyon Country	CA	91351-3446
Riek	Andreas	P.O. Box 708	Point Arena	CA	95468-0708

Rietveld	Jeffrey E.	1498 Brookside Ave., Apt. F179	Redlands	CA	92373-4454
Rigar	Tamar	1905 Eagle Ave.	Alameda	CA	94501-1321
Riger	Carla J., Bruce	7114 River Ranch Rd.	Montague	CA	96064-9598
Riggan	William	P.O. Box 1142	Forestville	CA	95436-1142
Riggins	Monique Ayesha	PO Box 271142	Concord	CA	94527-1142
Riggins	Cheryl L.	1805 10th Ave.	San Francisco	CA	94122-4601
Riley	Patrick	443 So. Cloverdale Ave. Apt. 3	Los Angeles	CA	90036-3415
Riley	Philip	71 Ridge Ave.	San Rafael	CA	94901-3432
Riley	Fern E.	1683 Lisbon Ln.	El Cajon	CA	92019-3450
Rincon	Constance	2857 Ceasar Chavez	San Francisco	CA	94110-4837
Rios	Jeffrey	1395 Golden Gate Ave. Apt. 307	San Francisco	CA	94115-4770
Rioux	Laura E.	2741 Ashby Pl	Berkeley	CA	94705-2307
Rippon	Barry	545 Whitewood Dr.	San Rafael	CA	94903-2454
Risher	Edith	6825 Wilton Dr.	Oakland	CA	94611-1706
Riskin, MD	Jules	555 Middlefield Rd.	Palo Alto	CA	94301-2124
Risling	Lyn	P.O. Box 2276	McKinleyville	CA	95519-2276
Ritchie	Dave	8208 El Rancho Dr.	Cotati	CA	94931-4206
Rittenhouse	Marilyn	18954 Saticoy Street	Reseda	CA	91335-1759
River	Elizabeth	1290 Marvin Way	Chico	CA	95926-2807
Roback	Jennifer	12601 Stanwood Pl.	Los Angeles	CA	90066-1525
Robb	Gary B.	7466 E. Hurlbut Ave., Apt. Stdo	Sebastopol	CA	95472-2675
Robb	Anne G.	5050 Scarborough Way	Sacramento	CA	95823-4159
Robert	Robert	2817 Putnam Street	Los Angeles	CA	90039-2641
Roberts	Brenda M.	1901 Noriega St. Apt. 2	San Francisco	CA	94122-4252
Roberts	Laura K.	1421 Compton Rd. Apt. D	San Francisco	CA	94129
Roberts	Michael	PO Box 1695	Santa Cruz	CA	95061-1695
Roberts	Daryl	1836 Pine St.	Napa	CA	94559-3125
Robertson	Ian	621 Valle Vista Ave., Apt. 3	Oakland	CA	94610-1944
Robey	Mary	238 Belmont Avenue	Long Beach	CA	90803-1517
Robins	Thayer Y.	1525 Lakeside Dr. Apt. 18	Oakland	CA	94612-4540
Robinson	Bette	510 De La Vina St. Ste. D	Santa Barbara	CA	93101-3456
Robinson	Glenn E.	61 Southbank Road	Carmel Valley	CA	93924-9733
Robinson	Jerome	216 Bayview St.	San Rafael	CA	94901-4932
Robinson	Laurel	1641 Grand View Drive	Berkeley	CA	94705-1663
Robinson	Marian S.	1235 Bonita Avenue	Berkeley	CA	94709-1922
Robinson	Randi	17280 Benson Road	Cottonwood	CA	96022-8571
Robinson	Wendy	340 Arkansas St.	San Francisco	CA	94107-2846
Robinson	Janet	155 Kiely Blvd.	Santa Clara	CA	95051-7049
Robinson	Stacy	902 Calle Cortita	Santa Barbara	CA	93109-1205
Robledo	Gilberto	1422 W. Valerio St.	Santa Barbara	CA	93101-4955
Robson	Gregory	2124 Charlemagne Ave.	Long Beach	CA	90815-2929
Robson	Susan	119 Falaise Drive	Vacaville	CA	95687-7427
Roca	Patricia	4729 Stonewood Drive	Suisun City	CA	94585-3927
Rochell	Katya	5111 Tehama Avenue	Richmond	CA	94804-5125
Rock	Patrick	558 Bryant Street	San Francisco	CA	94107-1217
Rockie	Dave	309 Williams St., #1	San Leandro	CA	94577-5836
Rockwell	David N.	520 Helen Ave.	Modesto	CA	95354-0243
Rodela	Rick	1751 Benedict Way	Pomona	CA	91767-3505
Rodin	Nick	4141 Fairway Drive	Soquel	CA	95073-3002
Rodriguez	Miguel E.	575 S. Rengstorff Ave., Apt. 73	Mountain View	CA	94040-1949
Rodriguez	Lynne	977 Pierce Dr.	Clovis	CA	93612-1509
Rodriguez	Donna C.	1629 9th Ave.	Delano	CA	93215-3052
Rodriguez	Steve	2135 Brown St.	Napa	CA	94559-1229
Rodriquez	Maria L.	4260 Cedros Ave. Apt. E	Sherman Oaks	CA	91403-4122
Roe	Nancy	3142 Arbor Dr.	Pleasanton	CA	94566-6970
Roe	Richard R.	720 Kendall Avenue	Palo Alto	CA	94306-2725
Roehr	Thomas L.	4340 Ulysses Drive	Sacramento	CA	95864-1769
Roell	Piter	468 Valley St.	San Francisco	CA	94131-2238
Rogers	Elizabeth	P.O. Box 7588	Lake Tahoe City	CA	96145-3700
Rogers	Mark S.	605 Harriet Avenue	Aptos	CA	95003-3707
Rogers	Thomas	2 Sharp Place	San Francisco	CA	94109-2017
Rogers	Zeke O.	1422 Warner Street	Chico	CA	95926-3721
Rogers	Art	3890 Serrano St.	Martinez	CA	94553-3753
Rogers	Marcia	5413 Broadway	Sacramento	CA	95820-1707
Rogers	Deirdra	121 Meernaa Ave.	Fairfax	CA	94930-2009
Rogers-Perlaman	Deborah	820 18th St.	Sacramento	CA	95814-2117
Rohr	Kathy	154 Burbank Ave.	San Mateo	CA	94403-5127
Roland	Tisa D.	309 San Benancio Road	Salinas	CA	93908-9103

Roland	Patty	PO Box 160	Rio Nido	CA	95471-0160
Rolleri	Terry	810 37th Avenue	San Francisco	CA	94121
Rollins	Gretchen	637 Milwood Ave.	Venice	CA	90291-3862
Romanini	Alexandra	1570 E. Napa St.	Sonoma	CA	95476-3823
Romano	Joyce	151 28th Street Apt 2	San Francisco	CA	94131-2446
Romero	William	5704 Albemarle St.	San Diego	CA	92139-1650
Rood	Janine	756 E. 9th St.	Chico	CA	95928-5842
Rooney	Colleen	4350 Allott Avenue	Sherman Oaks	CA	91423-3814
Roos	Judy	14719 Midland Road	San Leandro	CA	94578
Rorby	V.	16200 Mitchell Creek Dr.	Fort Bragg	CA	95437-7738
Rosa	Leslie	8549 Graham Terr. Apt. D	Santee	CA	92071-3639
Roscoe	B.	66 Fairmount Ave., Apt. 11	Oakland	CA	94611-5932
Rose	Lawrence D.	9016 Thrasher Avenue	Los Angeles	CA	90069-1242
Rose	Leonard	1165 \A\" Street"	Hayward	CA	94541-4113
Rose	Maureen	426 Browns Valley Rd.	Watsonville	CA	95076-0330
Rose	Michael M.	4709 Elsie Lee Circle	Banning	CA	92220-1229
Rose	Jeffrey	4602 Brookdale Ave.	Oakland	CA	94619-2588
Rose	Sarah	4137 Dickson St.	Oakland	CA	94605-3701
Rosen	Rita	108 Verde Court	Petaluma	CA	94954-1545
Rosen	David Lee	21 Windstone Dr.	San Rafael	CA	94903-1436
Rosen	Naomi	385 Murphy Ave., Apt. 408	Sebastopol	CA	95472-3638
Rosenberg	Amy E.	122 So. Hayworth Ave. Apt. 2	Los Angeles	CA	90048-3621
Rosenberg	Lou	733 Crane Blvd.	Los Angeles	CA	90065-4038
Rosenberg	Valarie A.	1215 No. Orange Grove Ave. #3	West Hollywood	CA	90046-5323
Rosenberg	Sandra	81 Glen Ave., Apt. 312	Oakland	CA	94611-4941
Rosenbluth	Steve	3908 Heffron Dr. Apt. B	Burbank	CA	91505-3423
Rosene	Juanita	16138 Indian Hill Dr.	Weed	CA	96094-9465
Rosenquist	Gunnar	1066 Shotwell St., Apt. A	San Francisco	CA	94110-4016
Rosenstein	Richard	2194 Century H1	Los Angeles	CA	90067-3502
Rosenthal	Beatrice	3048 Octavia St.	San Francisco	CA	94123-3618
Roseveare	Bonnie E.e	425 Rock River Drive	Vallejo	CA	94589-3607
Rosewater	Gwen	1420 Felta Rd.	Healdsburg	CA	95448-9425
Roskam	Carrie A.	2681 Ramona Street	Palo Alto	CA	94306-2315
Roskam	Michael	684 2nd Ave.	Trinidad	CA	95570-9718
Rosolina	Michael	2886 Daisy Avenue	Long Beach	CA	90806-1430
Ross	Tricia D.	2320 P Street Apt. 206	Sacramento	CA	95816-6225
Ross	Debra	9232 Marshall St.	Rosemead	CA	91770-2027
Ross	Carol	430 Coutin Ln.	Glendale	CA	91206-3103
Rossi	Mark	515 Ultimo Avenue	Long Beach	CA	90814-2046
Rosso	Brit	33633 Wolverine Lane	Squaw Valley	CA	93675-9336
Rostan	B. L.	255 9th Ave. Apt. 9	San Francisco	CA	94118-2254
Rostov	Jan A.	18 Broadway	Greenbrae	CA	94904-1557
Rota	Marina	2666 Rutherford Drive	Los Angeles	CA	90068-3043
Rota	Marina	2666 Rutherford Dr.	Los Angeles	CA	90068-3043
Roth	Tricia	1364 East Maple St. #B	Glendale	CA	91205-2653
Roth	Anna	4401 Melbourne Ave.	Los Angeles	CA	90027-4432
Rothenberg	Jeremy	22 Commercial Blvd. Ste H	Novato	CA	94949-6111
Rothman	Jennee	216 Alderbrook Dr.	Santa Rosa	CA	95405-4604
Rothschild	Susan	3903 Conrad Dr., Apt. 57	Spring Valley	CA	91977-1446
Rottier	Bonnie	PO Box 935	Point Reyes Station	CA	94956-0935
Rouse	JoAnn	P.O. Box 201	The Sea Ranch	CA	95497-0201
Rowe	Rose	535 E. San Ramon Ave.	Fresno	CA	93710-6817
Rowell	Ken	3703 \F\" Street"	Sacramento	CA	95816-3940
Rowlan	Garret	6133 Monterey Road	Los Angeles	CA	90042-4328
Rowland	Gina	44313 Acacia Avenue	Hemet	CA	92544-5487
Rowland	JoAnne	1610 3rd Street Apt. 2	Eureka	CA	95501-0758
Roy	Richard	5303 Yarmouth Ave. Apt. 113	Encino	CA	91316-3143
Rubenstein	Margurite	46 Stillings Avenue	San Francisco	CA	94131-2839
Rubine	Virginia	9162 Paradise Park Dr.	Lakeside	CA	92040-3615
Rubine Dba	Virginia	9162 Paradise Park Dr.	Lakeside	CA	92040-3615
Rubio	Laura	2250 Monroe St. Apt. 194	Santa Clara	CA	95050
Rubio	Robert	247 Cypress Avenue	San Bruno	CA	94066-4840
Ruby	Courtney	750 warfield Ave., Apt. 602	Piedmont	CA	94610-2709
Rucher	Doug	31631 Pitsch Canyon Rd.	Malibu	CA	90265-2731
Rucoba	Helen	72 Belcher St., Apt. B	San Francisco	CA	94114-1108
Rudolph	David	3182 Lone Jack Rd.	Ensenitas	CA	92024-7009
Ruhl	Jennifer	733 Yuba St.	Richmond	CA	94805-1548
Ruiz	Pauline	1415 Estudillo Street	Martinez	CA	94553-2443
Ruiz-Esparza	Christina	4397 17th St.	San Francisco	CA	94114-1804
Rulo	Patrick	50 Piedmont Rd.	Larkspur	CA	94939-2168

Rumble	Julie	PO Box 415	Albion	CA	95410-0415
Rumsey	Peter H.	5201 Harbord Drive	Oakland	CA	94618-2512
Runner	Fred	664 Northern Avenue	Mill Valley	CA	94941-3934
Runner	Molly	10532 Carol Ln.	Garden Grove	CA	92840-2052
Runningwind	Tysa C.	23262 Victory Blvd.	Woodland Hills	CA	91367-1505
Rupp	Amy	7843 Exchange Pl.	La Jolla	CA	92037-3704
Ruse	Peggy	400 California Ave.	Moss Beach	CA	94038-9795
Rush	Annalisa	PO Box 143	Trinidad	CA	95570-0143
Rusk, Roberts	Lauren, Eric	2256 Bowdoin St.	Palo Alto	CA	94306-1214
Russ	Gaile B.	1881 Grand View Dr.	Oakland	CA	94618-2339
Russek	Hal	32 Hillcrest Avenue	San Anselmo	CA	94960-2157
Russell	Diane M.	1110 Whitewater Cv	Santa Cruz	CA	95062
Russell	Susan	P.O. Box 556	Soquel	CA	95073-0556
Russell	Maureen S.	PO Box 113	North Fork	CA	93643-0113
Russell	Cynthia Young	84 Las Casas Dr., #2	San Rafael	CA	94901-2357
Russell	Roric	14643 Brookhill Rd.	Madera	CA	93638-7909
Russell	Mary	5120 34th St.	San Diego	CA	92116-1728
Russell	Eric	1620 Kirkham St.	San Francisco	CA	94122-3342
Russell	Wendy	13910 Cumpston St.	Sherman Oaks	CA	91401-5741
Russell	Kelli M.	3015 56th St.	Sacramento	CA	95820-1730
Ruth	Barbara	12 Taylor St, Apt. A	San Rafael	CA	94901-4923
Rutherford	L.	5300 Bonnie Lou Ln.	El Dorado	CA	95623-4404
Ryan	Darien	50 Morton Drive	Daly City	CA	94015-4414
Ryan	Kenneth D.	254 Molokai Circle	Union City	CA	94587-4210
Ryan	Roberta	65 McBrown Road	Petaluma	CA	94952-1046
Ryan	Lila	6338 W 80th St.	Los Angeles	CA	90045-1445
Ryan	Liz	222 Beachview Ave.	Santa Cruz	CA	95060-3057
Ryan	Becky L.	21902 Fallview Dr.	Sonora	CA	95370-9184
Ryan	Cindy	951 N. La Jolla Ave.	West Hollywood	CA	90046-6816
Ryerson	Nora	1604 Delaware St.	Berkeley	CA	94703-1211
Ryle	Janine	1555 Oak St., Apt. 10	San Francisco	CA	94117-2072
Saavedra	Carly D.	3860 Swift Avenue	San Diego	CA	92104-3112
Saavedra	Yvonne	541 Lancaster Way	Redwood City	CA	94062
Sabbadini	Gail	12509 Del Sol Rd.	Lakeside	CA	92040-4542
Sachs	Benita L.	2207 California Street	Berkeley	CA	94703-1607
Sachs	Leslie	1031 3/4 N. Croft Ave.	West Hollywood	CA	90069-4252
Sack	Warren	3001 Derby St. Apt. X	Berkeley	CA	94705-1449
Sacks	Valerie	631 So. Cochran Ave. Apt 102	Los Angeles	CA	90036-4024
Saddul	Thelma	900 Valley View Rd.	South Pasadena	CA	91030-4213
Sadler	Martha	432 So. New Hampshire Ave. #201	Los Angeles	CA	90020-1944
Saevitz	Janet	5752 Ayala Avenue	Oakland	CA	94609-1704
Safarloo	Stepan	693 Glen Avenue	Glendale	CA	91206-1621
Safholm, Slabach	Dianne, Marjorie A.	677 Peralta Ave.	San Francisco	CA	94110-5744
Sagarin	Daniel	339 Lyon St., Apt. 1	San Francisco	CA	94117-2123
Sager	Judith E.	1920 W. Sacramento Ave.	Chico	CA	95926-9631
Sagna	Marilyn	2758 Acton Street	Berkeley	CA	94702-2334
Saia	Joan	404 Effey Street	Santa Cruz	CA	95062-2640
Sakoi	Alan T.	P.O. Box 720667	San Diego	CA	92172-0667
Saks	Andrew	11832 Goshen Ave. Apt. 6	Los Angeles	CA	90049-6339
Salas	Richard	398 Magna Vista St.	Santa Barbara	CA	93110-1923
Salas	Richard	628 Olive St.	Santa Barbara	CA	93101-1627
Salcito	Jennifer	2225 8th Ave.	Oakland	CA	94606-2009
Salisbury	Richard	960 Long Court	Modesto	CA	95350-5525
Salisbury	Dawn	1515 Sonoma Ave.	Albany	CA	94706-2409
Saltman	Kay	1237 Crest Drive	Encinitas	CA	92024-5205
Saltus	Mark	10449 Cheviot Drive	Los Angeles	CA	90064
Saltzberg	Diane	2420 Moreno Drive	Los Angeles	CA	90039-2640
Salvin	Carol	6612 Gunn Dr.	Oakland	CA	94611-1439
Salyer	Saundra	PO Box 4631	Carmel	CA	93921-4631
Samargis	John G.	2351 Ocean Ave.	Venice	CA	90291-4629
Samels	Linda	1125 No. Monterey St. Apt. A	Alhambra	CA	91801-1027
Sammel	Rebecca E.	3311 Lillard Dr.	Davis	CA	95616-4910
Samper-Reeves	Francesca	2028 Walcott Way, Apt. A	Los Angeles	CA	90039-3717
Sampou	Jennifer	2466 Pebble Beach Loop	Lafayette	CA	94549-1716
Sams	James R.	2875 Cowley Way Apt. 615	San Diego	CA	92110-1011
Samsen	Joseph F.	3159 1/2 Sheffield Ave.	Oakland	CA	94602-1543
Samuels	Ronald L.	2981 Fieldbrook Road	McKinleyville	CA	95519-8123
Samuels	Ira	PO Box 358	Trinidad	CA	95570-0358

Sanazaro	Leonard	89 Theresa Street	San Francisco	CA	94112-1524
Sanchez	Cindy	125 Near Ct., Apt. 511	Walnut Creek	CA	94596-5661
Sanchez	Shirley	990 Barrett Ave.	Chula Vista	CA	91911-2215
Sanchez-Camacho	Anna	7728 Doneva Avenue	Fair Oaks	CA	95628-7314
Sandage	David	HC 1 Box 75	La Honda	CA	94020-9801
Sander	John	202 Montebello Ave., Apt. 12	Mountain View	CA	94043-4347
Sanders	Sandy	35684 Haley St. Apt. 211	Newark	CA	94560-1076
Sanderson	John	8387 Sierra Sunset Dr.	Sacramento	CA	95828-5335
Sanderson	Troy	1027 Eolus Ave.	Encinitas	CA	92024-1724
Sandoval	Lea	16775 Bridgeport St.	Fountain Valley	CA	92708-2902
Sandri	William N.	210 Aegean Way, Apt. 68	Vacaville	CA	95687-4082
Sannella	Jean	215 Valley View Dr.	Petaluma	CA	94952-1038
Sannes	Ms. Helen R.	216 Suburbia Ave.	Santa Cruz	CA	95062-1252
Santina	Bernard D.	27 West Blithedale Ave.	Mill Valley	CA	94941-1137
Santoni	Mark	997 Larkspur Dr.	Millbrae	CA	94030-1524
Santoro	Michele	1330 Antelope Ave. House 22	Davis	CA	95616-5594
Santos	Christy	1403 Martin Street	Chico	CA	95928-7543
Santos	Tony	P.O. Box 423197	San Francisco	CA	94142-3197
Saperia	David	901 10th St., Apt. 207	Santa Monica	CA	90403-2972
Saperstein	Barry	3757 Cardiff Ave.	Los Angeles	CA	90034-4008
Saraceni	Helen	P.O. Box 8083	San Mateo	CA	94404-8083
Sarachild	D'Cady	41 Leisure Park Cir.	Santa Rosa	CA	95401-5805
Sarasohn	Elizabeth	1530 9th St.	Los Osos	CA	93402-1725
Sarconi	Kathleen	1207 Melville Sq. Apt. 313	Richmond	CA	94804-4567
Sarrica	Joanne	PO Box 3166	Carmel	CA	93921-3166
Sassaman	Nancy	1072 Overlook Ridge Rd.	Diamond Bar	CA	91765-1131
Saul	Lou E.	14713 Cumpston Street	Sherman Oaks	CA	91411-3730
Saul	Karl W.	24730 Santa Rita St.	Carmel	CA	93923-8203
Saunders	Katharine	3289 Maddux Drive	Palo Alto	CA	94303-4036
Saunders	Guthrie H.	163 Belvedere St.	San Francisco	CA	9417-3915
Saunders	Gerald	1749 N. Serrano Ave., Apt. 319	Los Angeles	CA	90027-3418
Saunders	Earl W.	6481 Lake Mere Ct.	San Diego	CA	92119-2819
Savage	Toni	1538 Saint Charles St. Apt 18	Alameda	CA	94501-2304
Savage	Kate	441 Sherman Canal	Venice	CA	90291-4638
Savage	Daniel	2313 Boone Ave.	Venice	CA	90291-4742
Savary	Juliette	PO Box 848	Ramona	CA	92065-0848
Savin	Edwin	P.O. Box 2320	Montebello	CA	90640-8220
Savory	Joan	2417 18th Street	San Francisco	CA	94110-2106
Sawyer	Roland A.	P.O. Box 2235	Guerneville	CA	95446-2235
Sawyer	Terry	1622 Charlie Lane	Santa Maria	CA	93454-1583
Saxty	Trever J.	839 Oak St.	Alameda	CA	94501-5221
Scaff	William	400 N. Mentor Ave., Apt. 15	Pasadena	CA	91106-1048
Scaglione	Cris	34024 Selva Rd. Unit 61	Dana Point	CA	92629-3729
Scanlon	Matt	1023 West 17th Street	San Pedro	CA	90731-4522
Scarci	Gina C.	4518 Silver Tip Dr.	Whittier	CA	90601-1758
Schaal	Michele	1230 Vermont Street	San Francisco	CA	94110-3531
Schaar	Ruth G.	21 Schooner Lane #21	Modesto	CA	95356-1710
Schaefer	Patricia	4922 Joe Howard St., Apt. 4	Mariposa	CA	95338-8536
Schaefer	Bart	2 Adobe Ct.	Novato	CA	94945-1314
Schafer	Marilyn T.	4045 West 58th Pl.	Los Angeles	CA	90043-3401
Scharlack	Meyer	141 Cayuga Street	Santa Cruz	CA	95062-3617
Schauer	Jim	7639 Fox Trail	Yucca Valley	CA	92284
Schaus	Peter	109 Central Avenue	Capitola	CA	95010-3404
Scheatzle	Matthew A.	1411 Center St., Apt. C	Oakland	CA	94607-2054
Scheck	Dennis	18166 Bunny Dr.	Jamul	CA	91935-2631
Schell	Adam	127 South Detroit St.	Los Angeles	CA	90036-2913
Scheper	Michael	159 Bayside Court	Richmond	CA	94804
Scherfee	James F.	1239 Alma Ave.	Modesto	CA	95350-5241
Scherotter	Barbara	18571 Minuet Ln.	Anaheim	CA	92807-1148
Scherzer	Teresa	PO Box 411403	San Francisco	CA	94141-1403
Scheufele	Susan	2121 Ocean Street Ext.	Santa Cruz	CA	95060-1725
Schiffman	Glenn	2308 West Clark Ave.	Burbank	CA	91506-1912
Schiffman	Paula	15130 Minnehaha St.	Mission Hills	CA	91345-2523
Schimps	Erich F.	3958 L K Wood Court	Arcata	CA	95521-4978
Schlobohm	Margaret	13970 Barbara Ln.	Whitmore	CA	96096-9507
Schlossberg	Ruth	401 Mill Street	Mt. Shasta	CA	96067-2517
Schlossberg	J.L.	900 Pepper Tree Ln., Apt. 1425	Santa Clara	CA	95051-5284
Schmid	Jason	2250 Fair Park Ave.	Los Angeles	CA	90041-1910
Schmidt	Jack	13621 Swiss Lane	Truckee	CA	96161-7163

Schmidt	Paul	13 Evening Breeze	Irvine	CA	92612-3731
Schneble	Schneble	1123 Hampshire Street	San Francisco	CA	94110-3427
Schneider	Kirsten	21851 Newland St. Spc. 195	Huntington Beach	CA	92646-7633
Schneider	Jeanette	280 White Pine Rd.	Bishop	CA	93514-7042
Schneider	Dr. Kirk	1738 Union St., Ste. 300	San Francisco	CA	94123-4425
Schoeller	Constance	24903 Moulton Pkwy. Apt. 320	Laguna Hills	CA	92653-6474
Schoene	Katura	3626 Sacramento St., Ste. 4	San Francisco	CA	94118-1720
Schoenstadt	Kim	2606 5th St.	Santa Monica	CA	90405-4208
Schoik	R. V.	1842 Westminster Drive	Cardiff By The Sea	CA	92007-2332
Scholze	Volker	11535 Sutton Road	Petaluma	CA	94952-9739
Schoneberg	Ketzia	P.O. Box 8941	Emeryville	CA	94662-8941
Schopp	Shae Kelly	80 Meernaa Ave,	Fairfax	CA	94930-2030
Schor	Randi	815 25th Ave., Apt. 202	San Francisco	CA	94121-3603
Schouten	Jennifer	P.O. Box 13620	South Lake Tahoe	CA	96151-3620
Schrader	Mauricio	72 Northwood Common Pl.	Chico	CA	95973-7214
Schraeder	Rachel	1919 Mars Way	Chico	CA	95926-2541
Schramm	Janet	P.O. Box 50606	Santa Barbara	CA	93150-0606
Schran	Alpha M.	3726 Maybelle Ave., Apt. 3	Oakland	CA	94619-2153
Schregardus	Diane	1803 Castro Way	Sacramento	CA	95818-3038
Schreiber	Matthew	3364 1/2 21st Street	San Francisco	CA	94110-2317
Schrode	Eric	818 7th Street Apt. 7	Santa Monica	CA	90403-1437
Schroeder	Kerry A.	PO Box 956	Arcata	CA	95518-0956
Schroer	Richard M.	2371 Caper Tree Dr.	Tustin	CA	92780-7135
Schubert	Narayan	5920 San Pablo Ave.	Emeryville	CA	94608-2206
Schuhle	Mary	18817 Beatrice Drive	Sonoma	CA	95476-4647
Schultz	Laura	154 Margaret Ave., Lowr.	San Francisco	CA	94112-3024
Schusterman	Eric O.	PO Box 3054	Idyllwild	CA	92549-3054
Schwab	Schwab	1100 Western Drive	Santa Cruz	CA	95060-2317
Schwaberow	Micah	914 Beaver Lane	Santa Rosa	CA	95404-3836
Schwartz	David S.	1007 No. Kellogg Ave.	Santa Barbara	CA	93111-1024
Schwartz	Eden	3349 Cottage Way Apt. 26	Sacramento	CA	95825-1419
Schwartz	Thomas W.	17351 Horace St.	Granada Hills	CA	91344-4718
Schwartz	Harvey	140 Flora Ave., Apt. 247	Walnut Creek	CA	94595-1222
Schwartz	Mitchell	5657 Wilshire Blvd., Ste 330	Los Angeles	CA	90036-3740
Schwarz	Judith	3432 Woodstock Lane	Mountain View	CA	94040-4555
Schwarz	Linda	12011 Theta Rd.	Santa Ana	CA	92705-3328
Schwarzer	Mitchell	4039 23rd Street	San Francisco	CA	94114-3213
Schwemer	Marcia	2657 South Bedford St.	Los Angeles	CA	90034-2413
Schwenkmeyer	Karen	1545 Elevado Street	Los Angeles	CA	90026-1639
Schwindt	Patricia A.	PO Box 105	Point Arena	CA	95468-0105
Schwyn	Kirk L.	1736 Caramay Way	Sacramento	CA	95818-3037
Scism	Donna	1819 Addison St., Apt. 2	Berkeley	CA	94703-1533
Scoble	William	1662 No. Refugio Road	Santa Ynez	CA	93460-9312
Scott	Celia	1520 Escalona Drive	Santa Cruz	CA	95060-3312
Scott	Constance	1621 Tyler Street	Berkeley	CA	94703-2315
Scott	G. Michael	333 Olive Street	San Diego	CA	92103-6215
Scott	Gay	2747 Woolsey Street	Berkeley	CA	94705-2606
Scott	Larry	920 North Signal St.	Ojai	CA	93023-1823
Scott	Shelley	9023 Rose Street Spc. D-6	Bellflower	CA	90706-7478
Scott	Maylie	740 Park Ave.	Arcata	CA	95521-6520
Scott	G. Michael	2710 Teresita St.	San Diego	CA	92104-5255
Scott	Mark	358 Frederick St., Apt. 3	San Francisco	CA	94117-3943
Scott	Noelle E.	1385 Chinquapin Dr.	South Lake Tahoe	CA	96150
Scripps	James	1125 Myrtle Drive	Sunnyvale	CA	94086-8321
Searfoss	Mimi	714 Raymondo Ave.	Los Altos	CA	94024-3138
Sears	James	P.O. Box 595	Littleriver	CA	95456-0595
Sears	Judy	1050 12th St. Apt. 4	Arcata	CA	95521-5567
Seay	Diana	3083 Lorca Ln.	Carmel	CA	93923-9337
Seeholzer	Patrick	1354 Ashland Ave.	Santa Monica	CA	90405-5804
Seeley	Victoria	3010 \I\" Street"	Sacramento	CA	95816-4420
Seeley	Treacy	3769 Palos Verdes Way	South San Francisco	CA	94080
Seely	Amanda	531 E. Alder St.	Fort Bragg	CA	95437-3707
Seelye	Mary C.	516 Beloit Ave.	Kensington	CA	94708-1116
Seff	Dr. Philip	13020 South Ln.	Redlands	CA	92373-7479
Segal	Elizabeth	4480 Dubault Road	Bayside	CA	95524-9329
Segal	Louis	4247 Howe Street	Piedmont	CA	94611-4704
Seibert	Carol A.	2611 Lake Street	San Francisco	CA	94121-1045
Seibold	Stacey A.	2474 Redbud Ct.	San Jose	CA	95128-4226
Seidenberg	Ariella	2942 Ellis Street	Berkeley	CA	94703-2108

Seidenstein	E.G.	1167 Pulora Ct.	Sunnyvale	CA	94087-2312
Selfridge	Barbara	476 43rd St., Apt. 3	Oakland	CA	94609-2138
Seligson	Elliot I.	1509 Maxwell Lane	Vista	CA	92084-3465
Sell	Colette	200 Edgewood Ave.	Mill Valley	CA	94941-2638
Sellers	Charles T.	8931 Oviedo St.	San Diego	CA	92129-2149
Sellers	Dennis	5321 Concerto Cir.	Concord	CA	94521-3251
Selover	Kate W.	203 E. Valley St.	Willits	CA	95490-3625
Selph	Curt	1027 Caperton St.	Lancaster	CA	93535-3334
Semereaux	Melody	P.O. Box 774	Point Reyes Station	CA	94956
Serafini	Dino	4403 33rd Street	San Diego	CA	92116-4510
Seratt	Carl J.	3333 \W\" Street Apt. 10"	Sacramento	CA	95817-1241
Serfimides	Demetri	73 Roocca Dr.	Fairfax	CA	94930-1227
Serlin	Ilene	2084 Union St.	San Francisco	CA	94123-4103
Sertus	Robert	PO Box 9976	Berkeley	CA	94709-0976
Sessions	Mary C.	1230 Dewell Dr.	Sonoma	CA	95476-7605
Setterberg	Margaret	17280 Caminito Canasto	San Diego	CA	92127-1148
Settlage	Carol	15750 Darling View Ct.	Sutter Creek	CA	95685-9770
Settlage	Dorothy	5035 Valley Ridge Ave.	Los Angeles	CA	90043-1045
Settle	Nancy E.	1301 Beachmont St.	Ventura	CA	93001-4225
Setzoil	Paul	21950 Old Santa Cruz Hwy.	Los Gatos	CA	95033-8854
Sewell	Dorothy	1416 Paseo del Ocaso	Santa Barbara	CA	93105-2131
Seymour	Audrey	PO Box 269	Woodacre	CA	94973-0269
Shafer	Su	328 Park Place Dr.	Petaluma	CA	94954-6634
Shaffer	Harrison	PO Box 22395	San Francisco	CA	94122-0395
Shamitz	Joan	2119 East 7th Street	Long Beach	CA	90804-4503
Shand	Jim	325 Hillcrest Drive	Aptos	CA	95003-4329
Shane	Lauren	150 Smith Rd.	Watsonville	CA	95076-9725
Shannon	Frances L.	2799 Sycamore Canyon Rd.	Santa Barbara	CA	93108
Shannon	Jack	2024 West Hedding St.	San Jose	CA	95128-1426
Shannon	Christina	915 Henrietta St.	Martinez	CA	94553-1738
Shapiro	Michael	146 Verona Ave,	Goleta	CA	93114-1305
Shapiro	Elizabeth	2025 Shoreline Hwy.	Muir Beach	CA	94965-9728
Sharief	Anissa	1924 Cox Road	Aptos	CA	95003-9772
Sharkey	Meghan E.	2895 Harrison St. Apt. 4	San Francisco	CA	94110-4141
Sharpe	Roberta	106 Nicholl Ave.	Richmond	CA	94801
Sharpe	Audrey	15927 Village Way	Morgan Hill	CA	95037-5659
Shaw	Daniel	P.O. Box 2010	Chester	CA	96020-2010
Shaw	Nancy	335 Hanover St.	San Francisco	CA	94112-4304
Shaw	Renee	PO Box 433	Arcata	CA	95518-0433
Shaw	Kendall	1958 Moraga Dr.	Santa Rosa	CA	95404-6112
Shaw	Heather L.	470 38th St.	Oakland	CA	94609-2729
Shaw	Anore	3429 Bermuda Ct.	San Ramon	CA	94583-1407
Shaw	Virgil	1338 Stevenson St., Apt. B	San Francisco	CA	94103-1205
Shaw	Alice	730 Cole St.	San Francisco	CA	94117-3912
Shea	Thomas	620 Pacific Coast Hwy., Apt. A	Redondo Beach	CA	90277-4221
Sheaffer	Patti	2400 Huntington Lane	Redondo Beach	CA	90278-4415
Sheahen	Allan	P.O. Box 2372	Van Nuys	CA	91404-2372
Shearn	Patrick	1333 26th St.	Santa Monica	CA	90404-2002
Sheehan	Maureen E.	20512 Tobermory Circle	Huntington Beach	CA	92646-5837
Sheinfeld	Susan	602 Mason St., Apt. 304	San Francisco	CA	94108-3804
Shelton	Elizabeth R.	965 Webb Lane	Rio Dell	CA	95562-1428
Sheoudi	Lorraine	2535 Regent St., Apt. 17	Berkeley	CA	94704-2932
Shepard	Sandy	23212 Raymond St.	Chatsworth	CA	91311-6424
Sheperd	Kelly	7132 Point Dunes Ct.	San Jose	CA	95139-1532
Shepler	Martha	P.O. Box 5194	Santa Maria	CA	93456-5194
Sheppard	Rosemary	P.O. Box 201	Eagleville	CA	96110-0201
Sher	Michael	4019 Goodland Ave.	Studio City	CA	91604-2356
Sher	Ed	2333 Island Mountain Rd.	Garberville	CA	95542-9432
Sherer	Ruth O.	1517 Canna Court	Mountain View	CA	94043-4501
Sherter	Meredith H.	1114 Hopkins Ave. Apt. 3	Redwood City	CA	94062-1465
Sherwin	Marilyn G.	4630 Appian Way Apt. 402	El Sobrante	CA	94803-1876
Shiba	Seimi	874 Border Ave., Apt. A2	Joshua Tree	CA	92252-3391
Shim	Jennifer	12484 Wagner Street	Los Angeles	CA	90066-6826
Shimeall	Eleanor E.	P.O. Box 1022	Borrego Springs	CA	92004-1022
Shimer	Sue W.	45615 Sage Road	Aguanga	CA	92536-9762
Shine	Eddie	32 Saint Charles Ave.	San Francisco	CA	94132-3033
Shishido	Lenora	2139 Grant St. Apt. 2	Berkeley	CA	94703-1559
Shoemaker	Douglas K.	921 Haight St., #1	San Francisco	CA	94117-3106
Shoemaker	Elizabeth	1802 El Faro	Santa Barbara	CA	93109-1903
Shott	Heidi Munzinge	789 Manzanita Ave.	Sunnyvale	CA	94085-3046

Shourt	William	13519 Cheltenham Drive	Sherman Oaks	CA	91423-4817
Shovlin	Patricia	P.O. Box 20176	El Sobrante	CA	94820
Shriver	Sarah	8 Redding Way	San Rafael	CA	94901-5238
Shubin	James	40 Palomino Circle	Novato	CA	94947-3619
Shuey	Jeoffrey	P.O. Box 8088	Santa Cruz	CA	95061-8088
Shulda	Chris A.	20702 El Toro Rd., Apt. 332	Lake Forest	CA	92630-6129
Shull	Sarah E.	1924 Virginia Street	Berkeley	CA	94709-2136
Sibley	Jean	1105 High Court	Berkeley	CA	94708-1624
Sicular-Mertens	Mardi	990 Overlook Rd.	Berkeley	CA	94708-1512
Siders	Todd	419 1/2 Walnut Street	Petaluma	CA	94952-2748
Siegel	Michelle	1512 Pine Knoll Drive	Belmont	CA	94002-1931
Siegel	Irene	PO Box 504	Mill Valley	CA	94942-0504
Sievers	Trina	4115 East 14th St.	Long Beach	CA	90804-3006
Sievers	Tere, Ron	4115 E 14th St	Long Beach	CA	90804-3006
Sigal	Danna	2345 Wilson Ave.	Venice	CA	90291-4738
Sigala	Patrick A.	1917 S. Chestnut Ave., Apt. 47C	Fresno	CA	93702-5514
Sikora	Gloria J.	3849 La Selva Drive	Palo Alto	CA	94306
Silber	Anne	128 St. Malo Ct.	Martinez	CA	94553-7211
Silber	Stacey	3009 Arizona Ave., Apt. 4	Santa Monica	CA	90404-1668
Silencio	Nurtchia	P.O. Box 244	Garberville	CA	95542-0244
Siler	Steve	P.O. Box 1326	Mendocino	CA	95460-1326
Silhavy	Myrus J.	827 Via Alhambra Unit C	Laguna Woods	CA	92653-4880
Siltamaki	Sandy	1129 N. Valley St.	Burbank	CA	91505-2414
Silva	Joseph	2139 Stanford Ave.	Mountain View	CA	94040-1518
Silver	Dorothyanne	1421 Allston Way	Berkeley	CA	94702-1922
Silverbear	Marion	3262 Fern Flat Rd.	Aptos	CA	95003-2658
Silverio	Alex	1507 San Tomas Ct.	San Jose	CA	95130-1251
Silverman	Murray	2141 Stuart St.	Berkeley	CA	94705-1012
Silverman	Erica D.	4001 Evadale Dr.	Los Angeles	CA	90031-1416
Silverstein	Marsha	6126 Harwood Ave.	Oakland	CA	94618-1340
Simmonds	Beverly	711 Potter Avenue	Half Moon Bay	CA	94019-1833
Simmons	Leslie	1643 N. Hollywood Way	Burbank	CA	91505-1833
Simms	Catriona	4201 Camino Real	Los Angeles	CA	90065
Simon	Benjamin	6430 Regent Street	Oakland	CA	94618-1314
Simon	John	554 Studley Street	Sonoma	CA	95476-6406
Simon	Kathryn	132 Clinton Park Apt. 5	San Francisco	CA	94103-2377
Simon	Robert F.	10535 Fair Oaks Blvd.	Fair Oaks	CA	95628-7208
Simon	Daniel	1009 Miller Ave.	Berkeley	CA	94708-1515
Simpson	Christine	883 1/2 Fulton St.	San Francisco	CA	94117-1709
Simpson	Cynthia	728 East 12th Street	Pittsburg	CA	94565-2709
Simpson	Eric R.	2403 Progress Avenue	Eureka	CA	95501-3578
Simpson	Caroline M.	2470 Barry Ave.	Los Angeles	CA	90064-2916
Sims	Jennifer E.	3720 Clarington Ave. Apt. 201	Los Angeles	CA	90034-5847
Sims	Michael M.	2140 Shattuck Ave. Ste. 602	Berkeley	CA	94704-1227
Sims	Nathaniel J.	3410 22nd St. Apt. 5	San Francisco	CA	94110
Sims	Elizabeth	3841 38th St.	Sacramento	CA	95820-1247
Sims	Pete	1012 S. Orange Dr.	Los Angeles	CA	90019-1557
Sinclair	Doreen	1800 P St.	Sacramento	CA	95814-6111
Singhal	Ashok	711 Lakemead Way	Redwood City	CA	94062-3922
Singleton	Diana	1640 West Mountain St.	Glendale	CA	91201-1264
Sir / Madam	Sir / Madam	P.O. Box 341698	Los Angeles	CA	90034-9698
Sir / Madam	Sir / Madam	2000 Van Ness Ave.	San Francisco	CA	94109-3023
Siringer	Julia	4960 Lundblade Drive	Eureka	CA	95503-6486
Sisson	George W.	P.O. Box 7363	Santa Cruz	CA	95061-7363
Sitkin	Patricia	28631 East Shelton Rd.	Linden	CA	95236-9420
Sittloh	Sharon	645 Anthony Ct.	Sonoma	CA	95476-6429
Skaggs	Sarah	1550 Hayes St. Apt. 5	San Francisco	CA	94117-1353
Skeen	William	4035 Kenosha Avenue	San Diego	CA	92117-5307
Skelley	John	15670 Poppyseed Lane	Canyon Country	CA	91351-1850
Skye	Coby	28 Cerritos Ave. Unit 206	Long Beach	CA	90802-5536
Skyles	William	270 Hames Rd., Spc.50	Corralitos	CA	95076-0221
Slater	Philip	125 Tree Frog Ln.	Santa Cruz	CA	95060-4805
Slayman	Charles	5029 Birkdale Way	San Jose	CA	95138-2110
Sloan	Caroline	45 Pond Street	San Francisco	CA	94114-1606
Sluiter	Nancy	3201 Knowland Ave.	Oakland	CA	94619-2629
Small	Holly	3637 Angelus Ave.	Glendale	CA	91208-1224
Smallwood	Merle E.	4919 Charter Rd.	Rocklin	CA	95765-5240
Smay	Betty	1152 Vard Loomis Way	Arroyo Grande	CA	93420-2923
Smelser	Claudia	2400 Roosevelt Ave.	Berkeley	CA	94703-1930
Smiley	Chelsea	671 Vernon St. Apt. 106	Oakland	CA	94610-1485

Smith	A. N.	241 14th Street	San Francisco	CA	94103-2430
Smith	Douglas G.	16841 Hills O Home Lane	Fort Bragg	CA	95437-8707
Smith	Irene D.	465 Kenmore Avenue	Sunnyvale	CA	94086
Smith	Jennifer	1159 Stratford Cir. Apt. 29	Stockton	CA	95207-5044
Smith	JoAnn	3719 Esmond Ave.	Richmond	CA	94805-1330
Smith	Karen L.	15182 Herring Ave.	San Jose	CA	95124-3424
Smith	Kendra	1151 Colusa Avenue	Berkeley	CA	94707-2726
Smith	Kenneth	113 No. Main Street #28	Sebastopol	CA	95472-3448
Smith	M.	P.O. Box 3232	Running Springs	CA	92382-3232
Smith	Marilynn M.	1598 Hillmont Avenue	San Jose	CA	95127-4521
Smith	Maureen	P.O. Box 2325	Aptos	CA	95001-2325
Smith	Michael N.	358 Merk Road	Watsonville	CA	95076-0516
Smith	Michele	7660 Fay Avenue #PMB-108	La Jolla	CA	92037-0021
Smith	Miles	477 Roosevelt Way	San Francisco	CA	94114-1435
Smith	Pat	459 Fernandez Court	Santa Clara	CA	95050-6407
Smith	R. L.	1760 Milton St.	Redwood City	CA	94061-3449
Smith	Randy	20395 Callon Drive	Topanga	CA	90290-3702
Smith	Sandy	3862 Udell Court	Los Angeles	CA	90027-4741
Smith	Shelly	106 Monroe St. Apt. 16	Santa Clara	CA	95050-5863
Smith	Suzanne	1050 Jefferson St. Apt. 23	Fairfield	CA	94533-5549
Smith	Sydney H.	897 Camino Corto	Goleta	CA	93117-4333
Smith	Trina	1010 River Lane	Santa Ana	CA	92706-1524
Smith	Bonnie	15470 Morningside Dr.	Guerneville	CA	95446-9503
Smith	June B.	3915 S. Carolina St.	San Pedro	CA	90731-7115
Smith	John	4468 Harding Ave.	Los Angeles	CA	90066-6123
Smith	Rebecca	PO Box 31	Orick	CA	95555-0031
Smith	Brad	400 N. El Molino Ave., Apt. F	Pasadena	CA	91101-1437
Smith	Alicia L.	201 Hillside Ave.	Menlo Park	CA	94025-6566
Smith	Stephen V.	391 Fernando Ave.	Palo Alto	CA	94306-2818
Smith	Scott	PO Box 882	San Miguel	CA	93451-0882
Smith	Nona R.	4393 Bridgeview Dr.	Oakland	CA	94602-1910
Smith	Randall	1029 Clipper Ct.	Del Mar	CA	92014-3924
Smith	Glenn	15505 Excelsior Ditch Camp Rd.	Nevada City	CA	95959-9428
Smith	Carrie	PO Box 568	Twin Peaks	CA	92391-0568
Smith	Doug	619 S. Cochran Ave., Apt. 1	Los Angeles	CA	90036-4010
Smith	Douglas	5959 Abernathy Dr.	Los Angeles	CA	90045-1621
Smith	Brian J.	729 W. 26th St.	San Pedro	CA	90731-6353
Smith	Holden	PO Box 90436	Santa Barbara	CA	93190-0436
Smith	Judith Ann	2712 Grande Vista Ave.	Oakland	CA	94601-1320
Smith	Cass	5225 Vine Hill Rd.	Sebastopol	CA	95472-2022
Smith	Leo	PO Box 2787	Guerneville	CA	95446-2787
Smith	Marie C.	23902 Capistrano st.	Valencia	CA	91355-3301
Smith	Sally W.	258 E. 40th Ave.	San Mateo	CA	94403-3662
Smith	Peggy E.	2310A Yale St.	Palo Alto	CA	94306-1428
Smith	Jennifer	1206 Broadway St.	Chico	CA	95928-6524
Smith	Erin C.	1268 11th Ave.	San Francisco	CA	94122-2203
Smith	Robert	407 Huron Ave.	San Francisco	CA	94112-3626
Smith	Jeff	8829 Venice Blvd.	Los Angeles	CA	90034-3218
Smitheman	Robt C.	17173 Mount Elizabeth Dr.	Sonora	CA	95370-9546
Smithfield	Robert	P.O. Box 1113	Fairfax	CA	94978-1113
Smithson	David	4355 Elmer Avenue	North Hollywood	CA	91602-2632
Smithson	Colin	28 E. Ramona St.	Ventura	CA	93001-1905
Smock	April	2100 Mount Diablo Scenic Blvd.	Danville	CA	94506-2002
Smurlo	Vicki	321 East Elk Ave.	Glendale	CA	91205-1612
Smurr	Gretchen	212 California St.	Suisun City	CA	94585-2455
Smyth	Mary	4120-A Iowa Street	San Diego	CA	92104-1904
Sniezko	Jim	317 Alma Avenue	Rohnert Park	CA	94928
Snook, Steward	Nolan, Roslie	151 Paulsen Ln.	Petaluma	CA	94952-1010
Snortum	Beth	2311 Tice Valley Blvd.	Walnut Creek	CA	94595-2617
Snow	Donna J.	2490 Oak Knoll Way	Oroville	CA	95966-7011
Snyder	Ed	P.O. Box 70434	Richmond	CA	94807-0434
Snyder	Arthur	473 E. Meadow Dr., #2A	Palo Alto	CA	94306-3623
Soffer	Jill	133 Fraser Avenue	Santa Monica	CA	90405-3502
Sohier	Elaine	520 Miramar Dr.	Half Moon Bay	CA	94019-5133
Sojourner	Douglas	34925 Osprey Dr.	Union City	CA	94587-4618
Sokolinsky	Joseph	117A Bartlett St.	San Francisco	CA	94110-3022
Soler	Julian	175 Germania St.	San Francisco	CA	94117-3414
Sollitto	Jill	26756 Adams Rd.	Los Gatos	CA	95033-8178
Solomon	Irena	3415 22nd Street. Apt. 14	San Francisco	CA	94110
Solveig	Lesley	767 Creston Road	Berkeley	CA	94708-1253

Somero	George	25010 Outlook Drive	Carmel	CA	93923-8960
Sommers	Mark	1501 Grand St., Apt. D	Alameda	CA	94501-2557
Sommerset	Mary S.	60 Parkridge Dr. Apt. 10	San Francisco	CA	94131
Somps	Diana	100 Iolanthus Ave.	Novato	CA	94945-3537
Sonas	Christina M. P.	1836 Bockman Road	San Lorenzo	CA	94580-2133
Sonnanstine	Flora	293 Avenida Barbera	Sonoma	CA	95476-8082
Soracco	Cynthia	717 Hampshire St.	San Francisco	CA	94110-2129
Sorensen	Richard	12401 Quartz Hill Rd.	Redding	CA	96003-1071
Soukup	Michael	561 Valley Forge Way, Apt. 2	San Jose	CA	95117-3659
Soule	Shanti	PO Box 46	Forestville	CA	95436-0046
Souza	Maggie Dawes	45 Cordone Dr.	San Anselmo	CA	94960-1750
Sowle	Mike	2210 Sacramento St. #A	Berkeley	CA	94702-1907
Spake	Gene	372 Richardson Way	Mill Valley	CA	94941-4053
Spalding	Mark	11055 Cedarcrest Way	San Diego	CA	92121-4136
Spangler	Sheryl	5946 Rosemead Blvd.	Temple City	CA	91780
Spano	Robert E.	3240 Hillock Drive	Los Angeles	CA	90068
Speakman	Katherine M.	3629 13th Ave., Apt. 24	Oakland	CA	94610-2842
Spears	Tracy	343 Soquel Ave. #166	Santa Cruz	CA	95062-2305
Spelce	Daniel F.	2572 Howe Street	Santa Cruz	CA	95065-1903
Spelman	Judy	P.O. Box 1204	Point Reyes Station	CA	94956
Spencer	Jean	832 Polk Street	Albany	CA	94706-1528
Spencer	Kristen L.	13830-A Page Mill Rd.	Los Altos	CA	94022-1820
Spencer	Paul N.	1262 El Padro Dr.	Livermore	CA	94550-5817
Spencer	Virginia	1071 Maverick Ct.	Santa Rosa	CA	95404-9643
Spencer	Mimi	1201 Brickyard way, Apt. 206	Richmond	CA	94801-4143
Speraw	Ruth	377 Virginia Avenue	Pasadena	CA	91107-5218
Spiegel	Steve	1074 E. Tujunga Ave.	Burbank	CA	91501-1438
Spiekerman	Damian	2009 Manet Pl.	Davis	CA	95616-0536
Spier	Edgar	933 Maltman Ave. #2	Los Angeles	CA	90026-2713
Spindler	Kathleen M.	18708 Lilac St.	Hesperia	CA	92345-5268
Spitler	Paul	P.O. Box 72114	Davis	CA	95617-6114
Splan	Laura M.	745 Haight St., Apt. 9	San Francisco	CA	94117-3301
Spooner	Patty	PO Box 0	Davenport	CA	95017-1014
Sporleder	Janet	1399 Cheviotdale Dr.	Pasadena	CA	91105-2111
Sprague	William	3141 Hawthorn St.	San Diego	CA	92104-5637
Spriestersbac	Ronald	1553 North Curson Ave.	Los Angeles	CA	90046
Springer	Mary	P.O. Box 185	Stinson Beach	CA	94970-0185
Spurlock	S.	506 E. Grand Ave. Rear	El Segundo	CA	90245-3905
Squire	Blanche P.	2050 Delaware St. Apt. 204	Berkeley	CA	94709-2172
Squire	Mark	4000 Canfield Road	Sebastopol	CA	95472-6124
Squires	Susan E.	P.O. Box 881	Pescadero	CA	94060-0881
St. John	A. L.	525 22nd Street	Oakland	CA	94612-1613
Staats	Judith	28 Meadow Drive (Rear)	San Rafael	CA	94903-2825
Stack	Joe	3015 E. Theresa St. Apt. 17	Long Beach	CA	90814-4827
Stadler	Gretchen	1743 Stromberg Ave.	Arcata	CA	95521-5025
Stahl	Kimberly	434 Kearney St. Apt. 3	El Cerrito	CA	94530-3628
Stajich	Steve	2912 4th Street	Santa Monica	CA	90405-5504
Stam	Brad	3033 Castro Street	San Francisco	CA	94131-3025
Stanard	Stephen R.	1945 N. Commonwealth Ave.	Los Angeles	CA	90027-2807
Stancil	Carl	126 Escalona Drive	Santa Cruz	CA	95060-2603
Standhardt	Patrick	P.O. Box 384	Morongo Valley	CA	92256-0384
Standley	Marilyn	PO Box 2327	Sebastopol	CA	95473-2327
Stanis	Justine	174 Chattanooga St.	San Francisco	CA	94114-3410
Stanley	John	22841 Emerald Harbor Ct.	Lake Forest	CA	92630-3684
Stanley	Sheila	316 Ridgeway Ave.	Santa Rosa	CA	95401-4322
Stanley	Kelli	2155 44th Ave.	San Francisco	CA	94116-1532
Stantjeska	Simona	38314 16th St. E.	Palmdale	CA	93550-4804
Staples	Hilary	234 Floribel Ave.	San Anselmo	CA	94960-2262
Starks	Kenneth	6292 Spar Way	Magalia	CA	95954-9318
Starr	Karen L.	1238 Johnson Avenue	San Diego	CA	92103-2318
Stasko	Diana J.	5445 Vicente Way Apt. 17	Oakland	CA	94609-1941
Stassinopoulos	Nancy	6861 summit Ridge Way	San Diego	CA	92120-1740
Stasz	Clarice	324 Walnut Street	Petaluma	CA	94952-2747
Stauffer	James	3750 Starr King Circle	Palo Alto	CA	94306-4260
Stauffer	James V.	2151 Oakland Rd. Space 133	San Jose	CA	95131-1516
Staus	Carroll	21851 Newland St., Spc. 91	Huntington Beach	CA	92646
Stearns	Laurence E.	4120 Scranton Cir.	Carmichael	CA	95608-1312
Stearns	Elizabeth A.	2611 Piedmont Ave., Apt. 4	Berkeley	CA	94704-3428
Steele	Martha	332 20th Ave.	San Francisco	CA	94121-2205
Steenerson	Margaret	2809 Lantz Ave.	San Jose	CA	91524-1422

Steese	Laurie	910 Adrian Way	San Rafael	CA	94903-3014
Steffensen	Ruth	5610 Butte View Ter.	Paradise	CA	95969-5405
Stegman	Rachel	2231 E. Leland Rd., Apt.151	Pittsburg	CA	94565-5149
Steichen	Dave	2431 Oregon St. Apt. 3	Berkeley	CA	94705-1148
Steidel	Jane	2620 Clear Creek Rd.	Quincy	CA	95971-9600
Steidinger	Eric	2601 Outpost Dr.	Los Angeles	CA	90068-2648
Steiger	Jamie	173 Sierra Vista Ave., Apt. 14	Mountain View	CA	94043-4468
Stein	Danica L.	1190 7th Ave. Spc. 52	Santa Cruz	CA	95062-2739
Stein	Gary T.	770 Broad Street	San Luis Obispo	CA	93401
Stein	Mary	PO Box 386	Avalon	CA	90704-0386
Steinberg	M. L.	P.O. Box 685	Coarsegold	CA	93614-0685
Steinberg	Paul	1133 S. Wooster St., Apt. 204	Los Angeles	CA	90035-1452
Steinborn	Dr. Catherine	1150 Scott Blvd, Suite C2	Santa Clara	CA	95050-4547
Steiner	Lora	4765 Bear Canyon Rd.	Willits	CA	95490-8748
Steinhart	Paula	1338 8th St.	Los Osos	CA	93402-1258
Steinmetz	Betty	138 Sherman St.	Santa Cruz	CA	95060-3433
Stejskal	Holly A.	3209 N. Mountain View Dr.	San Diego	CA	92116-1736
Stelling	Barry	540 Boyes Blvd.	Sonoma	CA	95476-3749
Steltenpohl	Greg	P.O. Box E	Davenport	CA	95017-1004
Stemet	Lilia S.	2125 Chanticleer Ave.	Santa Cruz	CA	95062-1833
Stephen	Elizabeth	PO Box 232	Blue Lake	CA	95525-0232
Stephens	Cherie	145 Hemlock Court	Palo Alto	CA	94306-4623
Stephens	Stephanie	PO Box 8352	South Lake Tahoe	CA	96158
Stephens	Lisa A.	2150 Channing Way, Apt. 21	Berkeley	CA	94704-2064
Stern	Lise	1502 Laurel Avenue	Richmond	CA	94805-1622
Stern	Michael P.	918 Natoma St.	San Francisco	CA	94103-2515
Stern	Micki K.	335 Moreton Bay Ln., Apt. 2	Goleta	CA	93117-2222
Stetta	Barbara	1050 Borregas Ave., Spc. 40	Sunnyvale	CA	94089-1656
Stevens	Joanne E.	4544 Cabrillo Street	San Francisco	CA	94121-3214
Stevens	Nicole	162 Belvedere St. #B	San Francisco	CA	94117-3916
Stevenson	Stevenson	P.O. Box 297	29 Palms	CA	92277-0297
Stevenson	William C.	1515 Shasta Dr. Apt. 1325	Davis	CA	95616-6677
Stevenson	Douglas J.	2808 Welk Connon	Fremont	CA	94555
Stewart	Amy	1410 Steiner St. Apt. 612	San Francisco	CA	94115-4188
Stewart	Charles F.	890 Fargo Avenue	San Leandro	CA	94579-2106
Stewart	Gary	2316 32nd Street	Santa Monica	CA	90405-2028
Stewart	Joseph	4626 Utah Street	San Diego	CA	92116-3146
Stewart	Margy	2666 Elizabeth Ct.	Sebastopol	CA	95472-2002
Stewart	Sandra	2232 Glencoe Avenue	Venice	CA	90291-4039
Stewart	April M.	18755 Crest Ave.	Castro Valley	CA	94546-2731
Stewart	Roger	7397 Hidden Lake Rd.	Forestville	CA	95436-9702
Stewart	D.	285 Hillcrest Dr.	Lakeport	CA	95453-3114
Stewart	Jamie W.	860 S. California St.	Palo Alto	CA	94306-1358
Stewart	Patrick	340 Pico St.	Morro Bay	CA	93442-1558
Stewman	Donna	895 Roberts Rd.	Ben Lomond	CA	95005-9471
Stickle D.C.	John C.	240 Beach Pines Dr.	Aptos	CA	95003-4704
Stiles	Guy	2015 Bridgeway Ste. 304	Sausalito	CA	94965-1787
Stiles	Harold	237 Santa Margarita Dr.	San Rafael	CA	94901-1659
Stiles	Sherry	314 W. 14th St.	Chico	CA	95928-6513
Stirm	Jay	433 Balmoral Way	Hayward	CA	94544-8005
Stock	Greg	606 Graham Hill Road	Santa Cruz	CA	95060-1409
Stock	Jan	275 Park View Ter., Apt. 6	Oakland	CA	94610-4541
Stockdill	Shay L.	2340 Poinsettia Street	Santa Ana	CA	92706-2050
Stocker	James D.	866 Hermosa Way	Menlo Park	CA	94025-5624
Stofka	Siobhan	2041 N. Commonwealth Ave., Apt. 106	Los Angeles	CA	90027-2840
Stokes	Toni	5422 Selmaraine Drive	Culver City	CA	90230
Stone	Jerome	5804 Ayala Avenue	Oakland	CA	94609-1506
Stone	Jim	21394 Aldercroft Hts.	Los Gatos	CA	95033-8606
Stone	Leonard	211 Spalding Dr. 304 S.	Beverly Hills	CA	90212-3622
Stone	Peter F.	444 San Antonio Rd. Apt 12-A	Palo Alto	CA	94306-4648
Stone	Kari	1925 Stearnlee Ave.	Long Beach	CA	90815-3043
Stone	Hannah	801 Bolinas Rd.	Fairfax	CA	94930-2143
Stone	Louisa	143 Gennessee St.	San Francisco	CA	94112-1302
Stone	Mary	11800 Hart Rd.	Montague	CA	96064-9741
Stone	Brad	418 Everett Ave.	Palo Alto	CA	94301-1506
Stone	Brahna	725 Bridgeway, Apt. A	Sausalito	CA	94965-2102
Stone	Tyler	512 Center St.	Santa Cruz	CA	95060-4313
Storey	Karen	1647 San Benito Street	Richmond	CA	94804-5326
Stoub	Robin	632 Cortland Avenue	San Francisco	CA	94110-5614

Stout	Sandra	PO Box 338	El Verano	CA	95433-0338
Stover	A.J.	501 W. Sierra Ave., Apt. 114	Fresno	CA	93704-1136
Stowell	Holly	2008 Pomegranate Ln.	Fallbrook	CA	92028-4413
Strachan	Nancy	62 Ventura Street	Half Moon Bay	CA	94019-1326
Strachota	Kathryn	125 Amherst Avenue	Menlo Park	CA	94025-3803
Straehley	Clifford	4913 Rimwood Drive	Fair Oaks	CA	95628-3660
Strasburg	Paul	P.O. Box 7445	Menlo Park	CA	94026-7445
Stratton	Andrea W.	6701 Pinehaven Rd.	Oakland	CA	94611-1013
Straus	Lynda G.	2233 \N\" Street Apt. 208"	Sacramento	CA	95816-5704
Straus	Peter	79 Pierce Street	San Francisco	CA	94117-3318
Straus	Mary C.	1043 Harvest Cir.	Pleasanton	CA	94566-6439
Strauss	Alan	4304 Muguet Court	Modesto	CA	95356-9776
Strayer	Marilyn	519 Washington St.	Santa Cruz	CA	95060-4326
Streight	Collette	322 Chiverton St.	Santa Cruz	CA	95062-1146
Stremler	Laura	1736 Redondo St.	San Diego	CA	92107-3717
Stricker	Peter D.	2505 Castillo Street	Santa Barbara	CA	93105-4303
Strickland	William K.	3125 Lowell Street	Eureka	CA	95503-5218
Stricklin	Suzanne T.	601 Van Ness Ave. Ste. E	San Francisco	CA	94102-6313
Strieter	Daisy	354 Karen Way	Belvedere	CA	94920-2047
Strode	Margaret	2062 Imperial Avenue	Davis	CA	95616-3167
Strom	Dave	626 Mariners Island Blvd. #207	San Mateo	CA	94404-1028
Strong	Anne L.	2556 Knollwood Drive	Cameron Park	CA	95682-7719
Strong	Caitlin	492 37th St.	Oakland	CA	94609-2813
Strong	Laura	54 29th St.	Richmond	CA	94804-1940
Stroughton	Mary L.	870 Chula Vista Ave.	Pasadena	CA	91103-2765
Strout	John N.	13250 Philadelphia St., Apt. 228	Whittier	CA	90601-5305
Struthers	Stephen	1402 D St., Apt. 4	Eureka	CA	95501-2372
Stryker	Morgan	131 Averitt St.	Santa Cruz	CA	95060-5235
Studner	Roger	1521 Osos Street Apt 2	San Luis Obispo	CA	93401-4051
Stull	David B.	1495 Carmel Drive	Walnut Creek	CA	94596-4622
Sturtevant	Bev	1022 Middleton Court	Modesto	CA	95350-4124
Subak	Leslee	140 Cerritos Avenue	San Francisco	CA	94127-2845
Suddarth	Bonnie E.	1962 W. Steele Ln. Apt. 11	Santa Rosa	CA	95403-2629
Suden	Florence T.	2435 Felt St. Spc. 52	Santa Cruz	CA	95062-4237
Suderburg	Erika	1807 Effie Street	Los Angeles	CA	90026-1711
Sugarman	Steven	29500 Heathercliff Rd. Spc. 222	Malibu	CA	90265-6222
Sugarman	M.	2740 White Horse Rd.	Cool	CA	95614-9496
Suhr	Hannah	3116 38th Ave., Apt. 207	Oakland	CA	94619-1255
Sulewski	Christine	700 Laguna St. Apt. 107	San Francisco	CA	94102-4281
Sullivan	Patricia	29021 Bouquet Canyon Rd.	Santa Clarita	CA	91350-3159
Sullivan	Tad C.	421 Seaward Rd.	Corona Del Mar	CA	92625-2600
Sullivan	Jade	1421 Kains Ave.	Berkeley	CA	94702-1017
Sullivan	Lori	16901 Franklin Rd.	Fort Bragg	CA	95437-7700
Sulski	Victoria	6359 Harvey Rd.	Paradise	CA	95969-3449
Sumaraga	Lorna	2540 Loomis Court	San Jose	CA	95121-2234
Summers	Linda J.	2640 Warring Street	Berkeley	CA	94704-3415
Summit	Joshua	4032 Birchgrove Way	Sacramento	CA	95826-5409
Sumner	Patrick	3 Doris Pl.	Berkeley	CA	94705-1611
Sunderland	Celeste	1627 Anacapa Street	Santa Barbara	CA	93101-1909
Sunnen	Linda	21 Bay Forest Dr.	Oakland	CA	94611
Suskin	Romy	101 27th St., Apt. 11	San Francisco	CA	94110-4343
Sussman	Myles	1210 Vicente Dr., Apt. F	Sunnyvale	CA	94086-7206
Sutherland	K.	135 Sacramento Ave.	Santa Cruz	CA	95060-6214
Sutherland	John/Maria	712 G St.	Petaluma	CA	94952-4120
Sutliff	Gerald M.	6400 Christie Ave. Apt. 2101	Emeryville	CA	94608-1025
Sutter	Maria M.	4105 Montgomery St., Apt. 15	Oakland	CA	94611-5136
Sutton	Donald D.	231 La Veta Ave.	Encinitas	CA	92024-2508
Svihura	Michael	2309 Rock Street Apt. 26	Mountain View	CA	94043-2666
Swanson	John	2903 Waverly Drive	Los Angeles	CA	90039-2015
Swanson	Dale L.	92 Chenery St., Apt. 1	San Francisco	CA	94131-2707
Swansons	Robert M.	111 Liberty Street	Petaluma	CA	94952-2902
Swartz	Jason	1559 17th Ave.	San Francisco	CA	94122-3404
Swedenburg	Ray	3758 Griffith View Drive	Los Angeles	CA	90039-1715
Swedlund	Mark	1495 Hurlbut Ave.	Sebastopol	CA	95472-2876
Sweeney	Ardelle M.	837 Milwood Ave.	Venice	CA	90291-3830
Swenson	Adrienne	655 Doyle Park Drive	Santa Rosa	CA	95405-6601
Swetech	Jay	PO Box 237	Forestville	CA	95436-0237
Sweyer	Helen	160 Alta Mesa Road	Woodside	CA	94062-3501
Swisher	Dana B.	430 William Ave.	Larkspur	CA	94939-1530
Switalla	Scott	2194 Crawford Ave.	Altadena	CA	91001-2430

Switzer	Michelle	4357 Clarissa Ave. Apt. 6	Los Angeles	CA	90027-2819
Switzer-Burgess	An	431 Canon Crest St.	Los Angeles	CA	90065-5057
Sylvan	Susan	21361 Sunnyside Rd.	Los Gatos	CA	95033-8613
Syphers	Grant/Leigh	4081 Churchill Dr.	Pleasanton	CA	94588-3517
Szekely	Shelly	5088 Callie Real #B	Santa Barbara	CA	93111
Tabor	Frances	474 Jean Street	Oakland	CA	94610-2639
Taffe	Brian	P.O. Box 60902	Sunnyvale	CA	94088-0902
Taggart	Lorraine	2608 Sacramento St. Apt. D	Berkeley	CA	94702-2321
Takach	Gail M.	4331 Elma Lane	La Mesa	CA	91941-5813
Takakuwa	Takako	1566 Church St. Apt. 3	San Francisco	CA	94131
Takigawa	Jerry	206 Country Club Dr.	Carmel Valley	CA	93924-9552
Takvorian	Lawrence K.	1241 Granite Road	San Marcos	CA	92069-1405
Tamm	Sharon	1015 Shattuck Ave.	Berkeley	CA	94707-2625
Tampel-Tippey	Janella	17332 Summit Ave.	Geureville	CA	95446-9089
Taneyhill	Kay	4065 23rd Street	San Francisco	CA	94114-3213
Tankell	Dana	13848 Freeport Rd.	San Diego	CA	92129-3207
Tanner	Michael	3015 3rd Street Apt. 6	Santa Monica	CA	90405
Tanner	Jeff	3164 22nd St., Apt. 2	San Francisco	CA	94110-3245
Tanner	Lesa	PO Boz 722	Graton	CA	95444-0722
Tardif	Guy	391 Montclair Dr. Spc. 80	Big Bear City	CA	92314-9746
Tate	Tedi	1059 Marco Place	Venice	CA	90291-3935
Tate	Michael	1348 Roycroft Ave.	Long Beach	CA	90804-3132
Tate	Rusty	PO Box 533	Ventura	CA	93002-0533
Tatnall	Caroline	1128 Hymettus Avenue	Encinitas	CA	92024-1742
Tatum	Rebecca	1923 1/2 Lemoyne Street	Los Angeles	CA	90026-1823
Tayeb	Melanie H.	4671 Hamilton St. Unit 10	San Diego	CA	92116-3064
Taylor	Ann Marie	P.O. Box 646	Half Moon Bay	CA	94019-0646
Taylor	Joanna	817 Nason St.	Santa Rosa	CA	95404-3311
Taylor	Pat	P.O. Box 13568	Berkeley	CA	94712
Taylor	Richard P.	3300 Mission Apt. #14	Union City	CA	94587
Taylor	Stella	2216 Shenandoah Pl.	Davis	CA	95616-6603
Taylor	Abraham S.	6 Victoria Vale	Monterey	CA	93940-4116
Taylor	Alathea	4624 Reinhardt Dr.	Oakland	CA	94619-2948
Taylor	Diana	2508 McAllister St.	San Francisco	CA	94118-4222
Taylor	Susan	3665 Meier St.	Los Angeles	CA	90066-3611
Taylor	David	3867 Floral Ct.	Santa Cruz	CA	95062-5202
Taylor	Ravenna	4380 26th St.	San Francisco	CA	94131-1810
Taylor	Mark W.	127 Arkansas St., Apt.C	San Francisco	CA	94107-2456
Taylor	Matthew P.	1031 Ellis Ave.	San Jose	CA	95125-3306
Tearney	Idalia R.	604 Lyding Lane	Sebastopol	CA	95472-3367
Telfair	Catherine	85 Richland Ave. Apt. 7	San Francisco	CA	94110-5847
Telford-Sahl	Lynn	1406 Ashwood Dr.	Modesto	CA	95350-4824
Temperio	Michael	1341 58th Ave. Ste. 3	Oakland	CA	94621-3958
Temple	Ruth	3364-A 21st Street	San Francisco	CA	94110
Temple	V.	36631 Oak Glen Road	Yucaipa	CA	92399-9558
Tencer	Brise	783 W. Franklin St., Apt. A	Monterey	CA	93940-2274
Teng	Sylvia	59 Alameda Ave.	Half Moon Bay	CA	94019-1362
Tenney	Phyllis A.	2020 Bancroft Way Apt. 132,	Berkeley	CA	94704-1446
Tepper	Eric	2119 F St.	Sacramento	CA	95816-3514
Terrall	Joan	565 Athens St.	Altadena	CA	91001-1656
Terwilliger	Robert B.	PO Box 230	Arcata	CA	95518-0230
Teuten	Catherine	5968 Claremont Ave.	Oakland	CA	94618-1221
Thacker	Jason	4870 Del Monte Ave.	San Diego	CA	92107-3207
Thagard	Elizabeth	2915 Otis St.	Berkeley	CA	94703-2516
Thaler	Helen R.	1590 Homewood Rd. Apt. 116-H	Seal Beach	CA	90740-4644
Theimer	James	13595 Phaedra Lane	Redding	CA	96003-8920
Theisen	Debra J.	5200 Montecito Ave.	Santa Rosa	CA	95404-1943
Thelemague	Diane	2139 1/2 Vine Street	Los Angeles	CA	90068-2882
Thenot	Carol	PO Box 32	Fish Camp	CA	93623-0032
Theobald	Mary Lee	1390 Merritt Dr.	El Cajon	CA	92020-6814
Theodore	Madalyn A.	2412 Ellsworth St. Apt. 11	Berkeley	CA	94704-2173
Thibodeau	Richard	10735 Mira Lago Ter.	San Diego	CA	92131-2385
Thiele	Beverly	1127 Stonington Ave.	San Pablo	CA	94806-2252
Thiemann	Peter	23450 Mount Eden Rd.	Saratoga	CA	95070-9769
Thiermann	Ariel A.	1471 45th Avenue	San Francisco	CA	94122-2934
Thigpen	Kristin	4039 Shadowhill Drive	Santa Rosa	CA	95404-2730
Thirft	David	17503 Balfern Avenue	Bellflower	CA	90706-6807
Thoams, Cruse	Jennifer, James P.	PO Box 938	Capitola	CA	95010-0938

Thomas	Donald J.	241 So. Euclid Ave.	Pasadena	CA	91101-2717
Thomas	Eddy	P.O. Box 142	Duncans Mills	CA	95430-0142
Thomas	Harold	2635 Portola Way	Sacramento	CA	95818-3531
Thomas	Mellissa	1920 6th St. Apt. 225	Santa Monica	CA	90405
Thomas	Michael J.	10819 Cannon Hill Lane	San Diego	CA	92126
Thomas	Jim	1690 Funston Ave., Apt. 1	San Francisco	CA	94122-3552
Thomas	Stuart M.	1803 Castro Way	Sacramento	CA	95818-3038
Thomas	Steven A.	749 N. St.	Davis	CA	95616-3915
Thomas	Tracey H.	1360 Berkeley Way, Apt. 1	Berkeley	CA	94702-1758
Thomas	Steve	9051 Yew St.	Rancho Cucamonga	CA	91730
Thomas	H. Richard	1318 Euclid St., Apt. 2	Santa Monica	CA	90404-1727
Thomas	Sherry	349 Richardson Way	Mill Valley	CA	94941-4071
Thomas	Sherry	665 3rd St., Ste 200	San Francisco	CA	94107-1985
Thompson	Ann	5466 Cribari Gm.	San Jose	CA	95135-1321
Thompson	Jamie	3280 Fairway Drive	Soquel	CA	95073-2723
Thompson	Lisa	213 Vicksburg Street	San Francisco	CA	94114-3316
Thompson	Margaret B.	2740 Mabel Street	Berkeley	CA	94702-2345
Thompson	Patricia A.	440 N. Winchester Blvd. Apt. 124	Santa Clara	CA	95050-6351
Thompson	Tom	388 1/2 Rochester Street	Costa Mesa	CA	92627-3114
Thompson	Willard R.	P.O. Box 345	Bayside	CA	95524-0345
Thompson	Leslie	135 S. Encinal Ave.	Ojai	CA	93023-2121
Thompson	Evan A.	80 Wapello St.	Altadena	CA	91001-4458
Thompson	Rob	4598 13th St.	Mckinleyville	CA	95519-8150
Thompson	Celia B.	PO Box 1865	Los Gatos	CA	95031-1865
Thompson-Taupin	Lia	805 Petaluma Blvd. N.	Petaluma	CA	94952-2108
Thomsen	Tom	20570 Pueblo Avenue	Sonoma	CA	95476-7956
Thomsen	Craig D.	2507 Overhill Ln.	Davis	CA	95616-3048
Thomson	Monet	1085 Lincoln Court	San Jose	CA	95125-2638
Thomson	Lynn	696 E. Palm Ave.	Redlands	CA	92374-6279
Thornagate	Nancy	4122 El Bosque Dr.	Pebble Beach	CA	93953-3013
Thornburgh	Barbara	454 W. 12th Ave.	Chico	CA	95926-2133
Thorndike	Marcia	128 Ottawa Street	San Mateo	CA	94401-1307
Thornton	James N.	24417 Margaret Drive	Hayward	CA	94542-1015
Thorson	Sally	683 Spindrift Way	Half Moon Bay	CA	94019-1543
Thurgate	Nan	325 Sea Ridge Rd., Apt. 1	Aptos	CA	95003-4348
Tibbott	Emily B.	1834 Delaware St.	Berkeley	CA	94703-1329
Tiede	Gregory	2632 Alida St.	Oakland	CA	94602-3456
Tierra	Michael	10210 California Dr.	Ben Lomond	CA	95005-9215
Tiessen	Grace W.	714 Prospect Blvd.	Pasadena	CA	91103-3238
Tiffany	Brendan S.	PO Box 2465	Gonzales	CA	93926-2465
Tiger	Stephen S.	999 Fell Street Apt. 7	San Francisco	CA	94117-2416
Tillison	Ms. Stephanie	2215 \II\" Street Apt 4"	Sacramento	CA	95816-4034
Tillman	Michael	409 28th Street	Sacramento	CA	95816-3208
Tillman	Danielle F.	270 Wayne Ave., Apt. 101	Oakland	CA	94606-1216
Timineri	Robert	PO Box 1052	Sausalito	CA	94966-1052
Timmer	Brendan L.	436 Sierra Vista Ave. Apt. 14	Mountain View	CA	94043-2955
Tina	Tina	17000 Tyler Road #A	Fiddletown	CA	95629-9747
Tisdel	Valerie K.	749 Moultrie St.	San Francisco	CA	94110-6035
Tobias	Mark	555 Woodview Terr.	Fremont	CA	94539-7939
Tobias	Russ	629 Summertree Lane	Santa Rosa	CA	95403-1292
Tobin	Stephan A.	1314 Westwood Blvd. Ste. 206	Los Angeles	CA	90024-4928
Toci	Linda	3442 East 17th Street	Oakland	CA	94601-3002
Todd	Donna	1802 McKee St., Unit C9	San Diego	CA	92110-1965
Tolerton	Burt	1115 1/2 Cornell Ave.	Albany	CA	94706-2305
Tollefson	William	2866 Union Street	San Diego	CA	92103
Tollefson	Donald	17978 Boris Dr.	Encino	CA	91316-4347
Tolliver	Mildred V.	439 Sherwood Dr. Apt. 306	Sausalito	CA	94965-1042
Tolson	Tommy	534 Mountain View Ave.	Santa Rosa	CA	95407-8257
Tolson	Daniel H.	2715 Eel Pl.	Davis	CA	95616-2915
Tomblin	Amber	1230 Horn Ave. Apt. 727	West Hollywood	CA	90069-2168
Tomic	Jim	PO Box 77294	San Francisco	CA	94107-0294
Tomin	Barbara	1612 Ronne Drive	Santa Rosa	CA	95404-5707
Tompkins	Robert	1185 Humbolt St., #6	Santa Rosa	CA	95404-3324
Tona	Jacqueline	1331-A Stevenson Street	San Francisco	CA	94103-1224
Toole	Jennifer	2333 Channing Way Apt. 8	Berkeley	CA	94704-2224
Toor	Heron F.	2285 Bay Street	San Francisco	CA	94123-1862
Topinka	Vera	549 Wisteria Way	San Rafael	CA	94903-2425
Torkington	Anne B.	543 Vincente Avenue	Berkeley	CA	94707-1521

Torres	Cecilia	12214 Loma Drive	Whittier	CA	90604-2647
Torres	Margaret	2505 Sombrosa Place	Carlsbad	CA	92009-9149
Torres	Celina	1116 Cowper St.	Berkeley	CA	94702-1814
Torrisi	Tammy	5896 El Zuparko Dr. Apt. 2	San Jose	CA	95123-2501
Torvestad	Virginia	1408 La Sierra Drive	Sacramento	CA	95864-3035
Toth	Mary	674 Haight St. Apt. #3	San Francisco	CA	94117-3333
Toth	Maureen D.	6125 Glen Oak St. Apt. 1	Los Angeles	CA	90068-2370
Toth	Sharon	4154 Laguna Ave.	Oakland	CA	94602-2510
Touchstone	Lana	252 Grapewood Street	Vallejo	CA	94591-5738
Touchton	Jennifer J.	112 Canfield Ave. Apt. A	Santa Cruz	CA	95060-5137
Touma	Lucy	363 Andrew Avenue	Encinitas	CA	92024-1131
Tow	Bruce	455 Hazelwood Ave.	San Francisco	CA	94127
Towner	Barbara L.	11 Pierson Street	Santa Rosa	CA	95401-6144
Townsend	J.	1817 Doane Ave.	Mountain View	CA	94043-3030
Tracey	Larry G.	2311 Grimsby Dr.	Antioch	CA	94509-5863
Trafton	Bradley	4934 Niagara Ave.	San Diego	CA	92107-3117
Trailor	Stacie	P.O. Box 71262	Oakland	CA	94612-7362
Trainor	Kim	124 1/2 6th Street	Huntington Beach	CA	92648-5002
Tranby	Craig	2065 1/2 No. Vermont Ave.	Los Angeles	CA	90027-1968
Transchel	Kathryn	40 Surf Dr.	Pittsburg	CA	94565-5404
Traut	William	14715 Bestor Blvd.	Pacific Palisades	CA	90272
Travis	Helen L.	2275 W. 25th St., Spc 112	San Pedro	CA	90732-4995
Trebino	Joe	10 Quail Court	Brentwood	CA	94513-5406
Tree	J. Elissa	4040 Cromwell Ave.	Los Angeles	CA	90027-1352
Treece	Michael	1414 40th Ave.	San Francisco	CA	94122-3020
Tregidga	Madeleine	1125-A Masonic Avenue	San Francisco	CA	94117
Trent	Laurel	521 Congo Street	San Francisco	CA	San Francisco, CA
Trerfzger	Randy	650 Chestnut St., Apt. 105	San Francisco	CA	94133-2382
Trevethan	Evelyn	238 Lakeview Dr.	Napa	CA	94559-2133
Trew	Lori	P.O. Box 152	Big Sur	CA	93920-0152
Triplett	Charlotte	19750 Gschwend Road	Philo	CA	95466-9457
Troll	Greg	4545 Twig Avenue	Sebastopol	CA	95472-5700
Trost	Lisa	19452 Cuesta Cala Rd.	Topanga	CA	90290-3124
Trout	Debra	5625 Waverly Avenue	La Jolla	CA	92037-7548
Trueblood	Nathan	4323 Whittle Ave.	Oakland	CA	94602-2547
Trumbull	Micaela	5207 El Cemonte Ave.	Davis	CA	95616-4417
Truong	Hoai-An	2425 Channing Way	Berkeley	CA	94704-2209
Tshudi	Lisa N.	1170 Lincon Ave., Apt. 11	Walnut Creek	CA	94596-4796
Tsiongas	Mary	264 Mather St.	Oakland	CA	94611-5155
Tuason	Kimberly	939 Greenwich St.	San Francisco	CA	94133-2624
Tubach	Linda	360 Electric Ave.	Monterey Park	CA	91754-2508
Tucker	Glenn	11909 Roseton Avenue	Norwalk	CA	90650-7953
Tucker	Crawford	109 Goya Dr.	Fairfield	CA	94533-1009
Tullis	Julianne	996 Trout Gulch Rd.	Aptos	CA	95003-3012
Tulloh	Nancy E.	759 Duncardine Way	Sunnyvale	CA	94087-3514
Turcaso	D.	3811 Colina Dorada Dr. #207	San Diego	CA	92124-2836
Ture	Martha	697 Cascade Drive	Fairfax	CA	94930-2212
Turner	Glenn A.	1212 Bonita Avenue	Berkeley	CA	94709-1923
Turner	Tony A.	4133 Swift Avenue	San Diego	CA	92104-2215
Turner	Janet	1855 10th Ave., Apt. 2	San Francisco	CA	94122-4643
Turner	Ian	364 40th St., Apt. A	Oakland	CA	94609-2634
Turrieta	Caryn	2620 Glenbriar Drive	Saratoga	CA	95070-4700
Twombly	Hurd W.	21917 Gardenview Ln.	Cupertino	CA	95014-1131
Tyler	Patricia D.	2700 Cienaga St. Spc. 112	Oceano	CA	93445-8979
Tyler	Marie	802 23rd St., Apt. D	Santa Monica	CA	90403-2142
Tyler	Connie	1680 La Loma Ave.	Berkeley	CA	94709-1037
Tyo	Cynthia	5583 Hutchinson Rd.	Sebastopol	CA	95472-5921
Tyrrell	Helen	5804 Eureka Lane	Sacramento	CA	95842-1640
Ubeda	Dolores	118 Virginia Avenue	San Francisco	CA	94110-5137
udge	Sabrina J	12024 Hartsook St.	Valley Village	CA	91607-3105
Udin	Rose	2814 Angus St.	Los Angeles	CA	90039-2631
Uhlaner	Robert	1019 Trillium Lane	Mill Valley	CA	94941-3751
Ullman	Wendy	3921 Clement Street	San Francisco	CA	94121-1519
Ulmen	Andrew P.	896 N. Lafayette Park Pl.	Los Angeles	CA	90026
Underhill	Stacey	2358 Montrose Ave.	Montrose	CA	91020-1418
Unell	Judy	4551 Date Avenue	La Mesa	CA	91941-5258
Unterleitner	Jeanine	2101 California St. Apt. 129	Mountain View	CA	94040-1668
Uphoff-Garza	Karin	PO Box 978	Mendocino	CA	95460-0978
Urzua	M.	9042 Aloha Drive	Huntington Beach	CA	92646-7802

Utsumi	Kei	601 N. Grand Ave., Apt. 338	Los Angeles	CA	90012-2277
Utterback	Allen	243 Siesta Drive	Aptos	CA	95003-4026
Utterback	Dennis D.	1610 Leavenworth St. Apt. 13	San Francisco	CA	94109-2724
Vahey	Phil	555 Flood Avenue	San Francisco	CA	94112-1336
Vail	Teresa	3010 Edmonton Rd.	Glendale	CA	91206-1321
Valdez	Elizabeth	P.O. Box 23131	Los Angeles	CA	90023-0131
Valdez	Theresa	701 Gharkey St.	Santa Cruz	CA	95060-6023
Valente	Paul D.	55 Larkspur St., Ste 4	San Rafael	CA	94901-4820
Valentine	M. Catherine	4075 Vineyard Ave., Apt. 44	Pleasonton	CA	94566-6759
Valenziano	Amina	P.O. Box 1671	Santa Cruz	CA	Santa Cruz, CA
Vamvas	Monabelle E.	1443 Sinaloa Ave.	Pasadena	CA	91104-2742
Van Barnevald	Patricia A.	7760 Belden St., Apt. B3	San Diego	CA	92111-4475
Van Buren	Annemarie	50 Golden Gate Ave., Apt. 514	San Francisco	CA	94102-3912
Van Cleve	Delan	P.O. Box 900223	San Diego	CA	92190-0223
Van Dam	Kathleen	9746 Yoakum Drive	Beverly Hills	CA	90210-1436
Van Der Ploeg	J. J.	101 Bayview Ave.	Belvedere Tiburon	CA	94920-2303
Van Dyck	Tom	34 Prince Royal Psge.	Corte Madera	CA	94925-1821
Van Dyke	Robert D.	14367 Bent Tree Court	Poway	CA	92064-2354
Van Gelder	Naneene	2120 Northwood Dr.	Santa Rosa	CA	95404-2535
Van Horn	Mary L.	320 Sand Beach Rd.	Alarneda	CA	94501-5946
Van Home	John	200 Fulton Street	Palo Alto	CA	94301-1321
Van Natter	Carlos	2340 Teviot St.	Los Angeles	CA	90039-3644
Van Sandt	Steven	1443 Iris St.	San Luis Obispo	CA	93401
Van Sant	Jessie Lee	PO Box 1308	Fort Bragg	CA	95437-1308
Van Scoyoc	Melissa	PO Box 1034	Sawyers Bar	CA	96027-1034
Van Voris	Jean-Marie	3587 Mauricia Avenue	Santa Clara	CA	95051-6658
Van Zleer	Raymond	840 Francine Lane	Santa Maria	CA	93455-3018
Vance	Jana	36 Maple Avenue	Fairfax	CA	94930-1244
Vance	Jayeson	77 Broad Street	San Francisco	CA	94112-3001
Vancleef	Martha	50 Sonoma St. Apt. 3	San Rafael	CA	94901-4337
Vandemark	Lucretia	508 33D Apt. 4	Oakland	CA	94609
Vanderburgh	Susan	72 Gleneden Ave.	Oakland	CA	94611-4317
Vanderkamp	Sierra	845 Verano Ave.	Sonoma	CA	95476-5430
Vanderlinden	Robert C.	60 Hidden Meadow Ln.	Scotts Valley	CA	95066-5102
Vanderwyk	Lucille	6857 Armour Drive	Oakland	CA	94611-1315
Vandevere	Jud	93 Via Ventura	Monterey	CA	93940-4340
Varnam	James E.	831 Shade Tree Lane	Fallbrook	CA	92028
Vaughan	Joseph L.	5780 Vista Del Oro	Riverside	CA	92509-6623
Vaughn	Matthew	55 Newell Rd., Apt. 208	Palo Alto	CA	94303-2738
Vayhinger	Nancy	2805 Eastman Ln., Apt. A	Petaluma	CA	94952-3620
Vayhinger	Nancy	2805 Eastman Ln., Apt. A	Petaluma	CA	94952-3620
Veevaert	John	PO Box 2381	Weaverville	CA	96093-2381
Vega	Susan	665 Spanish Canyon Dr.	Ukiah	CA	95482-6838
Vega	Lynette Joy	PO Box 205	La Honda	CA	94020-0205
Veit-Bermudez	Gabrielle	PO Box 26048	Los Angeles	CA	90026-0048
Velarde	Lisa	117 Judson Ave.	San Francisco	CA	94112-1846
Velez	Valerie	PO Box 3131	Idyllwild	CA	92549-3131
Velsey	Paula	174 N. 24th St.	San Jose	CA	95116-1106
Veneklasen	Susanne	14010 Captains Row, Apt. 350	Marina Del Rey	CA	90292-7379
Vernon	Theresa	307 W. Matilija St.	Ojai	CA	93023-2548
Vesper	Paul	1601 Berkeley Way	Berkeley	CA	94703-1237
Vest	Michael	937 Marco Place	Venice	CA	90291-3919
Vezzali	Michael	402 Serrano Dr.	San Francisco	CA	94132-2240
Vickers	Thomas W.	125 Via Waziers	Newport Beach	CA	92663-5517
Vidican	Martha	917 Cole St. Apt. 8	San Francisco	CA	94117-4348
Vierling	Genevieve A.	P.O. Box 775	Pt. Reyes Station	CA	Pt. Reyes Station, CA
Vierra	Megan	4319 48th St.	San Diego	CA	92115-4922
Viesselman	Mark U.	433 Estudillo Ave., Ste. 102	San Leandro	CA	94577-4915
Villalobos	Sylvia	4 Fleet Court	Sacramento	CA	95831-2542
Villar	Anthony	531 Pine St.	Aptos	CA	95003-3747
Vincent	Larry	9417 Seager Ct.	Bakersfield	CA	93311-1818
Virzi	Judy	23820 Ironwood Ave., Unit 106	Moreno Valley	CA	92557-8121
Viselli	Tim	4463 Ardara Place	La Canada	CA	91011-2949
Vitale	Amanda	443-A Watson Street	Monterey	CA	93940-2286
Vitalis	Nicole	4163 Devonport Court	Hemet	CA	92545-5251
Vivirito	Michele	5187 Colony Dr.	Camarillo	CA	93012-5318
Vlcek	Julie	1272 Fell Street Apt. 5	San Francisco	CA	94117-2231
Vodden	Ryan M.	2107 Harrison Ave.	Eureka	CA	95501-3213

Vogel	Augustus B.	511 So. Serrano Ave. Apt. 108	Los Angeles	CA	90020-3913
Vohlers	John E.	12439 Stanwood Place	Los Angeles	CA	90066-1521
Volin	Jacqueline S.	263 8th Avenue	San Francisco	CA	94118-2204
Volk	Steve	4640 Soquel Dr.	Soquel	CA	95073-2125
Volkov	Kalila	2884 Burton Circle	Cambria	CA	93428-3902
Von Der Muhll	George	142 Palo Verde Terr.	Santa Cruz	CA	95060-3225
Von Westphalen	Bonnie	4574 Narrangansett Ave.	San Diego	CA	92107-2916
Vonschwanenfluege	Melissa K.	5925 Fresno Ave.	Richmond	CA	94804-5645
Vosler	Anne T.	852 Chenery Street	San Francisco	CA	94131-2909
Voss	Lorraine	14982 Sobey Rd.	Saratoga	CA	95070-6236
Voss	Julianne	1568 Madison st. Apt. 11	Oakland	CA	94612-4513
Voss	Barbara	294 Silverfish Ct.	Aptos	CA	95003-3752
Wachtel	Morris	575 Norlee Street	Sebastopol	CA	95472-2767
Wade	Edie B.	711 W. California Way	Redwood City	CA	94062-4034
Wade	Laura E.	328 \G\" Street #C"	San Rafael	CA	94901
Wade	Mary	115 Sunnyside Ave.	Mill Valley	CA	94941-2019
Wade	Dale	1241 Birch Ave.	South San Francisco	CA	94800
Wadsworth	Henry	3607 Castano Dr.	Camarillo	CA	93010-4039
Waegell	Margaret G.	7860 Eagles Nest Rd.	Sacramento	CA	95830-9403
Wager	Joan	1099 Cragmont Ave.	Berkeley	CA	94708-1433
Waggoner	Diana	1025 S. Holt Ave., Apt. 206	Los Angeles	CA	90035-2042
Wagner	Ellen	2517 Mesa School Lane	Santa Barbara	CA	93109-1850
Wagner	Elly	170 Avenida Majorca Unit C	Laguna Woods	CA	92653-4190
Wagstaff	James	311 Lester Ave. Apt. 7	Oakland	CA	94606-1329
Wahanik	Heather	732 N St.	Davis	CA	95616-3914
Wahle	Mary	810 Emily Drive	Mountain View	CA	94043-2022
Wailes	Thomas	776 Bush St. Apt. 202	San Francisco	CA	94108-3424
Wake	Richard R.	2340 Hurley Way, Apt. 19	Sacramento	CA	95825-3550
Walbridge	Peter	512 Missouri Street	San Francisco	CA	94107
Walcott	Nicole	124 Vista Cir.	Sonoma	CA	95476-8808
Wald	Rochelle	4356 Steele St.	Oakland	CA	94619-2747
Walder	Ronald	PO Box 411	Woodacre	CA	94973-0411
Waldorf	Camille	P.O. Box 962	Soquel	CA	95073-0962
Walker	Jennifer J.	1467 Shotwell Street	San Francisco	CA	94110-5201
Walker	Michelle	2998 Flannery Road	San Pablo	CA	94806-1506
Walker	Colin	1725A 1/2 N. Berendo St.	Los Angeles	CA	90027-4151
Walker	Yvonne	728 Cliffer St.	San Francisco	CA	94114
Wallace	Anne	158 Mariner Green Ct.	Corte Madera	CA	94925
Wallace	Barbara	3030 Manning Avenue	Los Angeles	CA	90064-4346
Wallace	Linda	20980 Comanche Trail	Los Gatos	CA	95033-8806
Wallace	Sandra	1330 El Vago Street	La Canada Flintridge	CA	91011
Wallach	Iris	4328 Ponce Dr.	Palo Alto	CA	94306-4632
Wallach	Christine L.	PO Box 370121	Montara	CA	94037-0121
Wallen	Gary	1533 Meadowbrook Ave.	Los Angeles	CA	90019-4105
Waller	Bradley A.	417 S. Lucia Ave.	Redondo Beach	CA	90277-3906
Wallick	Glen C.	7350 Hazeltine Ave., Apt.10	Van Nuys	CA	91405-2414
Wallin	Wendy	9481 Steele Canyon Rd.	Napa	CA	94558-9480
Walls	Michele	20 Petar Ct.	Clayton	CA	94517-1713
Waln	Duane	28204 Village 28	Camarillo	CA	93012-7619
Walsh	Kelle	107 Glenview Street	Santa Cruz	CA	95062-3457
Walsh	Alexandra	2160 Bryant St.	San Francisco	CA	94110-2128
Walters	Matt	3938 Fulton Street	San Francisco	CA	94118-3527
Walton	Charles	900 Welch Rd. Stuite 207	Palo Alto	CA	94304-1803
Walton	Joyce	1634 Tyler Street	Berkeley	CA	94703-2316
Walton	Steve	195 Spuraway Drive	San Mateo	CA	94403-1313
Walukas	Elizabeth	3355 Birdsall Ave.	Oakland	CA	94619-2654
Walworth	David	4648 Cherryvale Avenue	Soquel	CA	95073-9563
Wang	Catherine	106 Grandview St.	Santa Cruz	CA	95060-3015
Warbuton	Marlo	4131 Oakmore Road	Oakland	CA	94602-1836
Ward	Nancy	2210 Derby Street	Berkeley	CA	94705-1018
Ward	Patricia	P.O. Box 1574	Willits	CA	95490-1574
Ward	Kenneth J.	176 Ware Rd.	Redwood City	CA	94062-4537
Ward	Paul A.	777 Meadowstreet Dr., Apt. 119	Corte Madera	CA	94925-2204
Wardle	Katarine	901 Vista Way	Oceanside	CA	92054-6446
Waring	Edward	285 Grizzly Peak Blvd.	Berkeley	CA	94708-1123

Warner	Barry M.	62 Buckelew Street	Sausalito	CA	94965-1120
Warner	Lorraine	13196 Bradford Drive	Grass Valley	CA	95945-9724
Warner	Susan	1302 De La Guerra Rd.	Santa Barbara	CA	93103
Warner	Matthew	701 E. Pine Ave., Spc 115	Lompoc	CA	93436-3015
Warren	C. E.	70 Rodeo Avenue	Sausalito	CA	94965-1721
Warren	Laurie	1011 Clark Court	Davis	CA	95616-4809
Warren	Mashuri	3270 Theresa Lane	Lafayette	CA	94549-1807
Warren	Patricia	431 N. Isabel St.	Glendale	CA	91206-3320
Warrick	Rhianna	1704 So. Pacific Ave. Apt. 8	San Pedro	CA	90731-4766
Wartenberg	Mark	44 Hilltop Drive	Redwood City	CA	94062
Washington	Derek S.	7312 Barr Way	Sacramento	CA	95831-3649
Wasley	Lynne	24 Coronado Ct.	Novato	CA	94945-1222
wata	Valerie I	531 2nd Avenue	San Francisco	CA	94118
Watazychyn	Robert	32 Mountain View Rd.	Fairfax	CA	94930-1913
Waterman	Julie	19 Columbia Ave.	Redwood City	CA	94063-3610
Waters	Susan I.	1540 Sacramento St.	Berkeley	CA	94702-1207
Watkins	Valerie, Andrew	39441 Long Ridge Dr.	Temecula	CA	92591-4543
Watkins	Lynn	532 Oak St.	Laguna Beach	CA	92651-2919
Watkins	Benjamin M.	301 W. Spring Valley Pl.	Tucson	AZ	85737-6755
Watkins	Warren L.	1240 Madelyne Pl.	Santa Rosa	CA	95409-6158
Watras	Teresa	5320 Zelzah Ave., Apt. 203	Encino	CA	91316-2214
Watson	Gary	3762 Mt. Acadia Blvd.	San Diego	CA	92111-4008
Watt	Richard	26200 Ridge Rd.	Willits	CA	95490-9441
Watterson	Glenna	341 E. Laurel Ave.	Sierra Madre	CA	91024-2020
Watts	John	1900 Eddy Street Apt. 8	San Francisco	CA	94115-3945
Watts	Phyllis A.	PO Box 23	Tiburon	CA	94920-0023
Wayne	Todd	630 Graham Hill Rd.	Santa Cruz	CA	95060-1409
Weaver	Julia	PO Box 786	Forest Knolls	CA	94933-0786
Webb	Daryle M.	25525 Soquel San Jose Rd.	Los Gatos	CA	95033-9252
Webb	Loraine	PO Box 1113	Nevada City	CA	95959-1113
Webb	Judith A.	2821 Calle Aventura	Palos Verdes Pnsl	CA	90275-6315
Weber	Jeanne	634 Ashbury Avenue	Santa Rosa	CA	95404-5213
Weber	Margaret H.	941 Pear Street	Brea	CA	92821-5242
Weber	Rhonda	146 Marsala Ct.	Hercules	CA	94547-2098
Webster	Jenny	1130 Surf Avenue	Pacific Grove	CA	93950-2131
Weddle	Dan R.	1920 E. Maryland Ave., Unit 13	Phoenix	AZ	85016-1453
Wedertz	Christine H.	412 Darwin Street	Santa Cruz	CA	95062-2629
Weedman	Patricia	3046 Stone Station Road	Sebastopol	CA	95472-5652
Wegrich	Mark	524 Pine St.	Aptos	CA	95003-3717
Wehrle	Susan	775 Lassen Street	Richmond	CA	94805-1459
Wei	Gregory L.	931 Buena Vista Ave., Apt. A	Alameda	CA	94501-2264
Weiche	Janine	11633 Gorham Ave., Apt.2	Los Angeles	CA	90049-4745
Weil	Karen	1209 Bonita Ave.	Berkeley	CA	94709-1922
Weiland	Patricia	7240 Davenport Rd. Apt. 106	Goleta	CA	93117-2928
Weiner	Teresa R.	4544 Maryland St. Apt. 9	San Diego	CA	92116-1167
Weinert	Kevin C.	29511 Goldspike Rd.	Tehachapi	CA	93561-9130
Weinheimer	Carolyn	1030 Sunset Drive	Hollister	CA	95023-5712
Weinkauf	Gregory	P.O. Box 25751	Los Angeles	CA	90025-0751
Weinstein	Megan	1150 Castro Street	San Francisco	CA	94114-3216
Weinstein	Deirdre	494 Punhou St.	Altadena	CA	91001-1630
Weinstock	Laura J.	1241 Dolores St.	San Francisco	CA	94110-3614
Weir	Christine	316 California Street	Santa Cruz	CA	95060-4216
Weir, Gilvary	Christine, Michael	6616 De Longpre Ave.	Los Angeles	CA	90028-7805
Weiss	Norman	340 Alamo Avenue	Santa Cruz	CA	95060-3006
Weiss	Paul J.	2240 Santa Clara Ave. Apt. A	Alameda	CA	94501-4417
Weiss	Julie	222 Sylvan Way	Redwood City	CA	94062-3953
Weiss	Kristi	209 Maple St.	Santa Cruz	CA	95060-4319
Welborn	Robert T.	1455 Paloma Place	Arroyo Grande	CA	93420-5162
Welch	Betsy C.	427-A Darwin St.	Santa Cruz	CA	95062-2628
Welch	Jerry	21437 Lee Drive	Los Gatos	CA	95033-8915
Welch	Pat	4096 Piedmont Avenue	Oakland	CA	94611-5221
Welch	Elisa	196A Precita Ave.	San Francisco	CA	94110-4621
Welch	Gertrude M.	10605 Gascoigne Dr.	Cupertino	CA	95014-3843
Welch	Graeme	1020 Oxford St.	Berkeley	CA	94707-2622
Welle	Rosellen	1065 Lomita Blvd. Spc. 278	Harbour City	CA	90710-4970
Weller-Renfrow	Kathryn	1080 Jackson Street	Benicia	CA	94510-2904
Welling	Robbie	1408 Carleton St.	Berkeley	CA	94702-2307
Wellington	James	3691 Agua Dulce Blvd.	Spring Valley	CA	91977-1924

Wells	David	76 Stanford Heights Ave.	San Francisco	CA	94127-2318
Wells	Dana R.	1587 Stillwell Rd., Apt. 1	San Francisco	CA	94129-1071
Wells	Rachel	1263 N. Bronson Ave.	Los Angeles	CA	90038-2008
Wells	Roberta	430 Adams St.	Oakland	CA	94610-3008
Welsh	William	111 Bean Creek Rd. Unit 104	Scotts Valley	CA	95066-4148
Welton	James E.	15194 Herring Avenue	San Jose	CA	95124-3424
Welty	W. R.	2076 Sheridan Road	Encinitas	CA	92024-1144
Wennerstrom	Milton	5140 Country Club Drive	Paradise	CA	95969-6603
Wenneson	Gregory J.	1111 Gossage Ave., Bldg. B	Petaluma	CA	94952-1943
Wenninger	James	5783 Florence Terr.	Oakland	CA	94611-2062
Wentworth	Jeanne	8072 Broadway Terr.	Oakland	CA	94611-1928
Wentworth	Dana	1329 shattuck Ave., Apt 1	Berkeley	CA	94709-1414
Wentz	Harry	1285 Oak Street Apt. 3	San Francisco	CA	94117-2253
Werfel	Pearl	112 Day Street	San Francisco	CA	94131
Werner	Lauren	4190 Madison Avenue	Culver City	CA	90232-3222
Wertheim	Michael	274 Collingwood St.	San Francisco	CA	94114-2419
Wertheimer	Steve	16485 Los Gatos Blvd. #B	Los Gatos	CA	95032-5524
Werum	Barbara S.	2615 Lucy Ln.	Walnut Creek	CA	94595-1116
West	Ann	4 Captain Drive Apt. 203	Emeryville	CA	94608-1715
West	Brian	117 Caledonia St. Apt. 3	Sausalito	CA	94965-1930
West	Donna	1001 Bridgeway Suite 553	Sausalito	CA	94965-2158
West	W.	1807 Cleveland Avenue	Santa Barbara	CA	93103-1909
West	Misty	PO Box 225 343	San Francisco	CA	94122-5343
West	Martha	381 1/2 Corbett Ave.	San Francisco	CA	94114-1818
Westcott	Jean M.	1032 Bayview Ave.	Oakland	CA	94610-4033
Westendorf	Matt	1520 Sacramento St. Apt. 2	San Francisco	CA	94109-3816
Westerback	Arne E.	593 Maureen Lane	Pleasant Hill	CA	94523-2758
Westfall	Ryan	5550 E. La Pasada St. (Rear)	Long Beach	CA	90815-4319
Weston	Ted	1276 Pacific Ave.	Crescent City	CA	95531-2940
Weston	Thomas	171 Santa Rosa Ave.	Oakland	CA	94610-1316
Westwood	Marie	2324 Hollyridge Dr.	Los Angeles	CA	90068-3518
Whalen	Peggy	4428 Cabrillo Way	Sacramento	CA	95820-4220
Whaley	Nicole	1334 Van Ness Ave. Apt. 308	San Francisco	CA	94109
Wheatley	Baird	1426 Everett Ave.	Oakland	CA	94602-1736
Whitaker	Lisa	PO Box 268	Woodacre	CA	94973-1026
White	Amy	433 So. Cochran Ave. Apt. 202	Los Angeles	CA	90036-3337
White	Ann	4520 Bennett View Dr.	Santa Rosa	CA	95404-6204
White	Anne	479 Panoramic Hwy.	Mill Valley	CA	94941-1779
White	Edwina	1410 \Q\" Street Apt. G"	Sacramento	CA	95814-6625
White	Elise	2600 Woolsey Street	Berkeley	CA	94705-2524
White	Robert	354 Poe Street	Palo Alto	CA	94301-1134
White	Victor	2926 Kellogg St. Apt. B3	San Diego	CA	92106-3560
White	Robert G.	2750 Terrace Ave,	Arcata	CA	95521-5247
White	Richard G.	2700 Morningside Mtn.	Glen Ellen	CA	95442-8420
Whitebread	Donald H.	1704 Miramonte Ave. Ste. 1	Mountain View	CA	94040-3718
Whitehead	Dorothy	2912 Conifer Ct.	Napa	CA	94558-5876
Whitehill	Robert	16425 Glenbrae Rd.	Meadow Vista	CA	95722-9305
Whiting	Cristin C.	71 Fernwood Drive	San Anselmo	CA	94960-2124
Whitman	Russ	2407 El Bosque Ave.	Carlsbad	CA	92009-9106
Whitmore	Nancy	PO Box 5572	Fresno	CA	93755-5572
Whitney	Dale C.	333 Orizaba Ave.	Long Beach	CA	90814-2445
Whitten	Laura M.	1225 Marin Ave.	San Pablo	CA	94806
Wickelmann	Paul	3201 Beaumont Ave. Apt. 33	Oakland	CA	94602-1052
Wiebe-Anderson	Wallace	1139 12th St., #6	Arcata	CA	95521-5569
Wieder	Rebecca	438A S. Van Ness Ave.	San Francisco	CA	94103-3663
Wieland	Charles	206 Compton Cir. Apt. A	San Ramon	CA	94583-1683
Wil	Wil	2948 Old Gravenstein Hwy.	Sebastopol	CA	95472-5212
Wilcox	Norma	238 Cabrillo Street	San Francisco	CA	94118-3970
Wild	Ellen	845 Paget Ave.	Santa Cruz	CA	95062-4112
Wilde	Ann	6853 Adolphia Dr.	Carlsbad	CA	92009-5012
Wilde	Mare	PO Box 624	Albion	CA	95410-0624
Wilder	Marilyn	16585 Topping Way	Los Gatos	CA	95032
Wilderman	Vicki	22 Terra Vista Ave., Apt. G4	San Francisco	CA	94115-3851
Wildermann	Beth	17333 Bear Creek Rd.	Boulder Creek	CA	95006-8605
Wildwind	Landry	109 Bayside Ct.	Richmond	CA	94804-7445
Wiley	Francine	271 Clinton Park	San Francisco	CA	94103-2372
Wiley	James F.	3675 Ardilla Road	Atascadero	CA	93422-2401
Wiley	Patricia	503 N. Fulton St.	Ojai	CA	93023-2814
Wilkerson	Charles	11672 Stephanie Lane	Garden Grove	CA	92840-1920

Wilkie	James	2444 College Park Circle	Santa Rosa	CA	95401-9148
Wilkie	Elizabeth	2 Lyndhurst Dr.	San Francisco	CA	94132-2017
Wilkie	Barabara	1241 Carlotta Way	Berkeley	CA	94707-2706
Wilkinson	Jennifer	881 Sinex Ave., Apt. A	Pacific Grove	CA	93950-3927
Will	Mary K.	6481 East El Roble St.	Long Beach	CA	90815-4618
Williams	Andrea	265 \A\" Street"	Crescent City	CA	95531
Williams	Andrew	P.O. Box 289	Sonoma	CA	95476-0289
Williams	Caitlin A.	832 York Street Apt. 3	Oakland	CA	94610-2128
Williams	D. Colette	1427 Oak Avenue	Davis	CA	95616-1001
Williams	Dora D.	P.O. Box 1426	Ross	CA	94957-1426
Williams	Earl E.	2023 Goose Road	Willits	CA	95490-9437
Williams	Maija	637 Cedar Street	Berkeley	CA	94710-1731
Williams	Maija	2133 Grant St. Apt. 6	Berkeley	CA	94703-1562
Williams	Robert	88 Perry Street Apt. 347	San Francisco	CA	94107-1354
Williams	Ruth	973 North Arthur Ave.	Fresno	CA	93728-2908
Williams	Tammy	198 No. Skyline Dr. Spc. 16	Thousand Oaks	CA	91362-3423
Williams	Kenneth	1615 Church St.	San Francisco	CA	94131-2410
Williams	Anne B.	414 Spruce St.	Mill Valley	CA	94941-4035
Williams	Todd	40 San Rossano Dr.	Goleta	CA	93117-1914
Williams	Harvey	625 Bush St., Apt 512	San Francisco	CA	94108-3563
Williams	Jeff	4 Alexis St.	Rohnert Park	CA	94928-3599
Williams	Michael	1139 Market St., #210	San Francisco	CA	94103-1513
Williams-Gboizo	Maxine	2301 Ocean Ave., Apt. 210	Santa Monica	CA	90405-2248
Williamson	Mickey M.	PO Box 1737	Murphys	CA	95247-1737
Williamson	Peter G.	739 Rose Ln.	Los Altos	CA	94024-4167
Willing	Kathleen	161 Thistle Way	Martinez	CA	94553-5809
Willis	Rob B.	6 Sagebrush Ct.	Chico	CA	95926-2176
Willis	Melissa	10709 Sable Ave.	Sunland	CA	91040-2603
Willson	Elise	1598 Lupton Avenue	San Jose	CA	95125
Wilmot	Sheila A.	924 Encinitas Blvd. Apt. 64	Encinitas	CA	92024-5393
Wilsey	Roberta	412 Calle De Caballo	Suisun City	CA	94585-1502
Wilsnack	Arensa	107 Greenmeadow Way	Palo Alto	CA	94306-4518
Wilson	Brian	552 College Ave. Apt. 3	Modesto	CA	95350-5832
Wilson	Judith	1075 Space Park Way Spc. 264	Mountain View	CA	94043-1412
Wilson	Keith E.	219 Jeter Street	Redwood City	CA	94062-1958
Wilson	Margaret H.	1331 Iguana Circle	Ventura	CA	93003-6309
Wilson	Rick	404 Brown Street	Santa Rosa	CA	95404
Wilson	Susanna D.	2182 Ahuacate Road	La Habra	CA	90631-7814
Wilson	Hank	1651 Market St., Apt. 303	San Francisco	CA	94103-1256
Wilson	Kenneth	519 1/2 San Juan Ave.	Venice	CA	90291-3326
Wilson	Carl	137 Felker St.	Santa Cruz	CA	95060-2830
Wilson	Emily	904 Bancroft Way, Apt. A	Berkeley	CA	94710-2314
Wilson	Elizabeth	270 Hames Rd., Spc 43	Watsonville	CA	95076-0224
Wilson	Judith	2007 Los Trancos Dr., Apt. B	Irvine	CA	92612-4009
Wilson	Nathan	3782 Tracy St.	Los Angeles	CA	90027-4649
Wilson	Harry	2532 Bay St.	Bakersfield	CA	93301-2774
Wilson	Homer	2399 Harris Rd.	Mariposa	CA	95338-9761
Wilton	Paula C.	418 Cayuga Ave.	San Francisco	CA	94112-1913
Wimberley	John	939 Addison Ave.	Palo Alto	CA	94301-3002
Wine	Deborah	3550 Marilyn St.	Santa Cruz	CA	95062-4326
Winegar	Dwight J.	P.O. Box 672	Arcata	CA	95518-0672
Winholtz	Betty A.	405 Acacia Street	Morro Bay	CA	93442-2703
Winkes	Ben	1432 Brookside Dr.	Santa Rosa	CA	95405-6610
Winniczek	Jerry	730 Pointe Pacific, Apt.10	Daly City	CA	94014-3415
Winsberg	Susan	5636 Franklin Ave. Apt. 1	Los Angeles	CA	90028-4239
Winslow	Lynda	1944 Curtis Street Apt. 11	Berkeley	CA	94702-1641
Winston	Rita	548 Venice Blvd. Apt #3	Venice	CA	90291-4282
Winter	Joanne	901 Kains Ave. Apt. 4	Albany	CA	94706-2008
Winter	Kelly	6725 Old Shasta River Rd.	Yreka	CA	96097-9211
Wintermyre	Jim	P.O. Box 1551	Boulder Creek	CA	95006-1551
WinterSun	Patricia A.	635 Flynn Ave.	Redwood City	CA	94063-2928
Wise	Deborah	42 Littleway Ln.	Watsonville	CA	95076-1213
Wiss	Deborah	1033 Gayley Ave., Ste 108	Los Angeles	CA	90024-3417
Witt	Roslyn	961 New York Dr.	Altadena	CA	91001-3155
Wittenstein	Andreas	PO Box 604	San Geronimo	CA	94963-0604
Wittmershaus	Eric	2436 Stuart St.	Berkeley	CA	94705-1116
Wodtke	Christina R.	100 Edinburgh St.	San Francisco	CA	94112-2007
Wohl	Michael	2141 Clement St., Apt. 8	San Francisco	CA	94121-2072
Wojciechowski	Linda	179 Farum St.	San Francisco	CA	94131-2640

Wolf	Valerie	409 Franklin Street	Napa	CA	94559-3324
Wolfe	Burton H.	1095 Market St. Ste. 814	San Francisco	CA	94103-1631
Wolfenden	Peter	1120 High Street	Palo Alto	CA	94301-2426
Wolfson	Erica	10387 Moonshine Rd.	Sebastopol	CA	95472-9492
Wolfson	Sandra	471 Loreto St.	Mountain View	CA	94041-2160
Wolgemuth	Henry W.	14100 Pike Road	Saratoga	CA	95070-5380
Woll	Edwin	8563 Venice Blvd.	Los Angeles	CA	90034-2548
Wood	Audrey R.	361 Texas Street	San Francisco	CA	94107-2930
Wood	Clare	118 Marinda Dr.	Fairfax	CA	94930-1122
Wood	Corinne	7886 Martinelli Road	Forestville	CA	95436-9711
Wood	Cynthia E.	673 Oak Street Apt. 10	San Francisco	CA	94117-2652
Wood	John	5948 Fern St.	El Cerrito	CA	94530-1623
Wood	Julie	12 Amesport Lndg.	Half Moon Bay	CA	94019-1967
Wood	Douglas T.	1056 14th St., Apt. 2	San Francisco	CA	94114-1248
Wood	Samantha G.	740 Pomona Ave.	El Cerrito	CA	94530-3255
Woodcock	Charlene M.	2355 Virginia St.	Berkeley	CA	94709-1315
Woodland	Robin	527 Santa Fe Avenue	Albany	CA	94706-1439
Woods	Barbara	P.O. Box 2813	Grass Valley	CA	95945-2813
Woods	Jill	102 Franz Court Apt. 1	Pacifica	CA	94044-3028
Woods	George	PO Box 1194	Healdsburg	CA	95448-1194
Woods	Alexandra	112 Ocean View Ave.	Santa Cruz	CA	95062-3332
Woods	Mark	4187 Mount Hukee Ave.	San Diego	CA	92117-4733
Woods	Kathryn	10814 Wishire Blvd.	Los Angeles	CA	90024-4329
Woodward	Timothy R.	258 Monterey Blvd. Apt. D	San Francisco	CA	94131-3140
Woodward	Star	705 Seaview Dr.	El Cerrito	CA	94530-3311
Woolley	Joshua D.	1448 9th Ave.	San Francisco	CA	94122-3607
Woolsey	Agnes	PO Box 163	Mendocino	CA	95460-0163
Wooten	Chris Emerson	243 Somerset Rd.	Piedmont	CA	94611-3309
Worcester	Christopher	P.O. Box 2140	Truckee	CA	96160-2140
Worcester	Helen	15830 Riverlands Road	Guerneville	CA	95446-9765
Workman	Lois	1155 Admirality Ln.	Alameda	CA	94502-6963
Worley	Billy	8809 Appain Way	Los Angeles	CA	90046-7734
Wornum	Claudia	55 Genoa Place	San Francisco	CA	94133-3430
Worthen	Nancy C.	191 Sussex Street	San Francisco	CA	94131-2934
Worthington	Tiffany	117 Button St.	Santa Cruz	CA	95060-2254
Wothe	Kathleen	315 Bergwall Way	Vallejo	CA	94591-5710
Wren	Ashley	1233 14th St., Apt. C	Santa Monica	CA	90404-1020
Wright	Carol S.	P.O. Box 40	Julian	CA	92036-0040
Wright	Clea J.	285 So. Sierra Madre Blvd. Apt K	Pasadena	CA	91107-4891
Wright	Dorothy	728 Clipper Street	San Francisco	CA	94114
Wright	Elizabeth	365 Bartlett St. Apt. 2	San Francisco	CA	94110-3828
Wright	Kenneth	357 West 6th Street	Claremont	CA	91711-4355
Wright	Robert	44 San Raphael	Dana Point	CA	92629-4040
Wright	Robert S.	574 Markham Avenue #B	Vacaville	CA	95688-2209
Wright	Max	241 Valley Dr.	Hermosa Beach	CA	90254-4660
Wright	Jesse	42228 Stonewood Rd.	Temecula	CA	92591-3797
Wright	Lisa	1085 W. Yosemite Ave., Apt. 2	Merced	CA	95348-2172
Wright	Sis Marian	3232 Helen St., Apt. B	Emeryville	CA	94608-4028
Wright	Jocelyn	1007 Rio Vista Dr.	Pacifica	CA	94044-4127
Wroten	Dusty	12 Hampton Road	Occidental	CA	95465-9102
Wurzel	Lillian	2930 Roma Court	Santa Clara	CA	95051-6848
Wyatt	Jean M.	1174 Las Pulgas Pl.	Pacific Palisades	CA	90272
Wyeth	Randy	7767 La Riviera Dr. Apt. 214	Sacramento	CA	95826-5735
Wylie	Sharon	3761 Villa Ter., Apt. 5	San Diego	CA	92104-3491
Wyman	Sonia	1324 Marlesta Rd.	Pinole	CA	94564-2405
Wyzanowski	Neil	2929 St. George St.	Los Angeles	CA	90027-3025
Xefos	Christopher	47 Delano Avenue	San Francisco	CA	94112-2519
Yaffe	Joyce C.	1927 Dwight Way Apt. 210	Berkeley	CA	94704-1954
Yamada	Joyce T.	608 Major Vista Court	Pinole	CA	94564-2620
Yancey-Doty	Judy L.	6551 Peggy Cir.	Huntington Beach	CA	92647
Yandell	Geneveve	533 E. J St.	Benicia	CA	94510-3433
Yanggen	Julie	345 Highrise Dr.	Boulder Creek	CA	95006-9048
Yarnell	Ty	595 Osage Ln.	Auburn	CA	95602-9672
Yates	Jean	302 Bridgeview Court	Benicia	CA	94510-2683
Yates	Linda	P.O. Box 6609	Los Osos	CA	93412-6609
Yearley	Mara	1249 Coronado Dr. Apt 1	Sunnyvale	CA	94086-5639
Yearwood	Gregg	3605 Los Feliz Blvd., #60	Los Angeles	CA	90027-2404
Yee	Calvin W.	2401 29th Avenue	San Francisco	CA	94116
Yellin	Mia	1215-A Garcia Ranch Rd.	Martinez	CA	94553-9756
Yerushalmi	Rivka	1528 McKinley Avenue	San Jose	CA	95126-3917

Yoder	Inez	7304 Borla Pl.	Carlsbad	CA	92009-7802
Yost	John	1012 Claremont Ct.	Modesto	CA	95356-2004
Yost	Bruce	PO Box 2145	Walnut Creek	CA	94595-0145
Young	Blyth	108 Ruth Ct. Apt. 7	Sacramento	CA	95819-1749
Young	Debbie	3916 22nd Street	San Francisco	CA	94121
Young	Donald	5941 Kifisia Way	Fair Oaks	CA	95628-2541
Young	Robert W.	1461 Fulton St.	San Francisco	CA	94117-1417
Young	Aimee	4258 Cahuenga Blvd., Apt. 202	Toluca Lake	CA	91602-2731
Young	Emily	979 Fassler Ave.	Pacifica	CA	94044-3659
Young	Patricia	31 Olema Rd.	Fairfax	CA	94930-1415
Youngdoff	Beth	35944 Ashton Pl.	Fremont	CA	94536-3405
Young-Holt	Carol	HC 1 Box 75	La Honda	CA	94020-9801
Yurus	Stephanie	2638 Lariat Ln.	Walnut Creek	CA	94596-6611
Yuschak	Frances	1416 Arch Ln.	Huntington Beach	CA	92648
Zabin	Lee	PO Box 455	Albion	CA	95410-0455
Zagone	Michael	1332 Berkeley St. Apt. 4	Santa Monica	CA	90404-2524
Zak	Abbie S.	825 Oxford Way	Benicia	CA	94510-3674
Zakel	Peter H.	40692 Ladero St.	Fremont	CA	94539-3668
Zalesky	Ron	PO Box 543	Point Reyes Station	CA	94956
Zalesky	David	585 Prentiss St.	San Francisco	CA	94110-6127
Zall	Elisabeth	1911 Leman Street	South Pasadena	CA	91030-4628
Zamoscianyk	Pamela P.	32661 Alta Pine Ln.	San Juan Capistrano	CA	92675
Zampa	Ronald	PO Box 142	Crockett	CA	94525-0142
Zandbergen	Russ	461 Hull Ave.	San Jose	CA	95125-1648
Zane	Julia L.	4748 La Villa, Apt. C	Marina Del Rey	CA	90292
Zavaleta	John	141 Flora Ave., Apt. 7	Walnut Creek	CA	94595-1223
Zazow	Jamie R.	733 Marine St., Apt. 4	Santa Monica	CA	90405-5659
Zdunich	Rosanna	P.O. Box 3727	Crestline	CA	92325-3727
Zeifman	Steve L.	46 Marina Vista Ave.	Larkspur	CA	94939-2140
Zeller	Mark	2480 Felt Street	Santa Cruz	CA	95062-4211
Zerbe	Christopher	1086 Garcia Road	Santa Barbara	CA	93103-2164
Zem	Frank	411 W. Edward St.	Santa Maria	CA	93458-6516
Zevin	Jason	642 Moulton Ave., Apt. W4	Los Angeles	CA	90031-3715
Zierikzee	Sharon	400 25th Ave. Apt. 8	San Francisco	CA	94121
Zietlow	Denise	1968 Hayes St.	San Francisco	CA	94117-1126
Zilber	Libby	PO Box 370998	Montara	CA	94037-0998
Zilinskas	Beatrix	28315 Via Acero St.	Malibu	CA	90265-4410
Zima	Antonia	P.O. Box 772	Idyllwild	CA	92549-0772
Zima	Paula	5375 Vineyard Drive	Paso Robles	CA	93446
Zimmerman	Bob	1024 Annerley Road	Oakland	CA	94610-1110
Zimmerman	Elissa	5535 Balboa Blvd., Ste 206	Encino	CA	91316-1545
Zimmerman	Linda	119 Ortega St.	San Francisco	CA	94122-4718
Ziolkowski	Mary P.	1550 9th Ave. Apt. 3	San Francisco	CA	94122-3650
Zirk	Karin	4330 Kendall Street	San Diego	CA	92109-4420
Zola	Paul	3815 Susan Dr. Apt. E-13	San Bruno	CA	94066-1130
Zomosa	Tatiana	6430 Squire Ct.	San Luis Obispo	CA	93401
Zook	Barbara	4758 Tarton Drive	Santa Rosa	CA	95405-7949
Zook	John	4758 Tarton Dr.	Santa Rosa	CA	95405-7949
Zunich	Lee Ann	3622 Rose Ave.	Long Beach	CA	90807-4308
Zwicky	Jill	110 Michele Cir.	Novato	CA	94947-1929
Zylius	Patricia	114 Pennsylvania Ave.	Santa Cruz	CA	95062-2428

Organizations

Brown Trout Gallery	5841 Sacramento Ave.	Dunsmuir	CA	96025-2321
Certified Drivers	2447 Cimarron Dr.	Hemet	CA	92545-4741
Coast Hockey Supply	185 S. Patterson Ave., Ste. E	Santa Barbara	CA	93111-2074
Corners of the Mouth	PO Box 367	Mendocino	CA	95460-0367
Great Bear Coffee	19 N. Santa Cruz Ave.	Los Gatos	CA	95030-5916
Kyoto Restaurant	PO Box 3386	Eureka	CA	95502-3386
Morgan Hill Gymnastics Club	140 Mast St., Apt. B	Morgan Hill	CA	95037-5113
Rites Of Passage	PO Box 148	Sonoma	CA	95476-0148

P22

4 December 2000
Kalispell MT 59901

Mr. Jack Safely
Metropolitan Water District
P O Box 54153
Los Angeles CA 90054

Re: Mohave Desert Aquifer water drain by underground mining.

Dear Mr. Safely:

I understand that the Cadiz Company has plans to sell the water from an aquifer in the Mohave Desert to the Metropolitan Water District of southern California. I also understand there is a chance this water is contaminated by the toxic chromium 6.

P2

On two counts the decision should be carefully considered:

First, the danger of a cancer causing contamination would appear to immediately eliminate any socially responsible and rational support for continuing with the project.

P2

Second, the answer to water problems is not to continually rely on new sources of water. Water is becoming a serious problem around the planet. I believe you will find studies show that on all the continents of the world water shortages are becoming a concern to all nations. Keeping that consideration in mind, far-seeing individuals, cities, states and nations should begin adopting political strategies to *conserve* rather than *deplete* water sources whenever possible. A very well-researched current source on the global water issue (we are a part of the globe) is Marq De Villiers' *Water: The Fate of Our Most Precious Resource.*

P2

P

I urge you to strongly consider long-term implications of a possible threat to health and to water depletion.

Sincerely,

Barbara Paschke

Barbara Paschke
Citizen of the World

Cc: Mr. James Williams, Bureau of Land Management

11/16/2000

James Williams
U.S.Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

P23

Dear Mr. Williams:

Please accept the following comments regarding the Draft EIR/EIS and Supplement for the proposed Cadiz Groundwater Storage and Dry-year Supply Program.

Under no circumstances (and especially given the recent developments regarding the possibility of toxic chromium pollutants contaminating groundwater at the project site) can this project be justified. It is unfortunate that - especially in California - environmental impact documentation is simply used as a legal maneuver in preparation for the inevitable culmination of ambitious engineering projects of this type, rather than playing the role they should in assessing the true environmental costs of such projects. P23-1

The most important client for the Bureau of Land Management should be "Posterity", the future generations who will be denied simpler ways of living as a result of the seemingly unending desire of certain components of contemporary society to industrialize and develop the continent's remote and rural areas. Similarly, the Metropolitan Water District should begin to behave like a responsible agency, and cease its efforts to "guarantee" water supplies to such endless development.

Cancellation of the Cadiz Project would be an ideal opportunity for the Bureau and the MWD to stand together and begin to communicate to the State's agencies and residents that California's access to fresh water has final limits, that the supply of potable water for the California population is finite, and that the State and all water agencies should prepare for the sorts of water conservation efforts and development restriction measures that should be the proper foci of their respective energies.

Sincerely,

James M. Bryant
Curator of Natural History
Riverside Municipal Museum
3580 Mission Inn Avenue
Riverside, CA 92501

cc: MWD

RECEIVED
BUREAU OF LAND MANAGEMENT
00 NOV 27 PM 3:17
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear Sir: November 24, 2000

I would like to comment on the Supplement to the Draft EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program.

It is clear that this is really a program to mine the water in the Cadiz Dry Lake basin. The recharge proposal simply does not add up. Assuming the recharge area to be 390 acres and the maximum recharge to be 150,000-acre feet a year, over 1-foot depth of water will have to percolate into the aquifer every day. This is not possible with the types of soils and lateral diffusion rate of water. The level of stored water will increase slowly and be far below the extraction rate. It is likely that a significant portion of the stored water will eventually flow to the lake basin where it will evaporate and not be available for recovery. P24-

There is no cap to how much water will be taken over the life of the project and it is unlikely that the arid environment will be able to recharge the aquifer as fats as it will be exhausted. The idea seems to be extract first and then do something if problems emerge.

Mining fossil water postpones the inevitable; water use must be curtailed in the American Southwest. The use of this water to allow many more years of growth and increased water consumption will make the future more painful. P24-

The program claims that water will be stored when there is excess water in the Colorado River. The excess typically flows in early summer due to run-off from a high precipitation winter. Spring floods have been shown to be essential to the health of the Colorado River environment. Tapping this flow will continue the current problems like loss of sandy beaches and loss of native species. P24-

When the fossil water is mined during times of prolonged drought, it is highly unlikely that withdrawal will stop even if triggering events are found. Stopping water extraction will be highly unpopular and environmental concerns will be over ridden. P24-4

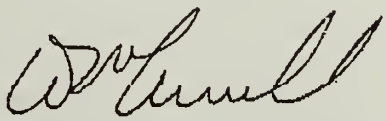
Before this project goes forward, the natural recharge rate must be determined. The water extraction rate should not exceed the natural rate of recharge plus the actual rate of water storage. P24-9

I think that the TNT and the BMG should have representatives of local Communities and other concerned parties as members. Restricting membership to govemment agencies, Metropolitan Water, and Cadiz, Inc will not provide proper oversight. P24-

I think the program emphasizes short-term extraction and the storage aspect is poorly thought out and is unworkable. The program should be P24-

restructured to treat the water as a renewable resource based on actual recharge rates. P24-7

Regards:



William T. McCarvill
330 Knottingham Circle
Livermore, CA 94550

December 20, 2000

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

P25

Mr. Williams:

Having visited the Mojave several times and partaken of its natural beauty, I am particularly concerned about the effects that the Cadiz Groundwater Storage and Dry-year Supply Program Project could have on the Mojave ecosystem and the plants and animals that the groundwater nourishes.

P2

I have read the draft supplemental environmental impact statement and believe that too much self-policing authority has been granted to Cadiz, Inc. and the Metropolitan Water District in this plan. Both these organizations have an obvious vested interest in the outcome of any regulatory decisions that are rendered and can therefore not be expected to give adequate consideration to larger environmental concerns. The plan as it exists now does not define clearly enough the monitoring and mitigation that will be required.

P2

More emphasis needs to be placed on water conservation measures and other alternatives that are sustainable over the long run. This sort of short-term focus will not solve any long-term problems; it will only make them worse. Southern California's continued population growth will have to entail solutions other than depleting the limited groundwater supply in the region if such growth is to be sustained.

P2

Depleting the water table will also cause a potential problem with air pollution that will result if the water table beneath dry lakes in the region drop by even a few feet. The effects of this have already been observed with Owens Lake.

P

In summary, this is not the kind of policy that Congress intended to see carried out when it set aside the Mojave National Preserve and nearby wilderness areas as functioning ecosystems and pristine desert landscapes. The policy this proposed project represents goes directly against wilderness values and will destroy the viability of the areas that Congress was attempting to protect.

P

I strongly encourage you to support the public interest and reject the Cadiz/Metropolitan Water District proposal. Thank you for your consideration

Sincerely,

Aubrey Johnson
90 West Shrewsbury Place
Princeton, NJ 08540

12/21/00

P26

of land Management,

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:26
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

strongly support the Cal. Wilderness Desert
mitte and it's opposition to the CADIZ
ect to drain an ancient aquifer underlying
e Mojave Nat. Preserve.
the drainings of this could cause irreparable
m to the delicate eco system in the desert
he SCES does not contain complete information on
quality of the ground water
f Cadiz is in charge of our resources; this
ll not protect my, our public interests

P26-1

Yours truly,
CAROL Jarmowsky
4401 Grand View Blvd
LA 90066 CA

December 26, 2000

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714
ATTN: Mr. James Williams

P27

Dear Mr Williams:

P27-1 After reading an article in the Arizona Republic, I was going to comment on the draft supplemental environmental impact Statement on the Cadiz Groundwater Storage and Dry-year supply Program. I am very concerned about the possible impact this project could have on the Mojave National preserve and several desert Wilderness areas. Being a former resident of Tucson & Phoenix I understand the importance of water to the Southwest (especially including Southern California) but I truly think the answer to Southern Ca. water demand issues are not to drain precious desert aquifers but instead to encourage stringent conservation measures like they did in Tucson, AZ. I do not believe that the environmental impact Statement referenced above adequatly addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient.

P27-2 Specifically, I am concerned that the plan

monitoring and mitigation is not well defined and offer questionable management for environmental impacts. The plan gives way too much authority for decisions affecting the desert ecosystem to Cadiz, Inc and its customer, Metropolitan Water district, both of which have an economic interest in extracting ground water. Allowing profit-focused decision makers to be in charge of the ~~public~~ protection of our public resource does not protect the public interest.

The document needs to examine alternatives that are truly sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conversation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

Finally, I am very concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two National Parks and Wilderness areas managed by the Bureau of Land Management.

(pg 2)

We have enough air pollution problems at the Grand Canyon already, we don't need anymore !! These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future gener

P27-4

PLEASE SUPPORT THE PUBLIC INTEREST AND REJECT THIS PROPOSAL. A written response would be appreciated,

P27-5

Thank you,

Peter D Mayes

KIRK D. Mayes
175A Centre St #124
Quincy, MA 02169

OR

KIRK D. Mayes
902 NORRIS Road
Prescott, AZ 86303

Note: This identical letter wa
Sent by Mr. Mayes to Jack
Safely at Metropolitan (12/26

Note: This is identical to Comment Letter P27 Sent to the BLM. Refer to responses to comments P27-1 to P27-5

December 26, 2000

Metropolitan Water Distrct
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attn: Mr. Jack Safely

Dear Mr. Safely:

After reading an article in the Arizona Republic, I am writing to comment on the draft supplemental environmental impact Statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am very concerned about the possible impacts this project could have on the Mojave National Preserve and several desert wilderness areas. Being a former resident of Tucson and Phoenix, AZ, I understand the importance of water to the Southwest (especially including Southern California) but I truly think the answer to Southern CA H2o demand issues is not to drain precious desert aquifers but instead to encourage more stringent conservation measures like they did in Tucson, AZ. I do not believe that the environmental impact Statement referenced above adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient.

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers

desert ecosystem to Cadiz, Inc, and its customer Metropolitan Water distrct, both of which have an economic interest in extracting ground wate. Allowin profit-focused decision makes to be in charge of t protection of our public resources does not prot the public interest.

The document needs to examine alternatives that are ac sustainable, safer and less environmentally destructive, in water conservaton measures. The review of such a Ulternatives IS legal requirement. I believe maximum Should be made in wate conservation before park Natural areas are further threatened by projects. Such Ulternatives that should be considerd include other p mned or feasible wate storage projects and a host easily adopted wate conservaton measres that hav successfully reduced wate demand in other area

Finally, I am very concerned about the possible pollution that could result if the wate table i the nearby "dry" lake drops even a few feet. We have already seen what can happen when thi occurs, namely Owen Lakes. In additon to th Nearby inhabitants, this pollution threatens pu lands including two national parks and five w areas managed by the BLM.

(pg 2)

We have enough air pollution problems at the Grand Canyon already, we don't need anymore!! These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

Please do not further pursue this arrangement with Cadiz, Inc.

Thankyou,

Kirk D. Mayes
75A Centre St #124
Quincy, MA 02169

OR

Kirk D. Mayes
902 Norris Rd
Prescott, AZ 86303

December 27, 2000

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

P28

Attn: Mr. James Williams

Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054-0153

Attn: Mr. Jack Safely

To Whom It May Concern:

As a resident of Southern California, I would like to submit comments on the proposal of Cadiz, Inc. to drain aquifer water under the Mojave Desert National Preserve. P2

The inadequate examination of alternatives is the most serious flaw in the SEIS. The Southern California residents and businesses have hardly begun to institute simple water conservation measures. A combination of aggressive consumer education and assistance to commercial operations can save more water than would be pumped by the proposed project. P2

I am also concerned about the inadequate attention paid to the water quality issued involved in draining this aquifer. The discovery of toxic chemicals in the water is a serious problem that needs to be addressed. Adding contaminated water to the existing water supply will likely pose unacceptable risks to existing water users and place an unfair cost of clean up on them. It is not in the public interest to allow this project to benefit a private company at public cost. P2

Finally, I strongly assert that a project that proposes the drainage of an aquifer lying beneath public land that will endanger the health of the desert ecosystem is enormously unjust. It is time for the Bureau of Land Management to encourage sustainable water use in Southern California instead of continuing the past practice of providing an ever increasing supply to a water-poor region through interbasin tranfers. P2

Thank you for your careful consideration to these comments. P2

Sincerely,

Marsha Westropp

Marsha Westropp
25251 Tasman Road
Laguna Hills, CA 92653



Susan Zwinger

PO Box 493
Langley, WA 98260

Phone/FAX 360 / 221-2347

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:32
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

December 29, 2000

BLM California District
6221 Box Springs Blvd.
Riverside CA 92507-0714

P29

Dear Mr. James Williams:

The water storage and groundwater-draining project under Cadiz Dunes is very destructive to the fragile Mojave environment through the years. The SEIS does not determine the quality of groundwater nor of the Colorado, which would be stuffed into this natural aquifer. This new water would endanger rare species such as the desert tortoise, bighorn and threatened pasque flowers.

The plan for monitoring is not clear and offers poor guidelines for environment impact. Profit-makers and the Metropolitan water district are biased toward making money, not protecting the desert. Analysis for environment is not done. Negotiations may be defined behind closed doors, and I am not sure how the BLM authority will be involved. P29-1

The SEIS does not examine sustainable alternatives, nor look at safer methods less harmful to the ecosystem. Joshua Tree and Mojave National Monument would be badly impacted by the lowering water table. Get a clue: when one takes out money from one's checking account faster than it is pouring in, one bounces checks. It is the same with this water. Valuable indigenous groundwater would be sucked out faster than Colorado water, of questionable cleanliness would come in.

This is not good planning. I am a natural history book author writing about this beautiful area: I intend to watch and write.

Thank you,

Susan Zwinger

Dr. Susan Zwinger

Note: This letter was also sent to the Metropolitan Water District

December 25, 2000

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:31
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Bureau of Land Management
California Desert District
Riverside, CA

P30

Gentlemen:

I was distressed and much concerned to learn that a company - the Cadiz Project, is requesting that it be allowed to do various things in connection with the underlying aquifer that could have a large impact on the surrounding ecosystem.

P30-1

I beg you to consider all factors carefully before making a decision with what appears to be an action with great impact in the future. Thank you.

Very truly yours,
Mary C. Westlake

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:32
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P31

cember 28, 2000

. James Williams
S. Bureau of Reclamations
21 Box Springs Boulevard
verside, CA 92507

ar Mr. Williams:

m taking this opportunity to comment on the Supplement to the Draft EIR/S for the Cadiz oundwater Storage Program. I have a few simple thoughts:

The groundwater monitoring program will need adequate base-case measurements in order to determine what changes are actually taking place. The system should be installed so that they have at least two years of background information prior to the operation of the project. Failing that, any change in groundwater levels that may or may not be caused by the project could erroneously be deemed to be within normal background variations. P31-1

Water banking is and will become even a more important part of the water management landscape in California's future. However, water banking does not include the mining of indigenous water, particularly from aquifers that could be easily overdrafted and irreparably damaged because of that overdraft. I believe that there is a very stable water balance in that aquifer as we see it today. P31-2

The original environmental impact report showed that the first water management step would be to add water to storage. That is the way it should be done. Any effort to mine water in order to develop storage capacity is beyond the scope of the EIR/S and the supplement on which I am commenting. P31-3

The reaction of the monitoring wells at some distance from the production wells will necessarily lag in time. Appropriate groundwater models can anticipate that lag and project conditions well into the future. That capability should be required if, at any time, the groundwater aquifer is drawn down beyond its present condition. P31-4

ncerely,

ff Blake

ffrey Blake

ote: no return address on the envelope (postmark was Oakland CA)

Richard H. Knox
P.O. Box 447
Bishop, CA 93515

December 28, 2000

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:33
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714
Attn: Mr. James Williams

P32

Dear Mr. Williams:

This letter is in response to the proposed Cadiz Water Project. Clearly, the extraction of vital ground water which will impact a National Park, a National Preserve and wilderness and wildlife areas is not acceptable on its face.

Were the present supplemental environmental impact statement properly done, there is little doubt the project would be abandoned. As it stands, the environmental analysis remains incomplete. Putting forward a monitoring plan without a plan to deal with resultant environmental problems is unconscionable. As is the plan to define the BLM's authority in closed door sessions. At the very least the BLM has an obligation to spell out the criteria to be used to protect the unique and rare organisms in this desert community.

Indeed, it is also incumbent on the BLM to maintain it's authority to protect our environment. To seed even one iota of your responsibility to a private firm, with profit as its motive, is totally irresponsible.

Given the Department of Water & Power's (They are, as I am sure you know, the major creator of the MWD) behavior in the Owens Valley, your treatment of this project is either incredibly naïve or conspiratorial. For your agency to copy the historic bad behavior of the Bureau of Reclamation is beyond pale.

It is equally unconscionable to permit a project that will endanger those who are it's supposed beneficiaries. For a governmental agency to behave in the manner that PG&E did in Hinkley is incomprehensible. Your proposal to disregard the

consequences of foisting contaminated water on innocent citizens is beyond belief. P32-5

It's time the federal government quit using our tax dollars to subsidize water for large corporate farmers. Once they start paying their fair share for subsidized water, there will be ample supplies and there will be no need to even consider harebrained projects like this one. Even, without this change there are alternatives that are more sustainable, safer and less environmentally destructive. While, some utilities like the DWP have instituted significant indoor conservation programs. There has been almost no truly effective programs related to out door use in Southern California. P32-6

I truly expect better from an agency that is supposed to protect the interest of the whole nation and not those of a profit hungry company. P32-7

Sincerely,

Richard H. Knox
Retired DWP Conservation Manager



Laurie Batt
1731 Winona Blv
Los Angeles, CA 900
(323) 661-58
lbattin@lausd.k12.ca.

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:34
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

December 28, 2000

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

P33

Attn: Mr. James Williams

Dear Mr. Williams:

I am writing to express my deep concern at the Cadiz Project's proposed plans to tap into the aquifer that underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas.

P3

It is my understanding that the supplemental environmental impact statement (SEIS) does not fully examine the many potential problems that could result from draining a desert ecosystem of its water supply. The document needs to consider alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures.

P3

The potential harm that this project could have is enormous and potentially irreversible. The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the BLM. As you are well aware, these areas are home to many rare plants and animals, including the threatened desert tortoise and desert bighorn sheep. These lands were set aside by Congress to be protected for their nationally significant natural and cultural resource values. I fear that the Cadiz Project puts the protection of these lands into jeopardy. It has vast ramifications for the future of water management, public health and the protection of the natural resources of southern California.

P

Sincerely,

Laurie Battin

Laurie Battin

NOte: This letter was also sent to the Metropolitain Water District.

December 28, 2000

P34

ropolitan Water District
ter Resources Management Group
n: Mr. Jack Safely,

r Mr. Safely,

I am writing to comment on the draft supplemental
vironmental impact statement on the Cadiz Groundwater
age and Dry-year Supply Program. I am concerned
t the impact this project could have on the Mojave
tional Preserve and several desert Wilderness Areas.
do not believe that this environmental review adequately
dresses the potential threats. P34-1

I believe the plan gives too much authority for decisions
lecting the desert ecosystem to Cadiz, Inc and its
tomer, Metropolitan Water District, both of which have
economic interest in extracting groundwater. P34-2

The document needs to examine alternatives that are
tually sustainable, safer, and less environmentally
structive. Alternatives might include water storage
jects and water conservation measures. P34-3

Finally, I am concerned about the possible air
lution that could result if the water table under
nearby "dry" lake drops even a few feet. This
lution would threaten two national parks and five
lderness areas, lands set aside by Congress to be
manently protected. This project would undo
t protection for future generations. P34-4

Please support the public interest and
ject this proposal. P34-5

Sincerely,

Lillian Hannahan

RECEIVED
BUREAU OF LAND MANAGEMENT
2000 JAN -3 AM 8:30
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:30
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P35

December 29, 2000

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear Mr. Williams,

I write to comment on the SEIS on the proposal of Cadiz, Inc. to draw water from the aquifer beneath the Mojave National Preserve and Bureau of Land Management wilderness areas. The SEIS is deficient in a number of important areas. P35

Impacts from draining water in a desert area need to be more fully examined. The fragile ecology will likely suffer from serious and perhaps irreversible damage. The SEIS should carefully evaluate the impacts on all threatened and endangered species and the ecosystem as a whole. The mitigation plan inadequately deals with the management of environmental impacts. It is the responsibility of the Bureau of Land Management to safeguard the natural resources that belong to the citizens of the United States. Allowing a private company to profit from a project that degrades public resources is a violation of the Bureau's responsibility. It is critical that the SEIS completely address the process for preventing and mitigating any negative impacts. P35

The SEIS needs to more fully address the need for this project. Water supplies for the Southern California region should not be augmented unless and until all possible water conservation measures have been implemented. The Southern California area has a history of exorbitant water use and inadequate conservation. Federal funds should not be allocated for this project without stringent requirements for the implementation of conservation measures. P35

I urge you to carefully reconsider the feasibility and necessity of this proposed project. P35

Sincerely,

Kristina Golden

10 Stone Creek Lane
Laguna Hills, CA 92653
(949) 425-1456

5084 Santa Susana Place
Santa Barbara, CA 93111
December 29, 2000

r. James Williams
ireau of Land Management
lifornia Desert District
21 Box Springs Boulevard
verside, CA 92507

P36

ar Mr. Williams:

m writing to comment on the draft supplemental environmental impact statement on the Cadiz oundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this oject could have on the Mojave National Preserve and several desert Wilderness Areas,. I do not believe t this environmental review adequately addresses the potential threats. I am also afraid that the feguards outlined to protect the environment will not be sufficient. P36-1

ave two main concerns with the project.

rst, I am concerned that groundwater in the surrounding areas, including but not limited to Mojave tional Preserve and nearby Wilderness Areas, may be drawn down by this project and will cause drying of springs and death of vegetation, and negative effects on wildlife such as bighorn sheep and desert toises. P36-2

cond, I am concerned about the possible air pollution that could result if the water table under the arby Bristol and Cadiz dry lakes drops even a few feet, causing blowing dust and reduced visibility. Do t repeat the Owens Lake situation. P36-3

m also concerned that the plan for monitoring and mitigation is not well defined and offers questionable anagement for environmental impacts. The plan gives too much authority for decisions affecting the sert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an onomic interest in extracting groundwater. P36-4

ntinued industrialization of the California Desert, which I have visited at every opportunity since I was oy some fifty years ago, threatens to undo the hard-won protection of Mojave National Preserve, shua Tree National Park, and the many wonderful Wilderness Areas especially the nearby Old Woman ountains area. These lands were set aside by Congress to be permanently protected. This project is likely undo that protection. Please support the public interest and reject this proposal. P36-5

Sincerely,

Joseph W. Olson

: Mr. Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:34
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Marcus Libkind
1391 Moselle Court
Livermore, California 94550
Phone: (925) 455-5816
FAX: (925) 455-4826
E-mail: mlibkind@hotmail.com

December 29, 2000

Bureau of Land Management
California Desert District
Attn: Mr. James Williams
6221 Box Springs Blvd.
Riverside, CA 92507

P37

Dear Mr. Williams,

I lived half my life in Southern California where I became involved in outdoor activities like hiking and backpacking. I spent my outdoors time split between the eastern escarpment of the Sierra Nevada and the deserts in the south part of the state.

The time I spent in the desert made me aware of its beauty and how delicate and fragile the desert ecosystems are. I became quite familiar with the history of Owens Lake and its destruction due to bad management and shortsightedness. I would look out onto the manmade dust plain where once there was a lake every time I drove from Los Angeles to the Sierra along Highway 395 and wonder how the stewards of our lands could allow that to happen.

I am very concerned that the Cadiz Project that will pump ground water from the Mojave Desert may result in equally devastating results. That is why it is imperative that a complete and accurate analysis of the ramifications of the proposed project be considered. This project could result in ecosystem damage to two national parks and five wilderness areas managed by the BLM.

The BLM has been entrusted by Congress to permanently protect these lands. To do that correctly requires fully examining potential problems that can result from tapping the groundwater system. The issues that must be addressed include (1) the effects on plant and animal life, (2) groundwater quality, how it will be affected by pumping and is it safe for public consumption without excessively expensive treatment, and (3) is sufficient monitoring and mitigation in place to warrant proceeding.

The issue of long term monitoring is very dear to me because I believe that it is very important that the steward of the lands, the BLM, must maintain a critical eye on what is happening should the project be allowed to proceed. The BLM should not agree to anything that does not allow, without penalty, the suspension of the project should environmental problems surface. Furthermore, the public should be invited to participate in the formation of the monitoring program.

Thank you for your time and consideration.

Very truly yours,
Marcus Libkind
Marcus Libkind

Note: This letter was also sent to the Metropolitan Water District

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -5 PM 3:56
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA

Andrew Lee Roth
1458 Augusta Drive
Upland, CA 91786-2446
(909) 931-7701
Andy.Roth@Pomona.edu

December 2000

P38

reau of Land Management
lifornia Desert District
ttn: Mr. James Williams
21 Box Springs Blvd.
verside, CA 92507-0714

ar Mr. Williams,

write to express my opposition to the Cadiz Project and my ncerns regarding its Supplemental Environmental Impact Statement EIS). P38-1

- **The Cadiz SEIS does not adequately account for the costs and benefits of the project.** Under the current SEIS, the public and the environment will pay the price (both literally and figuratively) while two profit-focused entities -- Cadiz, Incorporated and the Metropolitan Water District -- will reap the (economic) benefits. P38-2

- **The SEIS does not fully examine the problems that will result from draining precious water from a desert ecosystem.** As you know, the proposed project will affect federally-protected public land in two National Parks and five BLM-managed Wilderness Areas. I am especially concerned for the project's impact on endangered desert tortoise and bighorn sheep. P38-3

- **The "monitoring and mitigation" plan makes Cadiz, Inc. and the Metropolitan Water District the primary decision-makers regarding management of the aquifer's water supply.** Both Cadiz, Inc. and the MWD will benefit financially from continued groundwater extraction. An SEIS that puts Cadiz and MWD in charge of monitoring and mitigation naively puts private profit before public interest. As a steward of public lands and resources, the BLM should oppose such an arrangement. P38-4

urge you re-evaluate the SEIS and, ultimately, to oppose the diz Project itself. Thank you for you attention to my letter. P38-5

urs sincerely,

Andrew Lee Roth

Andrew Roth & Elizabeth Boyd
1458 Augusta Drive
Upland, CA 91786-2446
(909) 931-7701

31 December 2000

Metropolitan Water District
Water Resources Management Group
Attn: Mr. Jack Safely
P.O. Box 54153
Los Angeles, CA 90054-0153

P 39

Dear Mr. Safely,

We write to express our concern regarding the Cadiz Project's Supplemental Environmental Impact Statement (SEIS), and to urge you to reconsider the MWD's involvement in the project. Our specific concerns include the following:

- **The SEIS does not adequately examine water conservation measures as an alternative** that is more sustainable, safer, and less environmentally destructive than the Cadiz Project. As you know, water conservation projects have successfully reduced demand in other areas.

- **The SEIS contains incomplete information on the water quality of the groundwater and Colorado River water that would be pumped into the aquifer.** Some of this water contains Chromium 6 and may also contain other toxins that will require expensive treatment. Who will pay for the expense of treating this water? Apparently Cadiz, Inc. and the MWD are willing to pass these costs along to taxpayers and southern California water customers.

- **The Cadiz Project could turn two nearby dry lakes into sources of toxic dust storms, generating air pollution that would exceed that of the Owens Lake.** The air pollution that resulted from the drying of Owens Lake continues to cost Southern California rate payers millions of dollars. We now understand that what was profitable in the short-term for the water brokers has been costly in the long-term for the public.

For these reasons, we urge you to reconsider the MWD's involvement in the Cadiz Project, and we assure you that we will continue to follow this groundwater grab with active interest. Thank you for your attention to our concerns.

Andrew Roth

Elizabeth Boyd

Tony B. de Bellis
123 Ellis Road
Danville, CA 94526

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:26
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

12/31/2000

P40

R SIRS:

I AM WRITING IN OPPOSITION TO THE P40-1
= WATER GRAB. I WILL NOT CITE THE
FLAWED SEIS P40-2
POOR QUALITY GROUNDWATER P40-3
IMPACT ON THE GREATER ECOSYSTEM P40-4
POORLY DEFINED MONITORING AND MITIGATION P40-5
LACK OF A WATER CONSERVATION ALTERNATIVE P40-6

NSTEAD, I ASK YOU A LEGAL QUESTION. P40-7
OW CAN OWNERS OF A MINISCULE
TION OF THE DESERT POSSIBLY CLAIM
WATER RIGHTS TO A VASTLY
GER TRACT OF LAND?

SINCERELY,

Tony de Bellis

DR. THOMAS M. MC NICHOLAS
STEPHANIE E. MC NICHOLAS
1020 LONGRIDGE RD.
OAKLAND, CA 94610

DECEMBER 30, 2000

MR. JACK SAFELY
METROPOLITAN WATER DISTRICT
PO BOX 54153
LOS ANGELES, CA 90054-0153

P41

DEAR MR. SAFELY:

THIS LETTER IS TO EXPRESS MY CONCERN FOR THE POTENTIAL NEGITIVE IMPACTS THAT COULD OCCUR IF THE CADIZ PROJECT IS ALLOWED TO DRAIN THE AQUIFER UNDER OUR PUBLIC DESERT LANDS. P41-1

THE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THIS PROJECT NEEDS TO INCLUDE A COMPREHENSIVE PROJECT RISK MANAGEMENT PLAN, AN IN-DEPTH REVIEW OF SUSTAINABLE ALTERNATIVES AND A MORE FOCUSED TREATMENT OF THE ENORMOUS RAMIFICATIONS FOR THE FUTURE OF WATER MANAGEMENT BECAUSE OF THE SCOPE OF THE CADIZ PROJECT. P41-2

I URGE YOU TO CONSIDER YOUR DECISION IN THE LIGHT OF PUBLIC INTEREST AND THE FUTURE NATURAL TREASURES WE WISH TO LEAVE OUR CHILDREN. P41-3

SINCERELY YOURS,

T. M. MCNICHOLAS

December 30, 2000

4355 Huston St., #225
herman Oaks, CA 91423

r. Jack Safely
etropolitan Water District
Vater Resources Management Group
.O. Box 54153
os Angeles, CA 90054-0153

P42

ear Mr. Safely:

am writing you to urge you to reject the Cadiz Inc.'s plan to drain water
rom aquifers beneath the Mojave Desert. There are several important
easons why the Cadiz Inc's plan should be rejected. First, the water
rom these aquifers is precious to a variety of rare plants and animals
uch as the desert tortoise and desert bighorn sheep. Second, the water
rom these aquifers will be extremely expensive, if not impossible to
reat. Third, sustainable alternatives that are less environmentally
estructive, such as water conservation measures, need to be considered.
ourth, public lands outside the area of extraction, including two
ational parks and five wilderness areas managed by the BLM, would be
dversely affected by the draining of these aquifers.

P42-1

am convinced there are environmentally sound, sustainable solutions to
ur current water problems. I encourage you to explore these options
ather than permitting the Cadiz Inc.'s "quick fix" entrepreneurship.

P42-2

Sincerely,

Seth Shteir

Stephen B. Brown

6706 Moeser Lane
El Cerrito CA 94530-2909

510.524.3103
sbrown@well.com

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:28
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P43

January 1, 2001

Bureau of Land Management
California Desert District
6221 Box Springs Blvd
Riverside CA 92507-0714

ATTN: Mr. James Williams

RE: Cadiz Project SEIS

I am very concerned with several elements of the SEIS as it stands. This project, in its present configuration, would have significant and long-term consequences for large areas of public lands that should remain protected under federal designation. It is vitally important that careful scientific study and planning be the basis for final decisions and implementation.

What is the true character of this project? While it is described as a storage project, there seems to be ample evidence that in fact the net effect could be the depletion of vast amounts of water from the Mojave Desert aquifer. This water has sustained a fragile ecosystem, which now could be further desertified with great loss of plant and animal viability. It is important that the SEIS more clearly specify how such (potential) impacts will be assessed and remedied.

It is also administratively suspicious that key project oversight would remain with the commercial contractor, rather than with a qualified public agency. The natural welfare of the desert should not depend on decisions that might be swayed by financial (profit) bias.

I sincerely trust that the BLM will guide the review and planning process to ensure that maximal attention be given to the long-term vitality of the desert ecosystem and to public health, even if to the possible detriment of commercial interests.

Cordially,

Stephen Brown
Land Survey Technician

Will Connell
14642 Lime Kiln Rd.
Grass Valley
California, 95949

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -5 PM 3:56
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Bureau of Land management
California Desert District
6221 Box Springs Blvd.
Riverside
California, 92507-0714

P44

Attn: Mr. James Williams

Re: Supplement to Draft EIR/EIS for Cadiz Groundwater Storage & Dry-year Supply program

1 January 2001

Dear Mr. Williams:

I am writing with regard to the proposed project and the related EIR/EIS documentation for it.

I am a graduate from the University of California, having majored in geology. After graduation in 1958, I spent three years as a commissioned officer in the US Coast and Geodetic Survey, doing hydrography and oceanography at sea. I have a long interest in the geology of California, particularly the Sierra Nevada range and the Mojave desert. Over the past three decades I have spent a great deal of time exploring the Mojave and doing some mapping in our wonderful desert. I have concluded a two decade-long career at McDonnell Douglas, where I was program engineer on several remote sensing instrumentation programs. Some of these programs were tested in the region under discussion, where ground-truth information was easily obtained by our science teams. P44-1

For some years I have followed the developments regarding the Cadiz operation, most recently the proposed groundwater storage plans with the Metropolitan Water District. I have studied the Draft EIR/EIS, the Supplement to the Draft EIR/EIS, and the USGS "Comment Letter" written by James Devine, dated 23 February 2000. I wish to make some comments that I think pertinent.

I believe that the original concept of the dry-year storage makes considerable sense. The population of Southern California is still expanding, and in spite of excellent achievements in water conservation, the region is facing serious water shortages. Alternate water storage plans involving increased storage in open lakes or increased aqueduct flows seem to me to involve huge evaporation losses, losses that any conservationist must consider with horror. What better way to deal with this situation than by underground temporary storage during water-rich years? P44-2

I realize there is a controversy regarding the proposed program and the EIR/EIS documentation submitted for evaluation. Some of this seems politically motivated to me. I have reviewed the technical documentation for the proposed project and I have visited the site several times over the years. Much of the controversy seems spurious to me. I am impressed by the volume of data acquired for the project and with the analysis of those data by the various project consultants. To the best of my knowledge, the "Groundwater Monitoring & Management Plan is unique in proposing state-of-the-art technology for providing advanced warning of potential environmental impacts long before any impacts would be significant, thereby allowing implementation of appropriate mitigation measures.

I worry that major decisions are being made on this project that are not based on adequate science. I am very concerned about the USGS "Comment Letter" of 23 February 2000. I am particularly concerned that the comments by Devine are to be taken seriously. It seems to me he presents no data that are *specific* to the Cadiz location, but relies upon studies done elsewhere. How can we draw conclusions from them? I see little in the way of documentation regarding analytical methods used to reach conclusions about the Cadiz site. I have to tell you that I am even more suspicious of these Comments because I know nothing of the author's credentials. *Is* he a geologist or hydrologist? Does he have a bibliography of his own publications that concern the issues involved here? I see none.

This USGS "Comment Letter" appears to me to have brought a long delay in implementation of this interesting project.

If documents with spurious information or lack of good hard science can have such an impact, I must assume that they are politically motivated.

Good science is mandatory for the decisions before us. If good science is not presented, I have to ask myself what the goals are of those who fail to live up to the responsibility of good science?

I hope you will consider these and other statements with an especially critical eye and an open mind. A great deal depends upon it.

Sincerely,

Will Connell

Will Connell

cc: Secretary, Dept. of Interior

BUREAU OF LAND MANAGEMENT
2001 JAN -5 PM 3:56
DISTRICT
RIVERSIDE, CA.

Jan 1 '01

au of Land Management
rder Desert Restrict.
Box Springs Blvd.
rside CA. 92507-0714

o: Jane Williams re: Cady Project.

P45

r Ms. Williams

I feel that the Cady Project to drain the
ifer under the Mojave National Preserve
nearby Wilderness areas will harm those
agile desert ecosystems. P45-1

Before that project is allowed to proceed
lease be sure the environmental impact statement P45-2
vers the following concerns.

1. What will be the ecosystem consequences
of the ground water drainage
2. What are the pollutants in the Colorado
River replacement water, and what will
be the costs of treating that water and P45-3
who will pay those costs.
- What are the alternatives - including
water conservation, and other water P45-4
storage projects.
- How will the Mojave Preserve, Joshua
Tree National Park & BLM Wilderness P45-5
be protected.

Sincerely yours.
Jack Roberts
[illegible] Bakersfield CA. 9311

2670 Foreman Ave.
Long Beach, CA 90815

Jan. 1, 2001

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:27
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P46

Attn: Mr. James Williams

As one of the millions of "share holders" of the land under your management, I am concerned about the impact of the pending **Cadiz Project.** As a hiker and hunter, my primary fear is the long term effect on the areas wildlife. I hope a more comprehensivee study is done before any action is taken on this project. My fellow "share holders" and I don't feel selling off one of the lands major assets is wise.

P46-1

Orson J. Morgan

c - Elden Hughes
Stephen Horn

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 9 AM 9:00
CALIF. DESERT DISTRICT
RIVERSIDE, CA

Bruce J. Weekley, Commissioner
Needles Board of Public Utilities
817 "C" Street
Needles, CA 92363

January 2, 2001

P47

Phil Pace
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054

Jim Williams
Bureau of Land Management
6221 Box Springs Road
Riverside, CA 92507

Dear Sirs:

I am a hydrologist by trade and have dealt in domestic water supply for some forty years; I know land is of no use without water.

I have been a member of the Needles Utility Board for three years. We as a board are constantly searching for new and better ways to use and conserve water to better serve our public. As it had already been said, California is in the last great gold rush, being water. P47-1

I feel the Supplement to the EIR/EIS closely monitors the aquifer system and will ensure the safety of all the surrounding critical resources. I also feel that projects of this kind are the only way to ensure there will be a reliable water supply during dry years and help alleviate demand on the Colorado River.

I have had the privilege of visiting the Cadiz facility and I strongly support the endeavors of this project. It is people like you who will keep California alive and growing. P47-2

Very truly yours,

Bruce J. Weekley
Route 4 Box 123
Needles, California 92363

Weekley
Box 123
CA 92363

Jim Williams
BLM
6221 Box Springs Rd.
Riverside CA 92507

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 11 PM 2:36
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

January 2, 2001

U.S. Bureau of Land Management
6221 Box Springs Blvd.
Riverside, CA 92507

P48

Attn: Mr. James Williams

Subject: Supplement to Draft EIR/EIS for Cadiz Groundwater Storage & Dry-Year Supply Program

Dear Mr. Williams:

I'm writing to you as a concerned citizen who has watched what seems to be a prolonged and unwarranted struggle surrounding this project. I have a background as an engineering geologist, and as such have knowledge of the engineering and scientific basis of the proposed project as outlined in the Draft EIR/EIS and in the Supplement to the Draft EIR/EIS. The proposed "Groundwater Monitoring and Management Plan" outlined in the Supplement appears to me to be an unprecedented effort to monitor important environmental resources in the vicinity of the project area, and to provide advanced warning of any potential environmental impacts to these resources.

First, let me comment briefly on the technical side. From what I understand from the Draft EIR/EIS and the Supplement to the Draft EIR/EIS, this project is based on a careful, thorough, and consistent approach to solving a critical problem within Metropolitan Water District's service area, which provides water to approximately 17 million people in southern California. Both the field and design studies have paid careful attention to standard practices in engineering and hydrologic work, and this has been clearly documented and substantiated in the supporting materials.

In contrast, various challenges to this work from other agencies and groups, specifically the Water Resources Division of the U.S. Geological Survey (for example, the "comment letter" written by James F. Devine dated February 23, 2000), seem to be based on shoddy research and unwarranted extrapolations of findings from dissimilar environments. The contrast is remarkable, and it is a shame that this has slowed the progress of this project as much as it has.

The real issue here, however, is the apparent ability of self-serving organizations to deadlock what is a very innovative and environmentally non-destructive program for dealing with the water problems in southern California. Accordingly, I would hope that the Department of the Interior undertake an investigation into the activities of both the U.S. Geological Survey and the National Park Service in their opposition to the proposed project. I believe that the tactics employed by these agencies raise important ethical and professional questions.

I hope that the situation is resolved speedily, and that the solid base of evidence in favor of the project is accorded the respect that it deserves. 248-4

Respectfully,



Michael Crandall

1008 N. 49th St.
Seattle, WA 98103

cc: Secretary
U.S. Department of the Interior
Washington, D.C.

Ralph Landers
5381 East Grain Mill Road
Pahrump, NV 89061-7700

P49

2 January 2001

James Williams
Bureau of Land Management
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Mr. Williams:

Being a frequent visitor and camper to the Mohave National Preserve, and the adjacent desert areas, I am interested in preserving the natural beauty, wildlife, and air quality of the area. Being a semipro photographer and writer I find that as time goes by, plants and natural formations (dunes, etc) seem to vanish or diminish in size. Why is that? For one thing, water resources are either absent or polluted, or foreign sources of water are introduced which affect plant life in the desert.

One of the most destructive introductions would be the importation of Colorado River water which upon analysis has shown to be full of undesirable elements such as chromium 6, radon gas, methyl-ethyl-tertiary-butyl-ether, and perchlorates. All of these could cause carginogenic tumors in animals and humans drinking this water. Trying to treat the water containing these undesriables would cost a fortune and may not be 100% effective as traces would remain in the water supply, cling onto pipelines, etc. Perchlorates are very corrosive to metal piping and would eventually destroy the pipe walls

Management of the "extracted" water supply would be supervised by the Cadiz, Inc. and the Los Angeles Metropolitan Water District both of whom look at the bottom line first regardless of the consequences. The fact that rare plants and endangered aninals such as the bighorn sheep and desert tortoises would be at risk does not bother the water "extractors" one bit.
The BLM needs to examine alternate water sources which are less environmentally destructive. Public lands which are effected include two national parks and five wilderness areas managed by the BLM. Please reconsider this plan: for our future and the animals/plants who need clean water in order to survive. Thank you.

Sincerely,

Ralph Landers

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:26
BLM-CDD DISTRICT
RIVERSIDE, CA.

1/3/01

Note:

Dear Mr. James,
The enclosed statement from National Park Lines says it for me. Please do not allow these 2 ecological disasters to happen. We are robbing our future and vandalizing our present.

P50-1

Let the city of Los Angeles go on water rationing — and let them limit the influx of new businesses and development of new mega residential areas.

P50-2

Sincerely,
Eve Watson

No enclosed statement

P50

This letter was also sent to the Metropolitan Water District

January 3 - 2001

P51

Jim Williams
Bureau of Land Management
6221 Box Springs Rd.
Riverside Ca. 92507

P51-1 This letter is in regards to the Supplement to the Cadiz groundwater Storage and Dry-Year Supply Program EIR/EIS

P51-2 I have read the document and feel that it addresses all my Concerns and that there are more than enough protection for the Critical resources and the existing Aquifer

P51-3 Monitoring devices like this should be used in all future projects of this kind As a land owner in Chambless, I feel very Comfortable with this project going forward

Yours Truly

Paul Lemmon
Landowner
Chambless Ca.

306 Chestnut st
Needles Ca
92363

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -4 PM 2:26
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:59
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

Jan 3, 01

P52

January 3, 2001

Bureau of Land Management
California Desert District
Management Group
Attn: Mr. James Williams
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Metropolitan Water District
Water Resources
Attn: Mr. Jack Safely
P.O. Box 54153
Los Angeles, CA 90054-0153

To All Who Are Concerned and can affect what is being proposed.

I am really upset abouit what is being proposed re: the Cadiz project.\

Why Why Why are you spending so much time and so much effort on a project that threatens so many protected natural areas when there appears to already be a spot owned by the government, the Heywood site, that could do the job very well? What is the justification of not working with what we the people already own and going off and being prepared to spend more taxpayer money to aid a private investor? P52-1

Yes, we need more water sources but there are lots of other ways of getting it first and foremost being more conservation, not just with the development of more water efficient equipment, but cutting out the elaborate plantings of lawns and gardens that we see all over Los Angeles and emphasizing more reuse of water. P52-2

This whole trend toward putting water into aquifers for storage and taking it out for later uses sounds very tempting on tbe surface but there has to be lots more safeguards in place including state laws to regulate and more scientific analysis as to the effects of adding and later putting more water into a desert aquifer AND the danger of contaminating water supplies when water is moved from one place to another. P52-3

And let's take good heed from the energy debacle...too much control in the hands of the private sector is VERY dangerous. Access to a good water supply should be a guaranteed right of all of us and not left to the open market. I prefer government regulation with all its fits and starts. P52-4

Of course, there is much more to be said but you probably have heard it already. Just know that I am really against the furtherance of this project. Drop it now and get on with the development of the Heywood site. P52-5

Sincerely yours,

Maryann Lockhart
PO Box 66
FRAZIER PARK CA
93222

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 8:45
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Bob Brister
4308 Rhodes Avenue
Memphis, TN 38111
(901) 743-7330

January 3, 2001

P53

Bureau of Land Management
California Desert District Management Group
Attn: Mr. James Williams
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear Mr. Williams,

As a former resident of California and likely future resident, I am writing to express concerns about problems with Cadiz, Inc. plans to drain an ancient aquifer that underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas. This project has the potential to cause irreversible damage to our treasured public lands in the California Desert.

P

This project could endanger the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep. Two of the several wildernesses that could be impacted by this project are the Trilobite and Clipper Mountain Wildernesses, home to the second largest herd of desert bighorn sheep in the state.

P

The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P

Please abandon this desert water mining plan.

Sincerely,

Bob Brister

Bob Brister

Note: This letter was also se
the Metropolitan Water Dis

Bob Brister
4308 Rhodes Ave.
Memphis, TN 38111

MEMPHIS, TN 381
PM
JAN
2001

Bureau of Land Manag

Stephen J. Turnbull
2322 Drummond St.
Vicksburg, MS 39180

January 3, 2001

Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054

P54

Attention: **Mr. Jack Safely, Project Manager**

Subject: **Supplement to Draft EIR/EIS for Cadiz Groundwater Storage and Dry-Year Supply Program**

I would like to provide my strong endorsement of the Cadiz Groundwater Storage program as an extremely effective and environmentally sound approach to storage of groundwater. Southern California needs many projects like this to store groundwater collected during wet years for use in dry years. It is unlikely that the Metropolitan Water District can locate a better desert basin for a groundwater storage project. The Cadiz Project has the following attributes: 1) Coarse grained sediments in the Fenner Gap to allow for abundant recharge in the spreading basins, 2) The Fenner Valley Watershed providing natural recharge, 3) The Cadiz Valley with low total dissolved solids (TDS) ambient groundwater to provide storage, and 4) Proximity to the Colorado River Aqueduct.

P54-1

I have over 15 year experience in the practice of hydrogeology, and I have worked on numerous California desert sites, including the solar powerplant project near Harper Lake and Sierra Army Depot. I am a registered Geologist (no. 5957) and a Certified Hydrogeologist (no. 151) in California. I have also worked in Cadiz Valley including logging boreholes and performing and analyzing aquifer tests. I presently work with the Groundwater Modeling Technical Support Center/Geotechnical Laboratory at the U.S. Army Engineer Research and Development Center at Waterways Experiment Station.

P54-2

I have reviewed the following documents related to this project: - The November 1999 Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report Groundwater Resources Vol I and II. - The Supplement and The Draft Cadiz Groundwater Storage and Dry-Year Supply Program EIR/EIS (MWD reports 1159 and 1167). - The February 23, 2000 Memorandum from James F. Devine to Molly Brady that presents the USGS' comments.

I found the Environmental Planning Technical Report comprehensive and complete. A review of the data collected has caused me to conclude that the project is feasible and well investigated. The monitoring plan is also complete and will provide more than adequate information to operate the project and prevent environmental degradation.

P54-3

However, I was concerned about the non-technical arguments made against the project in the USGS comment letter. It looks like a comment letter written by an environmental consultant hired to "stop" a project, which is inappropriate for the USGS. It is the role of a government agency, such as the USGS or the Corps of Engineers, to provide an objective technical review for use by political decision-makers. I worked a number of years with the Corps of Engineers on the Crandon Mine Project in Northern Wisconsin, a project being opposed by a number of parties. The subject USGS letter is exactly like a comment letter from an opponent of the project that criticized nearly every aspect of the EIR/EIS. I have listed below just a few of the problems with the USGS comment letter that I discovered during my review of the USGS memorandum (the page in the Draft Environmental Planning Technical Report is included).

Page 41, 5.3.2 Groundwater Flow Direction. The USGS letter surmises with no evidence that groundwater flow does not obey Darcy's law and that faults are causing groundwater to be "dammed" behind the faults. All of the collected groundwater data support a gradual hydraulic gradient from Fenner Valley to Cadiz Valley.

Page 60, 6.6.2.1 – The USGS is concerned about differentiating between shallow perched water and discharged regional groundwater flow in the dry lakes. Shallow perched water would have a much lower TDS concentration. An example would be Honey Lake in California, which receives surface water recharge, and has a TDS of 2,000 to 4,000 mg/l measured in the shallow groundwater. TDS concentrations of 100,000 to 250,000 + for the groundwater below Cadiz and Bristol Lakes are indicative of a groundwater fed lake.

Section 7.0 –The USGS is asking for an unsaturated zone model of the infiltration test. I assume they want this calibrated to the pilot test so then it can be used for estimating the aquifer recharge from infiltration ponds. I have done quite a bit of vadose zone modeling, and my experience is that the vadose zone model predicts either too much or too little infiltration. It is very difficult to get it working right. It is far better to use actual infiltration data than a model. Vadoze zone models are generally used in the absence of an infiltration study.

Page 105 – Longitudinal Dispersivity. The USGS is critical of longitudinal dispersivity values of 50 feet. Values of 50 to 100 feet have been used on many USGS studies. I personally am using 50 feet on a model at Aberdeen Proving Grounds in Maryland, and 100 feet for a model in Hawaii.

Page 129 9.3.2.1. Early Time Aquifer Test Data. The USGS is concerned with using late time data in the aquifer test, and want you to use early time. There are references that support the use of the late time data as being more accurate (Neuman, S.P, 1975 Water Resources Research Vol. 11, No. 2).

Sincerely,

Stephen J. Turnbull

Stephen J. Turnbull

Cc: Mr. James Williams, U.S. BLM, Riverside, CA.
Secretary, U.S. Department of the Interior, Washington, D.C.

y 03, 2001

of Land Management
ia Desert District
ox Springs Boulevard
le, CA 92507-0714
r. James Williams
williams@blm.gov

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 9:27
CALIF. DESERT DISTRICT
RIVERSIDE, CA

P55

r. Williams,

writing to comment on the draft supplemental environmental impact statement on the Cadiz water Storage and Dry-year Supply Program. P55-1

concerned about the impacts the project will have on the Mojave National Preserve and several desert ess Areas. The environmental review does not adequately address potential threats. P55-2

concerned that the plan for monitoring and mitigation is not well defined and offers questionable man- t for environmental impacts P55-3

n gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, olitan Water District — both have solely an economic interest in extracting groundwater. To allow profit- decision-makers to be in charge of the protection of our public resources does not protect the public P55-4

ument needs to examine alternatives that are actually sustainable, safer and less environmentally ive, including water conservation measures. The review of viable alternatives is a legal requirement. P55-5

e progress should be made in water conservation before parks and natural areas are further threatened cts such as this. P55-6

ves that should be considered include other existing, planned or feasible water storage projects and dopted water conservation measures that have successfully reduced water demand in other areas. For e: Why not make it illegal to have a lawn requiring watering?! That would save billions of gallons per eople need to take showers. No one needs to grow a lawn. P55-7

concerned about air pollution that could result if the water table under the nearby "dry" lakes drops even et. For example: Owens Lake. P55-8

on to nearby inhabitants, this threatens public lands which include two national parks and five wilderness anaged by the BLM. This land was set aside by Congress to be permanently protected for its nationally nt natural and cultural resource values. This project is likely to undo that protection for future generatic P55-9

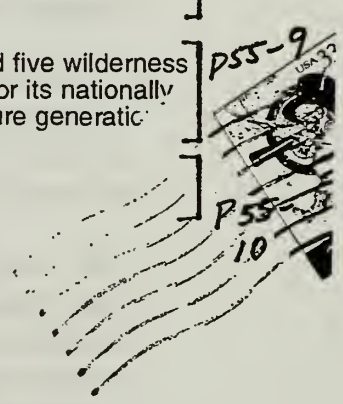
support the public interest and reject this proposal. P55-10

ou.

y,

Freese and John Hinkle
, IL
792-1225 lisfreese@aol.com

Safely
olitan Water Disctrict
esources Management Group
x 54153
eles, CA 90054-0153
/217-6119)





Bureau of Land Management
California Desert District
Box Springs Boulevard
92507-0714

RUSSELL BLALACK - 1081 Milky Way, Cupertino, CA 95014
russell@OutsideTestingServices.com

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 9:04
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P56

Bureau of Land Management
California Desert District
Management Group
Attn: Mr. James Williams
6221 Box Springs Boulevard
Riverside, CA 92507-0714.

Wednesday, January 03, 2001

Dear Mr. James Williams,

Opposition to the Cadiz Project

The Cadiz project intends to drain up to 652 billion gallons this aquifer that has sustained the fragile ecosystems of the western Mojave Desert for millennia.

This project endangers the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep. Two of the several wildernesses that could be impacted by this project are the Trilobite and Clipper Mountain Wildernesses, home to the second largest herd of desert bighorn sheep in the state.

The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Under this plan, Cadiz, Inc. will dominate all monitoring and decision-making and its customer, Metropolitan Water District, both of which have built-in incentives to favor continued groundwater extraction. This does not protect the public interest! The plan needs to spell out the criteria it will use to stop this project before it causes irreversible damage.

The Bureau of Land Management's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations, subject to political pressure instead of public oversight. The terms of BLM's authority and oversight needs to be addressed and publicly disclosed in another environmental impact statement.

The document needs to justify the actual need for this project and examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

Note: This letter was also sent to the Metropolitan Water District

The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket-fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in southern California. P56-7

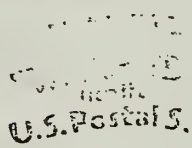
This decision has enormous ramifications for the future of water management, public health and the protection of the natural resources of southern California. We need to urge the Metropolitan Water District and the Bureau of Land Management to make a decision that is informed, reasoned, and that promotes the public interest rather than private profit. P56-8

Yours truly,

Russell E. Blalack

ussell E. Blalack
Milky Way
rtino, CA 95014





BLM
California Desert District Mgmt Group
Attn: Mr. James Williams
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Katherine V. Rodgers
616 Lido Drive
Boulder City, NV 89005
January 4, 2001

P57

Mr. Jack Safely, Project Manager
Metropolitan Water District
P.O. Box 54153
Los Angeles, California 90054

Subject: Cadiz Groundwater Storage and Dry-Year Supply Program, Supplement to Draft EIR / EIS

Dear Mr. Safely:

I am writing in support of the subject program (Cadiz Program). As an analytical chemist with extensive geoscience and Environmental Protection Agency experience as well as having numerous research publications in refereed scientific journals, I believe I am qualified to comment on the merits of the Cadiz Program.

In my investigation of the Cadiz Program I reviewed documentation relevant to the Program including the Draft EIR / EIS and visited the site of the proposed Program. In my opinion the Cadiz Program will ensure the reliabilityof Metropolitan Water District's existing water supply in the Colorado River Aqueduct. The proposed Program is scientifically sound and environmentally friendly; the engineering is practical and the management plan assures success.

The USGS comments in the Devine Memorandum (Devine, James F., Feb 23, 2000, Review of the Cadiz Groundwater Storage and Dry-Year Supply Program Draft Environmental Planning Technical Report, Groundwater Resources, Volumes I and II: Memorandum to Molly S. Brady, Field Manager, Bureau of Land Management, Needles , California.) were disturbing in that they appeared to be dishonestly slanted to support what one must conclude to be a preconceived but unsubstantiated negative attitude on the part of the USGS.

I appreciate this opportunity to submit my comments to you for your consideration on this very important project.

Yours truly,

Katherine V. Rodgers

Katherine V. Rodgers

cc: Secretary, U.S. Department of the Interior
1849 "C" Street, NW
Washington, D.C. 20240

Steven D. Gabel
15840 Rayen Street
Sepulveda, CA 91343
(818) 892-7440 Fax: (818) 892-2251
sdgabel@aol.com

January 4, 2001

P58

Mr. Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

Dear Mr. Safely,

I am against the Cadiz, Inc. plan to pump ground water from the ancient aquifer underlying much of the Mojave Desert. Much of this aquifer underlies public land that has been designated as the Mojave National Preserve and other wilderness areas. This project runs counter to the designation that these lands be permanently protected. P58-1

In addition, I'm against this project because of potential to disrupt the existing ecological steady state, which would threaten the endangered and rare plants and animals of the desert community. This project will reduce biodiversity. P58-2

We have a penchant for wasting water. The supplemental environment impact statement does not address water saving measures that need to be implemented. P58-3

Sincerely,

Steve Gabel

Kenton E. Bentley, Ph.D.
616 Lido Drive
Boulder City, NV 89005
January 4, 2001

P59

U.S. Bureau of Land Management
6221 Box Springs Blvd.
Riverside, CA 92507

Attn: Mr. James Williams

Subject: Supplement to Draft EIR/EIS for Cadiz Groundwater Storage & Dry-Year Supply Program

Dear Mr. Williams:

This letter is written to comment on several different aspects of the subject document and the program to which it pertains.

First, I would like to state that I believe the Cadiz Program is an innovative and environmentally responsible solution for significant problems of water-supply availability, conservation and management. These problems are endemic to all of the southwestern United States, and I hope that the Cadiz Program will serve as a guide for other conjunctive use programs throughout the region. Further, the proposed Groundwater Monitoring and Management Plan is, to the best of my knowledge, unique in its scope and consistent with the highest goals of natural resource management and protection. It too can serve as a valuable guide for groundwater monitoring and management, not only in the arid West, but also wherever groundwater depletion or pollution poses significant risks. P5

Secondly, I would like to state that I have reviewed the two-volume "Environmental Planning Technical Report - Groundwater Resources" (Report no. 1163) that was prepared for MWD and the BLM by Geoscience Support Services, Inc. I have also visited the site of the proposed Cadiz Program and observed the spreading basin test and the production and observation wells used in the collection of site-specific data employed in the analyses presented in the Technical P5

Report. The presentation of these data and the clear discussion of analytical methods employed in interpretation of these data are hallmarks of good science and professionalism. I know of no other hydrological studies of comparable depth and detail anywhere else in the desert regions of eastern California.

p59-2

Thirdly, I would like to state that I have reviewed the so-called "comment letter" submitted by the U.S. Geological Survey (James F. Devine, February 2000)[1] in response to the Draft EIR/EIS for the Cadiz Program. I have worked professionally in government science for more than 40 years and have never encountered a document of comparable arrogance and vituperation. This document is totally lacking in site-specific data and any documentation for the analytical methods allegedly employed in reaching its dubious conclusions. It is not science. It is a screed of unsupported accusations.

p59-3

In my search of the U.S. Geological Survey web sites I have learned that Mr. Devine is not a hydrologist, and that his record of publication has no relevance to the issues addressed in the "comment letter".[2] Upon further inquiry, I have learned that Mr. Devine is not actually the author of this document, and that the identities of the actual authors, and their qualifications, has not been publicly disclosed. This "Star Chamber" approach to government science - to any science - is unacceptable.[3]

Upon further search of the U.S. Geological Survey web sites I found a formal statement of policies and professional practices, many of which are clearly violated by the "comment letter".[4] Among these violated policies and professional practices are the following:

p59-4

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1 Devine, James F., Feb 23, 2000, Review of the Cadiz Groundwater Storage and Dry-Year Supply Program Draft Environmental Planning Technical Report, Groundwater Resources, Volumes I and II: Memorandum to Molly S. Brady, Field Manager, Bureau of Land Management, Needles, California.

2 A listing of Mr. Devine's professional publications may be found at: http://search.usgs.gov/query.html

3 The 17th century English tribunal and inquisition notorious for its secret deliberation and arbitrary judgements.

4 The U.S. Geological Survey Manual may be found at: http://www.usgs.gov/usgs-manual/

The results of USGS investigations are made available in an impartial manner that will best service all the public, rather than the interests of any special group or individual. Approval by the Director is the final step in the processing of a report before it is released for production and publication either in a USGS series or in an outside format. The objectives of Director's review are to provide the final check on the technical integrity of the report, to ensure that all the appropriate processing steps have been followed, that USGS publications standards have been maintained, and that the report is consistent with USGS and Department policies and positions. (500.9-3)

A. *Integrity. The data collected are accurate and precise and the methods of collection are documented. The interpretations are presented as honestly and straightforwardly as possible, without apparent bias. The tone of the report is reasonable; derogatory remarks of a personal nature are avoided...* (500.9-5)

P59-4

B. *Objectivity. The conclusions are based on accurate data interpreted with sound scientific reasoning. Department and USGS policies and positions are* not compromised or deliberately contradicted. (500.9-5)

C. *Impartiality and Nonadvocacy. The report presents facts and interpretations impartially for others to use for their own purposes. Alternatives are evaluated rather than solutions recommended. Advocacy positions are avoided; so are preaching and lecturing. There is no implied adverse criticism of other agencies, State or Federal, or of the private sector.* (500.9-5)

D. *Public Benefit. Information in the report has broad applicability to the user community rather than favoring a restricted sector. The study does not imply competition with the private sector, nor do the results favor a special private entity.* (500.9-5)

I hereby request that the United States Department of the Interior reconcile the document signed by James F. Devine with the stated policies of the U.S. Geological Survey.

P59-5

Respectfully,

Kenton E. Bentley, Ph.D.

cc: Secretary
U.S. Department of the Interior
1849 "C" Street, NW
Washington, D.C. 20240

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -8 PM 3:04
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

January 4, 2001

Bureau of Land Management
California Desert District
Management Group
Attn: Mr. James Williams
6221 Box Springs Boulevard
Riverside, CA 92507

P60

Dear Mr. Williams,

The proposed draining of the aquifer under the Mojave Desert by Cadiz, Inc. seems to me an extremely unwise action to take at this time. So little is known at this point about the likely outcome on the flora and fauna of the surrounding desert that to take action would be a very risky gamble. Moreover, the project is surely unnecessary; there are other, known and feasible water storage and conservation measures that can be taken to meet projected future water needs.

I urge you to say no to this project and to promote other, less risky projects in its stead.

Sincerely,

Clifford E. Anderson

Clifford E. Anderson
1408 La Sierra Dr.
Sacramento, CA 95864

4 January 2001

2145 W. KETTLEMAN #101, LODI, CA 95242-4314

Please do not allow Cadiz Inc. or anyone to drain the Aquifer under the Mojave Nat. Preserve & the 5 Wilderness areas. Our California environment is in such a crisis now, be responsible by disapproving it, NOT causing further harm, which this draining would do. Sincerely,

C Beauchamp

P61-1

P61

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CALIF. DESERT DIST.
RIVERSIDE, CA.

THIS SIDE FOR ADDRESS

Bureau of Land Mgt.
Calif. Desert District
Mgt. Group 6221 Box Springs Blvd.
Riverside, CA
92507-0714

Jan 4, 2001

SIR RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 8:50
DIST. DESERT DISTRICT
RIVERSIDE, CA

It appears to me that the Cadiz Water Project is extremely ill advised. What kind of land management would drain a desert aquifer thus killing the existing ecosystem? P62-1

Strict conservation measures for water use in LA and San Diego would go a long way to solve their water "shortage"! P62-2

The desert needs to be preserved. It is not a wasteland nor is it "owned" by anyone any more than the air is "owned." P62-3

Thank you —
Phil A Beyman

PS For what it's worth
I'm a native Californian, 50
year resident and am happy
to get politically involved.

P62-4

Phil Beyman
5737 Angelina Ave
Carmichael, CA 95608





Bureau of Land Mgt
Calif. Desert Dist.
6221 Box Springs Blvd
Riverside, CA
92507-0714

ATTN:
Mr.
James
Williams

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 8 PM 3:11
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

January 4, 2001

Bureau of Land Management
California Desert District
Management Group
6221 Box Springs Boulevard
Riverside, CA 92507-0714

P63

ATTENTION: JAMES WILLIAMS

RE: The Cadiz Caper

We understand that, once again, an entity entrusted to administer public land and resources is under siege by commercial interests. We urge you to strongly resist any attempts by Cadiz, Inc. or any other group/company/individual to in effect steal precious water from the aquifer system beneath any part of the Mojave Desert. Not only is this outrageous in its sheer audacity- it seeks to deprive animals and plants of the Mojave which for eons have depended on this aquifer and, with ever-expanding development projects already compromising the quality of life all over our state, this latest scheme is simply ludicrous and irresponsible in every way!

While we could add many more paragraphs on this subject, we realize you are likely to have much reading of letters in the near future regarding this subject. Therefore, just please put us on record as saying this is absolutely one of the most arrogant, irresponsible schemes to take from the earth for-profit while causing great harm to an entire ecosystem and it should be rejected by all state and government bodies involved and made clear to Cadiz, Inc. and any other parasitic company with similar intentions that all resources above, at ground level AND BELOW our national parks and monuments, wilderness areas as well as delicate lands IS OFF LIMITS, NOW AND FOREVER, to their exploitation!

Sincerely,

Larry & Loretta Bodiford

Larry and Loretta Bodiford
PO Box 579
Soulsbyville, CA 95372

Arvella Jackson

Arvella Jackson
PO Box 335
Soulsbyville, CA 95372

Larry Bodiford
P.O. Box 579
Soulsbyville, CA 95372

SOULSBYVILLE CA 95372
PM
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2001

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2001 JAN -9 AM 9:13
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

January 4, 2001

Bureau of Land Management
6221 Box Springs Blvd.
P. O. Box 54153
Riverside, CA 92507

P64

Attention: Mr. James Williams

Dear Mr. Williams:

I was unable to attend the December 18 meeting concerning the proposal of Cadiz, Inc. to extract water from an aquifer underlying the Mojave National Preserve and five BLM wilderness areas, and am writing to add my concerns to those already expressed as to the advisability of this project. P64-1

Some of the problems with the SEIS are as follows:

- Failure to thoroughly disclose the costs to the public of water treatment which could be required if noxious chemicals are found in the groundwater or Colorado River water. P64-2
- Failure to thoroughly discuss what would happen to the two "dry" lakes in the area if water is taken from the aquifer, e.g., blowing dust. P64-3
- Incomplete discussion of the relationship between the amount of water Cadiz and the MWD would be allowed to take from the Colorado River, and the required reduction in the amount of water California will be permitted to take from the Colorado River in future years. P64-4
- An inadequate monitoring and mitigation plan. If Cadiz, Inc. and the MWD are allowed full control and discretion over this project, would there be any public oversight to protect and preserve this desert ecosystem? There does not seem to have been any preliminary scientific study as to the probable impact of the project on the unique plants and animals of this area, nor is there provision for ongoing long-term study and evaluation of the aquifer and the life forms which depend on it. We would not want this to be like a mine which, when the ore runs out and it's no longer profitable, the owners abandon, leaving land (and aquifers) which has been ruined and would cost a great deal to clean up and restore. P64-5
- An EIS should present realistic alternatives. Naturally, if a corporation is seeking to profit by providing water, it's not in their best interests to suggest water conservation measures or other water storage measures. It may be in the public's best interests, however, to choose less environmentally risky and more sustainable P64-6

methods of obtaining water than the present for-profit proposal. The EIS should include such alternatives.

Finally, considerable study and litigation have been going on concerning water rights in the Mojave River watershed, and I wonder whether the Cadiz/MDW project is adjacent and possible interactions should be taken into account before determining whether this project could influence groundwater flows elsewhere.

Thank you for including these remarks in the public commentary record concerning Cadiz, Inc.'s proposal for pumping water from the western Mojave Desert aquifer.

Yours truly,

Terry Bing

Terry Bing (Mrs.)
64 W. Carter Ave.
Sierra Madre, CA 91024



Bureau of Land Management
6221 Box Springs Road
P. O. Box 54153
Riverside, CA 92507

Attn: Mr. James Williams

92507+0714

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BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:45
DESERT DISTRICT
RIVERSIDE, CA.

)1

Plambeck
Oakbridge Ln
ll. Ca. 91321

u of Land Management
. Desert Dist.
Box Springs Blvd.
side, Ca. 92507-0714

P65

Mr James Williams

EIS on Cadiz Water Storage Proposal

Mr Williams:

writing to you today to express my concern with the quacy of the SEIS. Yes, we do need to find solutions naging our water needs, but we must be sure that, in so , we do not create worse problems than we already Therefore, an adequate SEIS that fully discloses all tial issues so that they may be resolved or mitigated prior ct approval is absolutely essential. P65-1

the oppurtunity to learn about the Bristol Basin in the 90s when the area was proposed for a rail-haul trash facility. estingly, the esitmates of perrenial yield in that EIR coincide those submitted by USGS and the Sierra Club in the SEIS discussion. At that time Cadiz Land spoke out aginst the draft of this water basin. Now, when it will be of financial it to them, they have reversed these objections and submitted rent information. The basin should not be pumped beyond per- l yield. That will result in the loss of habitat and the dation of the aquifer, possibly drawing salt into fresh areas. P65-2

ld also like to express my concern regarding water quality he SEIS's failure to address degradation of existing aquifer ty. Water that will be injected must be filitered first. cides and other impurities cannot be injected into an ing water body. The SEIS does not discuss where the filtration will be located or any impacts asscoiated with it, including use, traffic or effluent disposal. These issues must be ssed. P65-3

e do not approve this document without adressing and disclosing ts that are asscoiated with these issues. P65-4

rely,

Plambeck

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -8 PM 3:05
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

January 5, 2001

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507

P66

Dear Mr Williams

This letter is addressing the possibility of the Cadiz Water Project. I feel it is imperative that the exisisting Enviromental Impact Study be reviewed.

The areas surrounding this aquifer are unique in plant and wildlife. They are also under federal protection. These protected areas include two National Parks and five Wilderness Areas designated by Congress. It is the BLM's job to insure these areas are not impacted. I would assume any imbalance in the aquifer would create problems within these delicate areas. Our Public Lands, the flora and fauna it supports, should not be for sale for corporate profit. I believe the few benefits of the Cadiz Water Project for Metopolitan Southern California does not warrant the damage it would cause on such a beautiful ecosystem. Residents of these Metropolitan areas need Parks and Wilderness for recreation and renewing of the soul. That is why these areas are already "Protected"!

Other alternatives should be considered before any decisions are made on this project. Explore existing water sources and storage projects that are feasible. Water conservation should be adopted to reduce demand.

In concluson, I feel as a Nation we should honor our committments to these protected Wild lands. Please look to our past mistakes, such as Owens Valley, while making decisions for our future!

Sincerely

Nancy Hall

Nancy Hall
P.O.Box 3790
Mesquite, NV 89024

Note: This letter was also sent to the Metropolitain Water District

10941 Strathmore Drive #56
Los Angeles, CA 90024
(310 208 5886
January 6, 2001

Mr. Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

P67

Dear Mr. Safely,

I wish to express my strong opposition to Cadiz, Inc. providing water for the MWD. Hasn't anything been learned from the current electicity rate fiasco? P67-1

Furthermore, I am against permitting a private corporation to deplete an aquifer which extends onto public land; especially when national parks and wilderness could be impacted as a result. P67-2

There are questions of: 1) potential problems that could occur from draining a desert ecosystem of its natural water resouce; 2) endangerment of unique and rare plants and animals; 3) monitoring the pumping; 4) using water that would come from the Colorado River, to which Cadiz, Inc does not have riparian rights, as a means of replenishing the aquifer; and then charging MWD for the water; 5) and water quality as it regards public health. P67-3

Sincerely,

Edward H. Lubin

Edward H. Lubin

1/6/0

P68

Dear Sir:

I am opposed to the Cadiz Project. It is nothing
nor less than water mining. Cadiz & MWD want
to steal the water under wilderness areas, Mojave N
Park and other public land, and they want to take o
more water than recharge plus imported Colorado
water. Until the hydrology is clear & accurate
the numbers add up, and a monitoring plan control
by the public with teeth is in place, the plan
should be denied.

Sincerely,

Stanley James
Box W
Independence, Ca 93

Alan Carlton
Attorney at Law
715 Santa Ray Ave.
Oakland CA 94610
(510) 465-6152
carltonal@yahoo.com

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:44
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

P69

January 6, 2001

BLM
California Desert District
6221 Box Springs Blvd.
Riverside CA 94507

These are my comments on the Cadiz project SEIS. It does not nearly adequately describe the environment impacts of this massive water grab. It does not contain complete information on the water quality, does not adequately describe the effects on wildlife or any required mitigation measures, its monitoring plan in is ill defined, inadequate, and industry dominated, and does not adequately examine all viable alternatives which are alternatively less destructive, and generally does not meet the required legal standards. P69-1

These failures are especially egregious because of the proximity of the project to two national parks and five wilderness areas that need the water to sustain their ecosystems. P69-2

The only alternative that should be considered and adopted is the no project alternative. P69-3

Sincerely yours,

Alan Carlton

SIERRA CLUB
SAN FRANCISCO BAY CHAPTER
2530 San Pablo Ave., Suite I
Berkeley, CA 94702-2000

8 JAN 2001
Mary Lyon
USA

BLM
Cal. S Desert Dist
6221 Box Springs Blvd

1/06/01 P70

Bureau of Land Mgt.,
Co. Desert Dist.
6221 Box Sp. Blvd.
Riverside, Ca. 92507-0714
attn: James Williams

Having received notice from Desert Report that Kadis is applying for a permit to drill ground water at the Dunes, I am adding my protest to their using rights of the serious consequences of such a project. P70-1

Very truly yours
Carolyn B. Jennings

Refer to letter P70. This is 01/06/01 an identical letter to P70.

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BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 9:34
CALIF. DESERT DISTRICT
RIVERSIDE, CA

Bureau of Land Mgt.
Ca. Desert Dist. Off.
6221 Box Sp. Blvd.
Riverside, Ca. 92507-0714
attn: James Williams

Having received notice from Desert Report that Kadis is applying for a permit to drill ground water at the Dunes, I am adding my protest to theirs in light of the serious consequences of such a project. P70-1

Timothy N. Bethel

John E. Hiatt
8180 Placid Street,
Las Vegas, NV 89123

January 6, 2001

Mr. James Williams
Bureau of Land Management
6221 Box springs Blvd.
Riverside, CA 92507

P71

Re: Cadiz Groundwater and Dry-Year Supply Program Draft DEIS and Supplement

Dear Sirs:

The DEIS and the Supplement to the DEIS both fail to seriously address the major issue involved with large scale water withdrawal from the Cadiz-Fenner aquifer system. Namely, what is the perennial yield of the aquifer and what will be the result of pumping in excess of the average annual recharge?

The Supplement to the DEIS is a plan of operations but nowhere but nowhere does it state that water withdrawal will be reduced or curtailed if higher elevation in the basins go dry. Previous history would suggest that the monitoring program will document declining water tables and adverse impacts but demand for water by the Metropolitan Water District (MWD) will override concerns for wildlife and the desert ecosystem. The financial investment in wells, pumps and pipe will be so large that the political pressure to "make good" on the investment will outweigh all other concerns. The Mono Lake and Owens Valley projects are prime examples of how arid land water resources have been overexploited for the benefit of the urban population of Coastal California. The only avenue for relief in the above cases has come as a result of long and protracted battles in the courts.

At a minimum the DEIS and its' Supplement should address the very different estimates of the average annual recharge in the Cadiz-Fenner aquifer made by the U.S.G.S. and the project proponents. When recharge estimates differ by a factor of ten it is absolutely imperative that the issue of recharge be thoroughly explored and resolved prior to issuing permits and constructing infrastructure. Once hardware is in place and pumping starts no politician or bureaucrat will have the fortitude to admit that a mistake has been made and shut-off the pumps and abandon the $50-100 million dollars that have been invested. The issue of perennial yield must be resolved prior to any permits being issued.

Sincerely,

John E. Hiatt

John E. Hiatt

RIVERSIDE, CA.
AM 5:51

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:32
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

Alice Tseng
6801 Trojan Ct.
Moorpark, CA 93021
Jan 6, 2001
(805) 529-7416

P72

Mr. James Williams
BLM
CA Desert District
6221 Box Spring Blvd.
Riverside, CA 92507-0714

Dear Mr. Williams,

I am writing urgently to voice my grave concerns over the Cadiz Project. It is a groundwater grab in the Mojave Desert for private profit and I want to raise the following points regarding to the project and its SEIS: P72-1

(1) The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the BLM. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is very likely to undo that protection for future. This groundwater grab in the Mojave Desert affects wildlife and air quality in the Mojave National Preserve, Joshua Tree NP, and five BLM wilderness areas. P72-2

(2) The Cadiz Project could endanger the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep. The SEIS needs to spell out the criteria it will use to stop this project before it causes irreversible damage. P72-3

(3) The SEIS does not fully examine the potential problems that could result from draining a desert ecosystem of its precious and scarce water supply. P72-4

(4) The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is extremely troubling especially given the recent discovery of the extraordinarily high levels of chromium 6 in the groundwater. Moreover, there is the possibility of one or both of these water sources containing arsenic, radon, MTBE and perchlorates from rock fuel. These types of contamination are expensive to treat at the expense of taxpayer and the domestic consumers of water supplies in southern CA. P72-5

Note: This letter was also sent to the Metropolitan Water District.

(5) The environmental analysis for this project is currently incomplete. The monitoring plan falls short of aiding the management of environmental problems. Not only there is no information on how water quality problems will be addressed, but BLM's authority is not well defined in the latest environmental report and instead will be negotiated behind closed-door. All of these issues need to be addressed and publicly disclosed in another environmental impact statement.

(6) The "monitoring and mitigation" plan is ill-defined and is under management that is questionable for environmental impacts. Under this plan, all monitoring and decision-making will be dominated by Cadiz, Inc. and its customer, Metropolitan Water District, both of which have built-in incentives to favor continued groundwater extraction. This puts profit-focused decision makers in charge of the protection of our public resources. The public's interested is not well represented and will not be protected.

(7) The SEIS needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including but not limited to water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

I strongly urge you and the Metropolitan Water District to make a decision that is informed, reasoned, and that **promotes the public interest** rather than private profit! Your decision has too many ramifications for the future of water management, public health and the protection of the natural resources of southern California.

Sincerely Yours,

Alice Tseng
Regular visitor to Joshua Tree NP

Ms. Alice S. Tseng
6801 Trojan Ct.
Moorpark, CA 93021-2550

Cadiz Project

2001

Mr. James Williams

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BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

ary 7, 2001

James Williams
au of Land Managent

P73

Mr. Williams,

I am concerned about the impact that the proposed ground water storage and pumping plan of Cadiz and MWD would have on the natural values of the Mojave National Preserve and adjacent wilderness areas. P73-1

I am concerned that your supplemental environmental impact statement does not adequately address issues such as the quality of the water to be imported or what steps should be taken by your agency to insure that surface values are protected. P73-2

Thank you

Jim Blomquist
11425 Rochester Ave #10
Los Angeles, CA 90025

8572 Fensm
San Diego, C
January 7,

RECEIVED
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2001 JAN 10 PM 2:58
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd
Riverside, Ca 92507-0714

P74

Dear Mr. Williams

I am opposed to the Cadiz Project. Its pote
impact to Joshua Tree National Park and the Moj
National Preserve plus five Wilderness areas
far outweigh any potential benefit. The desert
a very delicate ecosystem. The SEIS does no
adequately evaluate the Cadiz Project's impact on t
ecosystem. This SEIS does not answer the questions

Thank you,

Glenn Torbett

Torbett
572 Fensmuir St
an Diego, Ca 92123

LONG BEACH CA 908 4
PM
8 JAN
2001

USA

BLM
California Desert District

2001 JAN 10 PM 2:57
DISTRICT
RIVERSIDE, CA.

Jeffrey K. Yaun
1622 Acadia Ave.
Hacienda Hts, CA 91745

January 7, 2001

P75

r. James Williams
ureau of Land Management
lifornia Desert District
21 Box Springs Blvd.
iverside, CA 92507-0714

ear Mr. Williams:

I am concerned about what I believe is inadequate tudy, protection, and monitoring of ground water resources the area of the proposed Cadiz Project. While I elieve underground storage of water supplies is preferable surface reservoirs, great care must be taken to assure that existing ground water supplies in this arid desert and is not impacted in any way and that ground water upplies to native plant communities in this desert region re not reduced. The east Mohave desert region is an mportant desert resource and its limited water supplies hould not be withdrawn to support this project. Further tudy of potential project impacts are essential and a complete etwork of monitoring wells and other accounting methodologies ust be employed to ensure that basin water tables are not wered and that desert waters are not withdrawn to improve oject profit margins. Alternative sites should be explored here such negative impacts can be avoided with certainty. P75-1

J. K. Yaun

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BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:57
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

11826 The W
El Monte, CA
January 7, 20

Dear Sir or Madam,

P76

Please work to deny the groundwater grab in the Mojave Dese

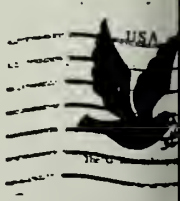
It impacts the air quality in t wild life. The Cadiz Project is a disservice to the public.

Sincerely,

Joan Jones Halt

11826 The Wye
El Monte, CA 91732





BLM, California Desert
6221 Box Springs

Jan. 7, 01

Unger
a Cresta Dr.
field CA 93305

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BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P77

Mr. James Williams;

Cadiz Project

Cadiz project is a groundwater grab. It
ects wildlife and air quality negatively in the Mojave
t'l Preserve, Joshua Tree Nat'l. Park and several
wilderness areas. As a resident of the San
uin Valley I am intimately concerned about
ervation of water. We need to urge you
make a decision that promotes the public
rest of Southern California, not to permit
private profit. The SEIS does not fully
ine the potential problems that could result fro
g the desert for its precious and scarce wate
y.

P77-1

Sincerely,
Louise Unger

Ruth Lopez
420 "E" Street
Needles, CA 92363

P78

January 15, 2000

Governor Gray Davis
State Capitol
Sacramento, California

Mr. Tim Salt, District Manager
California Desert District, Bureau of Land Management
United States Department of the Interior
6221 Box Springs Boulevard
Riverside, CA 92507-0714 Delivery Confirmation No. 0300 1290 0000 2255 1059
Attention: Mr. James Williams VIA FAX 1 909/697-5299

Ms. Molly Brady, Area Manager
Needles Field Office
Spikes Road
Needles, CA 92363 VIA FAX 1 760/326-7099

Mr. Stephen N. Arakawa, Manager
Water Resource Management Group
Metropolitan Water District - a California Public Agency
P. O. Box 54153
Los Angeles, CA 90054-0153 Delivery Confirmation No. 0300 1290 0000 2255 1066
Attention: Mr. Dirk Reed, Mr. Jack Safely VIA FAX 1 213/217-6119

San Bernardino County Supervisors
Attention: Bill Postmus VIA FAX 1 909/387-3223
County of San Bernardino, Planning Division
385 N. Arrowhead Ave
San Bernardino, California 92415-0181

Re: "Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report — Cultural Resources"

Dear Governor Davis, Supervisor Postmus, Mr. Tim Salt, Mr. Stephen N. Arakawa, San Bernardino County Board of Supervisors, and Ms. Brady;

With regard to the above referenced report, I found it particularly troubling that a copy was not on file with the Needles Field Office when I requested to review it. This report had to be copied and shipped to Needles which took several days and caused delay in my ability to review it. But what was more bothersome was the fact that the Needles Field Office Archaeologist had not reviewed the report. This employee is a GS 12 and paid quite well, and regularly. with taxpayer funds; the above Cadiz water transfer project is the most controversial project that the Needles Field Office has going at this time. What is he being paid for if he doesn't review technical archaeological reports which pertain to projects which could potentially impact the archaeological

resources in the area under his watch? Out of pure professionalism, one would think that the Field Office Archaeologist would review an important technical report that pertains to the archaeology of the area in which he is working. Given the curiosity of a typical archaeologist, I would think that Mr. Murray would want to review the report, therefore, I believe that the report was purposely kept from his purview. After reading the report, I now understand why the BLM and the MWD would not want *any* archaeologist to read the report—it is deficient, inadequate, demonstrates a lack of understanding of the prehistory of the area and downplays the significance of the prehistoric resources known to exist in Cadiz Valley. P78-1

I object to any decision being made on the above reference water project because the information which you are relying on is deficient, inadequate and thus fatally flawed. In particular, the technical report referenced above submitted as authoritative is actually extremely narrow in its assessment and is deficient and inadequate for reviewing the impact of the proposed water transfer project upon paleo-archaeology sites in an area which has already been determined to be potentially key to the study of Early Man during the Pleistocene. P78-2

I appreciate the apparent interest of the researchers in the historic era of the project area. The report, however, fails to reference key important plenary studies of Cadiz Valley such as that of Davis et al. and Gallegos et al. which are a basis to understanding ongoing theories and research problems in the Colorado Desert region. The ongoing scientific studies of Pleistocene man in the California desert rely on multiple disciplines including undisturbed paleontological and geological remains occurring along with archaeological resources on the high Pleistocene shorelines such as that found at Lake Cadiz. Issues have already been identified that rely on the study of the archaeology of Pleistocene Lake Cadiz, but those preparing the report for the subject project appear to either be unaware of them or have purposely excluded topics of interest to the archaeological community such as the potential for finding evidence of a link between Pleistocene mammal remains/fossils and hunter/gatherer tribes, or the significance of the Pleistocene shorelines in dating such evidentiary remains. Geoarchaeological data, such as an analysis of the various shorelines or dating of the shorelines for the purpose of relating those dates to the two prehistoric sites which *were* recorded, is lacking. P78-3

Instead, the archaeological research presented as a complete analysis of the potential effect of the project upon the archaeological resources of Lake Cadiz was limited to a narrow focus upon the pipeline corridor, well field and a small "spreading basin." The report fails to state that the filling of the basin could result in a raising of the water table which could potentially (for example in a "100 year storm") result in a present day unnatural inundation of the various peripheries of Pleistocene Lake Cadiz shorelines where cultural resources occur. If such an incident should take place, the Lake Cadiz shoreline data and late Pleistocene archaeological sites could potentially be lost. The potential for cumulative adverse effect of repeated storage and transfer of water in the basin upon extant cultural resources in the basin in total was not discussed. Not discussed was the possible adverse effect of transoevaporation (resulting from P78-4

increased water storage) upon archaeological remains and geological evidence of age of the sites in the basin.

Without an archaeological inventory of the entire Lake Cadiz basins including all of the Pleistocene shorelines there, the subject Environmental Impact Statement/Report cannot adequately address or assess the potential impact of the proposed project and is inherently deficient and flawed; it is your responsibility to see that a full record is developed and that all of the Cadiz basin is inventoried for cultural resources before making any determination of effect of the subject project. Further, the technical report should include a description of all of the previous inventories and/or archaeological surveys which were conducted within at least one mile of the proposed project area. A listing of all of the sites which have been recorded within at least one mile of the project area must be stated in the report. A thorough complete record would take into consideration the nearby archaeological record so that assumptions can be made about what can be expected in the project area when the field work is being conducted. Further, it is impossible to determine if archaeological districts, linear or continuous or reoccurences of artifactual material are present if the surrounding archaeology is not described. Descriptions of the project area are incomplete without a complete picture of what is known about the archaeology of the Cadiz Valley, lake bed shorelines and dunes.

What is really troublesome is that the one very significant shoreline prehistoric site which was recorded, 4-SBr-9852, was also collected. Who authorized this collection to take place when the project is not imminent? Was NAGPRA taken into consideration and were Native Americans, in particular the Aha Macave and Chemehuevi, consulted? A discussion of Native American consultation and identification of Traditional Cultural Places must be included in the report in order to accurately assess the value and significance of the cultural resources and to known what to look for when the inventory is taking place. What is particularly disconcerting is the manner in which these artifacts were removed without any apparent consultation or without waiting until a project was certain. The public comment period is not even over, the project has not been approved, what was the purpose of the collection and removal of the artifacts to an office suite in Hemet, in an entirely different county? Was the California State Historic Preservation Office consulted prior to the site being collected? The report and study is difficient and inadequate because "avoidance" of this site was not even considered as an alterative to destroying it. Did the SHPO concur with the findings of the technical report which stated that the site is not eligible because the "informational value had been exhausted." As a person who has studied Cadiz Lake in the past as a part of the Johnson Valley to Parker race course, I would recommend that Site 4-SBr-9852, in particular, is eligible for the National Register under Criterion "D" as it could potentially yield information useful to understanding the cultures of those who lived along Pleistocene Lake shorelines. There are not that many sites left, as so many have been collected without authorization, which I suspect has happened at 4-SBr-9852.

Calling this site "quite old. " collecting the "formed" tools, then making statements

that the informational value of the site is exhausted, is an indication that further expertise is sorely needed, not that the site is not eligible for the National Register of Historic Places. A data recovery plan should have been in place and concurred with by SHPO before this site was ever collected. Bifaces were collected, these need to be photographed and described. A curation agreement should be included in the Appendix and the final disposition of the artifacts should be stated in the report. P78-8

Another site, 4-SBr-9848 is right on top the proposed spreading basin where "poorly developed desert pavement" should be tested for subsurface deposits—shovel probes are not sufficient and soil descriptions are necessary. (By-the-way, the term "formed" tools is likely a misnomer in that it implies that molds or forms were used). The Cadiz Valley has already yielded artifacts similar to the nearby Pinto Basin and are of similar age; also found were artifacts that are 3,000 years old and artifacts which are 12,000 or more years old...but correlation with this previous reporting is not made in the report. The correlation is not mentioned in the "Cultural Context" section either. It cannot possibly be known if the "informational value" has been exhausted without a basic understanding of what the information potential is. Without an adequate record of the resources, any proposed protective measures and/or data recovery plan is inadequate and deficient. Which brings up another reason why the subject technical report is deficient—there are no recommendations as far as protective measures or data recovery. The data recovery was completed without public review and without project approval. What if there is no project? The data recovery was unnecessary and in fact could be considered an unlawful removal of public property, an infringement on the public trust and a violation of the Archaeological Resources Protection Act. P78-9

The search of existing records described in the technical report described a study of the records on file at the San Bernardino County archive. Apparently, the archive used is not exhaustive as important resources were not mentioned. Further, the archaeological records at the BLM office in Needles was apparently not used as a resource even though this field office is the archive for the archaeological resources on the public lands in the subject study area. Other archives in San Diego, at UCR and UNLV, 29 Palms and Parker are also useful. The fact that the work of E.L. Davis, et al. and Gallegos, et al. who looked at Cadiz Valley as a Pleistocene Lake which could potentially yield evidence of Early Man, are not mentioned even though both reports were published by and on file with the Bureau of Land Management and the fact that the technical report lacked correlation between the existing information about the Archaeology of Cadiz Valley and what was reported in the subject technical report about the archaeology of the area, is an indication that the field investigation was conducted without the proper background knowledge of the area. P78-10

Without the essential background knowledge, the surveyors may have not understood important concepts about the soils, geomorphology, geology, paleontology and archaeology of the valley that would have helped them to locate archaeological sites. Not mentioned were the paleosols, "witness stands," caliche shoreline deposits, and 12,000 year old sites found by other researchers at Lake Cadiz and in the Cadiz dunes. Further, when a report on a project of this magnitude, a project which P78-11

threatens to affect the entire Cadiz Valley, leaves out any discussion of the possibility of the existence of early man sites in Cadiz Valley, it is an indication of either inexperience on the part of the researchers or disrespect for scientific theory and possibly, and/or a cover-up. (The latter is less likely, I'm sure).

Sadly, it is to the advantage of the project proponent to contract with less experienced researchers, hoping that they will uncover nothing that would stop the project. It is up to the "unvested" agency to ensure that an objective, thorough reporting of the full record is completed. Unfortunately, in this case, the agency, MWD, is vested in the project and therefore cannot make anything other than a subjective instruction to the consultants and a subjective decision on the project. Nevertheless, a decision based upon a record which is incomplete or which was conducted by inexperienced, uninformed researchers is deficient and inadequate. The only alternative for the agency other than to deal with potential legal action at the expense of the taxpayers is to require the completion a Class III archaeological **resurvey** of the entire project area and the entire Cadiz basin and recirculate the EIS/R with the revised findings. A resurvey of the area is also necessary because in some places, the field crew did not complete a 100% inventory because they were spaced more than 20 meters apart; spacing of 70, 80, 90 or 100 feet apart likely resulted in sites which were overlooked.

Other comments: Please include a copy of the GLO Plat Map (with date and name of surveyor) which illustrates the location of the "Road to the Old Woman Mountains." A historic record of the location of this road needs to be established in the archaeological archives. Please include Big Horn Sheep in your list of fauna of the area and a listing of all the now extinct Pleistocene animals known to have inhabited the Cadiz Valley.

Certainly, there are other basins in Southern California that are not significant Pleistocene lakes that could potentially yield information important to the study of Early Man. Further, the California Desert Plan requires that the BLM complete an inventory of all potential water storage/transfer basins in the BLM to compare and evaluate the best locations for water storage should water storage/transfer be amended as an allowed use of the California Desert District Conservation Area. The BLM has not done this, nor has it compared and evaluated various locations to determine areas where a project such as that proposed here, would not adversely affect cultural resources. Thus, it is not stated, and it is not known, if other areas exist where a project such as this would be less detrimental to the resources, thus insufficient evidence exists to base a decision upon.

Submitted by,

R. A. Musser-Lopez
aka Ruth Lopez
420 "E" Street * Needles, CA 92363
phone 760.326.4318 fax
email: pardners@ctaz.com

P79

7 January 2001

Metropolitan Water District
Water Resources Management
P.O. Box 54153
Los Angeles, CA 90054

Mr Jack Safely:

The Cadiz Project is a proposal without merit. If carried out, it would have disasterous consequences for the Mojave National Preserve, Joshua Tree National Park and other wildlife areas. P79-1

Please do all you can to see that this project does not proceed. P79-2

Sincerely
Alex Eskine
Santa Barbara, CA.

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 3:05
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P80

January 8, 2001

Bureua of Land Management
California Desert District
6221 Box Springs Bovd.
Riverside, CA 92507-0714
Attn: James Williams

Dear Mr. Williams:

Re: Cadiz Project for Ground Work

I wish you to serious consider this project's impacts on the two national parks and five wilderness areas managed by your agency. The supplemental environmental impact statement (SEIS) is inadequate because it fails to fully address the impacts of the project on these fragile ecosystems.

The SEIS is also inadequate because it fails to fully analyze the impacts of diverting ColoradoRiver water instead of allowing it to continue on to Mexico for the needs of their country's plants and animals.

Furthermore, the SEIS is inadequate because it fails to fully explain the impacts (especially during construction) of the project, which, like the pipeline, is placed underground.

Please keep me informed of future meetings and documents by sending them to me at the address below. Thank you.

Sincerely,

George Hague

George Hague
26711 Ironwood Avenue
Moreno Valley, CA 92555-1906

Hague
26711 Ironwood Ave
Moreno Valley, Ca. 92555-

USA

Attn: Mr. James Williams
BLM
California Desert District
6221 Box Springs Blvd.
Riverside, Ca. 92507-0714

Ruth Lopez
420 "E" Street
Needles, CA 92363
760/326-2519

January 8, 2001

P81

Governor Gray Davis
State Capitol
Sacramento, California

Mr. Tim Salt, District Manager
California Desert District, Bureau of Land Management
United States Department of the Interior
1221 Box Springs Boulevard
Riverside, CA 92507-0714 — CERTIFIED MAIL NO. 7099-3220-0001-1262

Attention: Mr. James Williams — VIA FAX 1 909/697-5299

Ms. Molly Brady, Area Manager
Needles Field Office
Spikes Road
Needles, CA 92363 — VIA FAX 1 760/326-7099

Mr. Stephen N. Arakawa, Manager
Water Resource Management Group
Metropolitan Water District - a California Public Agency
P. O. Box 54153
Los Angeles, CA 90054-0153 — CERTIFIED MAIL NO. 7099-3220-0001-1255
Attention: Mr. Dirk Reed, Mr. Jack Safely — VIA FAX 1 213/217-6119

San Bernardino County Supervisors — VIA FAX 1 909/387-3223
County of San Bernardino, Planning Division
385 N. Arrowhead Ave
San Bernardino, California 92415-0181

Re: COMMENTS AND ALLEGATIONS WITH REGARD TO THE PROPOSED "CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT REPORT DRAFT ENVIRONMENTAL IMPACT STATEMENT SCH. No. 99021039" and SUPPLEMENT **AKA**

"THE GRAY DAVIS WATER & DOLLAR HEIST OF Y2K"

Dear Governor Davis and Supervisor Davis, Mr. Tim Salt, Mr. Stephen N. Arakawa, San Bernardino County Board of Supervisors, Ms. Brady;

Against our objections of March 8, 2000, you have continued to waste and misuse public funds to illegally fund and process the above referenced private project and EIS/R and Supplement in the vainly taken name of "public benefit." The subject EIS/R and Supplement dated October 12, 2000, is a waste and misuse of public funds AND are inadequate and deficient under the National Environmental Policy Act and the California Environmental Quality Act in that they fail to state the true purpose, nature and impact of the proposed project including FAILURE TO STATE THAT THE APPROVAL/IMPLEMENTATION OF ANY OF THE PROPOSED ACTIONS WILL RESULT IN: P81-1

1) ***misuse of public funds to unnecessarily transfer millions of acre feet of public water for free to a private corporate "farm" (Cadiz Corp. of Santa Monica)*** Any public money spent on this project, including that money spent on the no action alternative, was too much and should have never been approved. Why should rate payers pay to transfer Colorado River water for free to a private farm? Channeling water to the Cadiz Farms for "storage" serves no beneficial PUBLIC purpose. Currently, there is not enough water available to fill even the aquifers which the Metropolitan Water District has available for storage purposes. P81-2

There is no need to route the existing supply of Colorado River Water northward 60 or so miles to the Cadiz Farms and back before the water goes to the East Valley (Diamond) Reservoir. With evaporation and the current use, the East Valley Reservoir will take years to fill given the amount of water which is available to fill it. The Salton Sea and the groundwater beneath San Bernardino needs to be flushed and replenished and it, too, will demand a continuous supply of water for filling it...more water than is currently available and/or environmentally sound to take from the Colorado River and San Francisco Bay is already needed—there is no reason for water to be sidetracked to Cadiz..

Yet, if approved, this EIS/R will enable the MWD to charge rate payers up to 50% of the cost of building pipelines to the Cadiz Farms and to top of that, rate-payers will pay the farm to hold the water for them at $90 per acre foot of water! What will the twisted minds of politicians and their agents think of next with the help of this Englishman, Brackpool, friend of the Governor. Where is the "Government for the People" who are supposed to be watch-dogging the public's pocketbook?

2) misuse of public funds to install wells for free for use by a private corporate "farm" (Cadiz Corp. of Santa Monica). Wells do not need to be built on private land at the Cadiz farm. Wells can be installed near the existing aqueduct where underground water basins also exist.

3) misuse of public funds to pay a private "farm corporation" for water which does not belong to the corporate "farm" (Cadiz Corp. of Santa Monica). Why should the public pay Cadiz Corporation for water that they will mine from underneath the public's land. Simply put the wells on public land.

4) misuse of public funds for payments to a private "corporate farm" (Cadiz Corp of Santa Monica) for water which can be extracted on public lands OR which can be extracted for less cost on private lands adjacent to or under the existing MWD aqueduct. Fenner Valley and the area under the farm is not a closed basin, but is instead an underground river which flows to the Colorado River. Thus, the only reason canals or pipelines would be needed to Fenner Valley, is not for storage purposes, but for the purpose of (unnecessarily) paying a company for mined water which could successfully be siphoned, extracted, or drawn in the area immediately adjacent to and under the existing MWD canal in the Saltmarsh, Danby, and Rice areas where the water naturally surfaces on its own. Historic maps reveal that the MWD already has siphons at Saltmarsh. It is alleged that it is illegal for the MWD to siphon water from one basin and transfer it to another, but the map leads one to believe that this is what the MWD has already been doing for years without an EIS/R.

5) misuse of public funds to unnecessarily make payments to a private corporate farm for water which is not needed for public purposes. The EIS/R admits that the service area of the MWD will continue to grow whether or not they get this additional water. The EIS/R admits that domestic use in the service area can be drastically reduced (through conservation, using natural vegetation, etc.) without affecting drinking or supplies needed for health and safety. Further, the water will most likely be used for recreation purposes at "Diamond Lake AKA Dominigoni Dam, East Side Reservoir robbing from the beneficial uses in the area where the water is proposed to be taken from.

6) VIOLATION OF THE CALIFORNIA DESERT PLAN. On May 24, 1999 I submitted an objection to the BLM Needles Field Office stating that legal authority for mining and transferring basin groundwater in California for wholesale purposes has not been shown to exist and that the BLM appeared to be engaging in processing an application for an illegal activity. This objection is further supplemented as of this date with the **objection to the processing of applications by the BLM for the purpose of proposed mining and transfer of basin groundwater in the California Desert District because there is no provision for such activity in the California Desert Conservation Area (CDCA) Plan (Desert Plan of 1980).** The subject Draft EIS/R does not propose to amend the Desert Plan to provide for the mining of water and transferring of basin groundwater in the CDCA. Instead it is a proposal to amend a pipeline corridor to the existing corridors already provided for in the Desert Plan, which is a different kind of plan amendment, site specific, for a purpose which is already provided for. What I am

g about is the **FAILURE TO BEGIN THE PLAN AMENDMENT PROCESS for amending the t Plan FOR A PURPOSE WHICH IS NOT PROVIDED FOR IN THE DESERT PLAN..."WATER IG."** Water mining does not fall under the same authority as other mineral mining. Water law is ate and distinct from Mining Laws for Rocks and Minerals. To amend the Desert Plan to provide ter mining would require the BLM to review water law and to determine the overall impact and ative effect of water mining throughout the CDCA and to make a determination of which areas in DCA are suitable. Once again, the BLM has the cart before the horse. The BLM has allowed a t proponent to make a determination of suitability narrowing plans for water mining to one location offering the public the opportunity to help in determining suitable areas from throughout the . The BLM also did this in Ward Valley (on the nuclear waste dumping application) and got their ught in a ringer" over it. The BLM is again exposing the public trust to liability and legal action by ssing applications for activities which are not presently allowed in the CDCA and making no ot to complete a separate Plan Amendment proposal to provide for the presently unlawful activity ter mining" in the CDCA. P81-9

this EIS/R, the State of California and the Federal Government is guilty of a) aiding and ing MWD and Cadiz Corporation to sell water that does not rightfully belong to them, b) rding wrongful behavior instead of prosecuting existing MWD transgressions. Unauthorized ns in Ward Valley (Saltmarsh) and in other ground water basins should be investigated and cuted. Ongoing water heists and mining of water without authorization and without studies of the upon surrounding environment should be prosecuted. Illegal political activities in communities ould be adversely affected by MWD water heists should be prosecuted. What are we paying the Desert Rangers and Special Investigators for??? P81-10

d, when citizens (i.e. ME) speak out about what MWD is doing, the MWD thugs at the law offices st, Best and Krieger terrorize and wrongfully and maliciously prosecute, with taxpayer dollars and actics. For example, MWD's attorneys at BB&K are the same attorneys which represented the f Needles when $450,000 in City funds were diverted and/or misallocated when the money was sed to be used for the specific purpose of installing a water well test/development program in Valley on my vote as a Needles City Councilmember. The money was misallocated, the project but the responsible parties were not prosecuted for misappropriating the funds. Instead, BB&K cuted me on trumped up, malicious charges about an unrelated issue which they did not win, but in ocess caused me allot of pain, suffering and expense. This is the kind of political tactics that MWD heir attorney's BB&K use against political participants who oppose what they are doing. And, as it out, our new Governor appears unlikely to do anything about it, since he is right in there, friends Cadiz's Brackpool and apparently the MET boys downtown. I would still like to know where that 000 went to??? Meanwhile, the Fenner wells will down draft the Ward Valley aquifer, so there will need for the people of the City of Needles to worry about making any money off of water sales. P81-11

TOLEN WATER and a deficit of over forty years worth of natural recharge in Fenner, Ward Piute Valley, by mining two million acre feet of water of pristine, relic water that is not fully their own and not for use for beneficial purposes within the basin from which it is being . P81-12

hat is really happening? This project is in reality a heist of ground water in the Fenner, Ward and Valley upstream from the private corporate "farm" Cadiz of Santa Monica. At my last review of the was illegal to mine water from a basin for transfer to another basin, without the permission of the owners in the basin. Unless the law has changed, the agencies responsible for the subject EIS/R been engaging in a scheme, an illegal taking of property. The legal term for what amounts to than one person scheming to take or destroy someone else's property illegally is "conspiracy."

state should be requiring Brackpool & CO (Cadiz) to pay for any water transfers to their farm from olorado River. It is a slap in the publics face to tell us that 1) we must pay Cadiz to take our water, must pay Cadiz to store our water, 3) we must pay Cadiz when we want to use our water. The P81-13

Chief Executive Officer of Cadiz is Keith Brackpool. Governor Davis' top water advisor by all appearances, is Keith Brackpool, who (according to reports on file with this office) donated $133,000. to then-candidate Gray Davis in 1998. This is an absolute insult to the intelligence of People of State of California. What a disappointment to see Governor Davis filling key political appointments with his campaign contributors who own stock in Cadiz, and whose future donations to his campaign have a good chance of being reaped from dividends of the very project which the Governor seeks to subsidize with public funds, via a $50,000,000 bond issue and large payments out of the MWD in the name of "water storage." Rusty Arias, who was Cadiz' lobbyist, is now Governor Davis' Chief of State Parks. Of course that will mean he will oversee the doings at Diamond Lake (Dominigoni Dam, East Side Reservoir, Hemet) where Colorado River/Fenner Valley water appears to be headed. So Hemet gets the water that in reality belongs to the people living on the Lower Colorado River. The economic impact of transferring recreation opportunities to Hemet and depriving the Colorado River region of economic/ recreation opportunity was not discussed in the EIS/R and this is a major flaw and deficiency in the report.

Further, what incremental payments that Cadiz will specifically receive from State funds since Proposition 13 passed is something that the public should be informed of. To what extent is this private company being subsidized by the State?

The title on the cover of this document "...Dry-Year Supply" is a cover-up of the real intent of this project. The title of the document is more appropriately named "How to divert millions of rate payer dollars into the hands of politicians and their friends." Simply, the project amounts to no more than the taking of millions of excess funds being charged to Southern California water rate payers and diverting it to a shell company (Cadiz) where the money can then be distributed to stock holders who kickback(?) and contribute to the campaigns of the officials who are behind this project. And what a well devised and perfectly executed plan it has been up until this point. The EIS/R has all the characteristics of a legal document. The cost of writing it was paid for by the State in the name of public benefit.

7a) unfair and wrongful curtailment of the natural flow of underground streams to existing beneficial uses such as in Needles and Havasu Landing, California and a deficit of over forty years worth of natural recharge in Fenner, Ward and Piute Valley, by mining two million acre feet of water of pristine, relic water that is not rightfully their own and not for use for beneficial purposes within the basin from which it is being taken.

This deficit and its effect upon the flow of groundwater, natural springs, artesian wells, and wildlife that depend upon these water resources should have been more carefully analyzed in the draft EIS/R. When the salt water from Bristol and Cadiz Lakes flows to fill the cone of depression beneath the extraction wells, that pristine aquifer will be meaningfully degraded forever. This is probably against the law and clearly against the spirit of sensible groundwater management.

Curiously and suspiciously, the EIS/R inadequately and inaccurately portrays the connection of the underground aquifers which include Fenner, Piute and Ward Valley. Various geological/hydrological studies document the connection of the aquifers and the present EIS/R inadequately addresses the conclusions made in reports prepared for the Cataellis Corporation and the City of Needles (Law/Crandal) that these aquifers are connected and that an interchange of basin water exists. Further, USGS Geologists/hydrologists (including Howard Wilshire) documented connecting pathways in reports made to the National Academy of Science, more public record which was inadequately cited in the present EIS/R. Inadequately, or not addressed at all is the adverse impact which the down draft of water in the Fenner Valley would have upon the connected aquifer in Ward Valley which is tributary to the wells in Needles and the Havasu Landing. Necessary test wells and geologic data such as faults, fissures and valleys in the connecting links between Fenner and Ward are lacking in the report. Ground water flow patterns have not been tested adequately, thus the impact of the wells at Fenner upon the surrounding wells and springs are unknown.

is understood that a USGS scientist said in a Feb. 23 letter to the U.S. Bureau of land Management at the assumptions used to estimate the recharge rate were "not defensible" and that the plan assumes e groundwater will be naturally replenished five to 25 times faster than is possible. The USGS, should termine if the figure would be "defensible" if replenishment by Ward Valley and Piute Valley aquifers ere figured into the calculation. My own research indicates that it would be possible to draft 2 million re feet of native water by putting in wells in Fenner, however the area impacted would include basins at go far beyond Fenner—down drafting that much water in Fenner would adversely effect the charge in Piute Valley, Ward Valley, Needles, Havasu Landing, and all of the wells and natural rings in and in between; further, the EIS/R is inadequate and deficient because it does not address the pact of the project upon wildlife, recreation, agriculture, economic development and human pulations in these areas. P81-18

MORE STOLEN WATER: ***Stolen water is stolen water, no matter what bank it is put in.*** "The an is part of several large storage projects designed to wean California down to its legal share of olorado River water..." (Andrew Silver, San Bernardino Co. Sun, March 4, 2000). The proposed project an attempt to steal the water now, while the MWD can still get away with it. This plan proposes an egal act, "theft." Proposed is the taking of Colorado River water that is more than the MWD's legal location, so that it can be held by the MWD for a time when they project there will be a profit on it. Any WD proposal to increase its present Colorado River water allocation should be addressed in a parate EIS which should be circulated to all of the affected States and Countries. P81-19

e various scenarios serve to confuse the public as to the REAL purpose of this project which goes stated but should be described as a costly scheme to divert public funds for private and political rposes by engaging in an unnecessary water transfer project. The various scenarios described, in fect, leave the public with no idea of what the real project is: Will the millions of acre feet of water be nsferred over a period of 50 years or will it all be transferred early on, in the first year, to fill up the st Side Reservoir (Diamond Reservoir)? We really don't know and it really makes a difference in porting the effect upon the environment. The draft EIS/R is deficient, misleading, confusing and shonest. P81-20

) BETRAYAL of the true adverse impact of the project upon the ecosystems/ environment of e Lower Colorado River and the Gulf of California. Proposed is the "taking" or heist of more olorado River water than is legally allocated to the MWD. <u>The present EIS/R should be</u> <u>edicated by a "LOWER COLORADO RIVER Environmental Impact Statement" prepared by the</u> <u>epartment of the Interior to determine what effect the present allocation of water and "surplus"</u> <u>ater is having upon the environments of Lower Colorado River/Gulf of California ecosystem</u> <u>nd what impact an increase allocation might have.</u> P81-21

ENVIRONMENTAL INJUSTICE: The MWD already extracts more than its legal share of Colorado ver water, calling it "surplus." Has the MWD/BLM requested comments from the Mexican Consulate? hat is Mexico's stand on this new water heist project. Wouldn't this EIS be more appropriately named e <u>"Kill Native American/Mexican Children South of the Border EIS"</u> since cutting off the water supply to rthwestern Mexico has certainly been responsible for this? The EIS/R fails to address the issue of the fect of diminishing tributary ground water into the Needles and Havasu Land water system. The eople in these communities are economically depressed and politically disenfranchised. Minority spanics, Native Americans, Mojaves, Southern Paiute, Navajo, and Hopi and Children of all colors are major part of the population, and will be adversely affected by the project, but socioeconomic factors e not addressed in the EIS/R. P81-22

) FAILURE TO ADDRESS THE STATUS QUO ALTERNATIVE: The no project alternative should be e 9,600 acres of farming as it stands now, using only water resources that are naturally recharged— t this alternative is not included. The EIS/R is lacking in addressing the issue of pollution from P81-23

pesticides/herbicides used on the farm. Are these chemicals polluting the water downstream, and is this another reason why the MWD does not propose wells downstream and closer to the aqueduct?

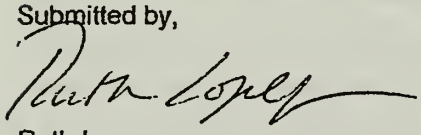
If the Cadiz Farm operation were a high-tech operation, they would, more than likely, police themselves with regard to a significant degradation of the groundwater resource. In accordance with the plans called for in this EIS/R, it appears that Cadiz Farms are going to mine the water and move on. This EIS/R proves that Keith Brackpool, Ted Dutton and company were not serious farmers, but simply water speculators with friends in the "right" places.

Missing from the EIS/R is a copy of the current agreement between Cadiz and Metropolitan Water District. On March 8, 2000 I requested a copy of this agreement under the California Records Act, and as of this date have not received a copy of it or any correspondence explaining why this agreement would not be provided for public review.

CULTURAL RESOURCE ASSESSMENT IS DEFICIENT

Also, attached please find a copy of correspondence to the Bureau of Land Management (BLM) dated today's date, January 8, 2001. This correspondence was hand delivered to the BLM and faxed. As explained in the letter, in violation of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) I have been denied access to the full environmental record and supporting documentation with regard to the alleged impact of the subject proposal upon cultural resources and traditional cultural places. The cultural resource assessment included in the EIS/R and Supplement is inadequate and deficient under NEPA and CEQA and the National Historic Preservation Act, unless supporting documentation exists to back up the statements which were made. Without a review of the supporting documentation, it must be assumed that the documentation is inadequate. Further, evidence of concurrence by the State Historic Preservation Office, with the Agency's findings and Agency's proposed cultural resource data management program must be supplied. Also deficient in the report is an adequate representation of what the Native American traditional values are for the area and a program for alleviating the impact of the project upon traditional Native American cultural values.

Submitted by,



Ruth Lopez

760/326-4318 or 760/326-2519

attachment: correspondence dated 1/8/2001 to Ms. Molly Brady regarding denied access to supporting documents.

PARDners Archaeological Consulting
420 "E" Street
Needles, CA 92363
760/32604318

RECEIVED
01 JAN -8 PM 12:22

January 8, 2001

Ms. Molly Brady, Area Manager
Needles Field Office
Spikes Road
Needles, CA 92363

VIA FAX 760/326-7099

Dear Ms. Brady,

On behalf of People Against Radioactive Dumping (PARD) and others, I am requesting access to any and all cultural resource assessment reports and backup documents prepared in support of the assessment represented in "Cadiz Groundwater Storage and Dry-Year Supply Program Supplement to the Draft Environmental Impact Report Draft Environmental Impact Statement SCH No. 99021039" and the "Draft EIS/EIR Cadiz Groundwater Storage and Dry-Year Supply Program SCH No. 99021039." hereafter, "Proposal." Access to these reports is necessary to review the methodology and data used that resulted in the findings and determinations alleged in the reports cited above. It is not my intent to disclose privileged and locational information with regard to archaeological sites or traditional cultural places, and every precaution will be taken to regard this information as proprietary. PB1-27

I have passed security clearances and checks by the Bureau of Land Management (hereafter "Agency") in the past, and I am qualified, as an Archaeologist and Cultural Resource Management professional, to review the subject material. I was privileged to review the Needles Field Office cultural resource data bank for 9 years while working as the staff Archaeologist there; never have I published or released specific locational or proprietary information regarding cultural resources except as required by law for project specific documentation in environmental reports which I assisted in preparing or as directed by the Agency for management purposes. PB1-28

I currently possess a Cultural Resources Use Permit (CRUP) for public lands managed by the Bureau of Land Management within the borders of the State of Arizona which permit number is AZ-000203 I have recently submitted application to the California State Office of the Bureau of Land Management (BLM) for a CRUP and that application is pending for all lands managed by the BLM in the State of California.

Immediate access to the information is critical due to the fact that public comment was requested for submission by today's date. On January 5, 2000, I requested access to the information requested above and was denied by Mr. Gary Sharpe and Mr. George Meckfessel of your office, neither of whom cited specific law which would justify said PB1-29

denial. Mr. Sharpe and Mr. Meckfessel suggested that I provide them with this letter of introduction to my purpose and qualifications so that they may be better informed in reviewing my request and making a decision.

If a decision is made to allow me access to the records, an extension on the deadline for comments, commensurate with the period of time which I was denied access is necessary to compensate me for the time lost in reviewing the complete record of the proposed project. As of today, that extension would be a 3 day period based upon the access denial period from January 5 to January 8, 2001.

This letter also serves as precautionary advice to the Agency that the denial of access to the full and complete environmental record with regard to the Proposal may constitute an unlawful act in violation of the National Environmental Policy Act. I look forward to hearing from you today with regard to the requested access to records. My phone number is 760/326-4318.

Respectfully Submitted,

Ruth Lopez

Ruth Lopez
Principal Investigator
PARDners Archaeological Consulting

RL/m 1-8-01
file: Water Heist

PEOPLE AGAINST RADIOACTIVE DUMPING

424 "E" Street
Needles, CA 92363
760/326-4318

January 8, 2001

overnor Gray Davis
tate Capitol
acramento, California

r. Tim Salt, District Manager
alifomia Desert District, Bureau of Land Management
nited States Department of the Interior
221 Box Springs Boulevard
iverside, CA 92507-0714 — CERTIFIED MAIL NO. 7099-3220-0001-1262
ttention: Mr. James Williams — VIA FAX 1 909/697-5299

s. Molly Brady, Area Manager
eedles Field Office
pikes Road
eedles, CA 92363 — VIA FAX 1 760/326-7099

r. Stephen N. Arakawa, Manager
Vater Resource Management Group
etropolitan Water District - a California Public Agency
. O. Box 54153
os Angeles, CA 90054-0153 — CERTIFIED MAIL NO. 7099-3220-0001-1255
ttention: Mr. Dirk Reed, Mr. Jack Safely — VIA FAX 1 213/217-6119

an Bernardino County Supervisors — VIA FAX 1 909/387-3223
ounty of San Bernardino, Planning Division
85 N. Arrowhead Ave
an Bernardino, California 92415-0181

Re: COMMENTS AND ALLEGATIONS WITH REGARD TO THE PROPOSED "CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM DRAFT ENVIRONMENTAL IMPACT REPORT DRAFT ENVIRONMENTAL IMPACT STATEMENT SCH. No. 99021039" AKA THE

"DILUTION OF RADIOACTIVE COLORADO RIVER WATER"

Dear Governor Davis and Supervisor Davis, Mr. Tim Salt, Mr. Stephen N. Arakawa, San Bernardino County Board of Supervisors, and Ms. Brady;

We object to the continued misuse of public funds to process the subject project proposal and application for use of public lands. The EIS/R and Supplement are inadequate and difficient under the National Environmental Policy Act and the California Environmental Quality Act in that the documents fail to adequately address the impact of the proposed project upon the environment down stream on the Colorado River from the proposed delivery system diverting water to the Cadiz Farm and fail to address the impact of injecting water from the Colorado River with relatively high levels of radioactive elements

p81-32

into the pristine water aquifer in the Cadiz basin.

Further, People Against Radioactive Dumping (PARD) objects to the injection of Colorado River water contaminated with radioactive elements into natural and pristine desert aquifers such as the subject Fenner Basin groundwater basin. Public record has shown that the Colorado River is contaminated with radiation from the Atlas Mine, bomb testing fall out, and sewerage discharges from industrial and medical wastes upstream (Las Vegas, Laughlin, Bullhead, Needles). The subject EIS/R is deficient in that it does not provide an analysis of the radioactive elements in water samples taken from the Colorado River, and thus inadequately describes the effect of injecting radioactive elements included in Colorado River water into the groundwater basin at Fenner. Further, not analyzed, is the effect that such radioactive materials injected into the ground water basin at Fenner would have upon existing basin mineral deposits which are being used for beneficial purposes, such as those at the chloride mines around Bristol Lake. Further testing and analysis of Colorado River water samples is needed to determine the total volume and type of radioactive isotopes which are in Colorado River water proposed to be mixed with pristine desert aquifers.

PARD is concerned that the Environmental Protection Agency may not be aware of the subject proposal. Strict EPA regulations prohibit/govern the injection of contaminated water into groundwater basins—is this the reason why the EIS/R never uses the word "injection" but instead refers to the proposed "spreading basins." Whether the mixing is accomplished through "injection" or through "spreading," the spirit of the law and good stewardship is violated when radioactively contaminated water is mixed with pristine desert aquifers in the California Desert Conservation Area.

PARD represents 25,000 San Bernardino County residents who have signed our petitions to 1) require the responsible management of nuclear materials and 2) rewrite the nuclear waste management laws to reflect an honest classification of what is really being proposed for management, 3) manage nuclear waste according to longevity and level of toxicity/radioactivity—not by who produces/generates it or by where it comes from. In other words, it does not matter who makes it or where it comes from, the waste needs to be classified and managed according to how dangerous it is and how long that danger will last.

Submitted by,

Ruth Lopez

Ruth Lopez
Director
People Against Radioactive Dumping
760/326-4318 or 760/326-2519

Lawrence Livermore National Laboratory

January 8, 2001

RECEIVED
2001 JAN 10 PM 2:58
BUREAU OF LAND MANAGEMENT
RIVERSIDE, CA.

P82

ck Safely
etropolitan Water District of Southern California
O. 54153
s Angeles, CA 90054

ar Sir,

ormally do not submit comments for public record in an official EIR/EIS review process, but
n compelled to address the merits of the "comment letter" submitted by the U.S. Geological
rvey (Devine, 2000) in response to the Draft EIR/EIS for the Cadiz Program. As I have stated
you in my previous letter (Davisson, 2000a; see Appendix), the groundwater monitoring plan
tlined in the Draft Supplement to the EIR appears to be designed to effectively detect potential
pacts to the Fenner groundwater basin during operation of the Cadiz Groundwater Storage and
y Year Supply Program. The data and analysis performed, both by Geosciences Support
rvices, Inc. and myself, indicate that recharge rates to the Fenner basin are adequate to support
storage and supply project goals. Any concerns raised for potential, irreversible damage to
Fenner Basin water supplies at this point in time would appear to be unfounded. P82-1

wever, statements in Devine (2000) were contrary to the independent assessments provided
Geosciences and myself. Consequently, I have thoroughly reviewed the contents of Devine
000) and find many fatal flaws in the science and logic of its conclusions. The most salient
ws are 1) its assumption that a Maxey-Eakin model developed for one geographic area can be
plied to a different one, 2) its assumption that chloride mass balance models for groundwater
e-dating have universal application and lack complicating factors such as variable fallout
ncentrations and different subsurface sources and, 3) the author(s) inexperience observing and
erpreting isotope data for identifying groundwater sources and ages. Furthermore, Devine
000) shows no evidence that the author(s) either visited the project area or gathered any
dependent observational data to support the conclusions. P82-2

the spirit of impartial scientific peer review, for which I have been doing for professional
urnals and granting agencies for over ten years, I hereby submit to you this review of Devine
000), and request that it be entered into public record. Thank you for your attention. P82-3

Sincerely,

M. Lee Davisson
Group Leader
Environmental Chemistry and Toxicology
Lawrence Livermore National Laboratory

Note: This letter was also sent to the BLM.

c: James Williams

Review of Devine (2000) by M. Lee Davisson

A general comment is in regards to the actual author(s) of Devine (2000). James F. Devine does not appear in professional peer review literature within the last 10 years, and only appears as a second author on a 1970's map publication in the USGS publication records. I suspect that Devine (2000) is *ghost-written* by other USGS employees, since James Devine appears to have no relevant publication history. Therefore, in my review I will refer to Devine (2000) as the "USGS review".

Bed-rock Permeability

The USGS review overtly states in their "General Comments" section that in upland areas, such as the Providence Mts., low permeability granitic and metamorphic rocks underlie shallow soils. Firstly, upland areas of the Fenner Basin really have no soils in the classic sense. Most top cover is either bare rock or thin alluvial material. Secondly, a simple visit to the upland areas will quickly reveal to the casual observer that the granitic and metamorphic rock is highly fractured and quite permeable.

A more quantitative example of this permeability is provided by runoff data from the granitic terrain of Caruthers Canyon in the New York Mts. A thirty-five year record exists for streamflow exiting this canyon. The size of the watershed above the stream gauge is 0.84 square miles. The daily average streamflow at this site is 0.12 cubic feet per second, with most streamflow occurring in the winter to early spring. Therefore, the annual average water discharging from this watershed over a 35 year record is 3.78 million cubic feet. Assuming that the mean elevation of the 0.84 square mile watershed is approximately 5900 feet, and using the precipitation-elevation plot found in Figure 3 of Davisson and Rose (2000; see Appendix), annual average precipitation should range between 12 and 17.5 inches per year. Multiplying this precipitation range by the watershed area yields 23.4 million to 34.2 million cubic feet of annual precipitation. This is 6 to 9 times more water than recorded as outflow at the stream gauge.

The USGS review further suggests that desert vegetation is very efficient at extracting soil water. If the large discrepancy between annual precipitation and runoff noted above is all due to interception by vegetation, then an 86-89% efficiency of water use is expected by plants. This amount is quite surprising given that most of the precipitation occurs in the wintertime when vegetation is dormant. The only exception is pinon pine, which does grow in the upper Caruthers Canyon watershed. However, from my several trips to this area, I would conclude that the pinon pine growth is far too sparse to intercept all this water.

It is of further note that Davisson and Rose (2000) reported measurable tritium in deep groundwater at the downstream end of Caruthers Canyon, implying young groundwater ages (<40 years). Based on those measurements it was concluded that groundwater recharge rates in Caruthers Canyon had to be 21-33% of the annual precipitation. This tritium data suggests that both the hard rock permeability is high, and that the vegetation does not use soil water as efficiently as the USGS review speculates.

Chloride Mass Balance Approach

The attempt to perform a chloride mass balance calculation in the USGS review lacks supporting evidence and fails to follow an important rule in the methodology. In particular, the USGS review uses an average groundwater chloride concentration of 49 milligrams per liter. Concentrations this high suggest additional sources of chloride have entered the groundwater

n, 1981), and should not be used for the chloride mass balance approach. It should also be d that the USGS review borrows heavily from Dettinger (1989) for reference to the chloride s balance approach. However, Dettinger (1989) has argued erroneously that in Nevada ride accumulates in recharge area soil, and those recharge rates are slow. More recent work visson et al., 1999; Rose et al., 1999; Rose and Davisson, 2001) has shown that recharge is reater than previous thought for Nevada, and additional chloride sources contribute to onal groundwater along flowpaths, which invalidates the chloride mass balance approach for area.

PBZ-8

USGS review indicates that a 3.5 milligrams per liter fallout concentration for chloride used e Draft EIR/EIS is much higher than most other researchers would use. However, most archers recognize that precious little data exists which accounts for both wet and dry fallout. re data is available (Popp et al., 1984), dry fallout can be 1.5 to >5 times the wet fallout, gesting that using only wet fallout leads to significantly lower calculated recharge rates.

PBZ-9

y assumptions go into using the chloride mass balance approach. One that poses the greatest rtainty is that annual chloride fallout is independent of elevation and geographic area. isson (2000b; see Appendix) showed that the chloride concentration decreased with easing elevation in Fenner Basin groundwater, suggesting chloride input is not uniform.

PBZ-10

w in Table 1 are some additional data from three wells in the Fenner Basin. Two wells are the upland areas of the Providence Mts. and the New York Mts. (Govt. Hole and Ox Well), the third is from Fenner Gap. Note that the two upland wells are at similar elevation and pleted in similar geologic type, but they have distinctly different chloride concentrations, gesting fallout concentrations vary geographically. In addition, bromide and iodine surements provided show that their relative abundance to chloride are not conserved among e three wells, suggesting further that chloride sources can vary.

PBZ-11

e 1. Halogen Data for Three Wells in Fenner Basin

	Latitude Longitude	Cl	Br	I	Br/Cl	I/Cl	tritium?
l	34°30'45.9" 115°28'09.9"	33.8	0.19	0.032	0.0057	0.0009	no
. Hole	35°08'52.5" 115°21'28.8"	34.5	0.31	0.043	0.0091	0.0012	yes
Vell	35°13'33.7" 115°17'58.3"	8.6	0.10	0.007	0.0110	0.0008	yes

entrations are reported in milligrams per liter

ed on this evidence and the large uncertainties in the assumptions used in the USGS review, recharge estimates used by their chloride mass balance approach is suspect. This is likely they arrived at a recharge rate for Fenner Basin significantly lower than those in the Draft /EIS and Davisson and Rose (2000).

PBZ-12

opic Observations and Analysis

discussions on isotopic data in the USGS review are some the most scientifically weak ments, and appear to be derived from simple inexperience (see pages 29-30 in USGS ew). For example, the comparative deviation of stable isotope values from the Global

PBZ-13

Meteoric Water Line among Amboy and Mitchell Caverns precipitation data and groundwater stable isotope values have nothing to do with determining a groundwater source. The evaporated signal in the Amboy precipitation data is due to its low elevation and the well known process of evaporating rain drops (see Friedman et al., 1962). Mitchell Caverns is at a higher elevation and shows little evaporation. Evaporated stable isotope values observed in desert groundwater are caused by the particular recharge process and not by evaporating rain drops, and the USGS author(s) are referred to Davisson et al. (1999) for examples.

It is common for researchers to use either the oxygen-18 or deuterium independently to interpret groundwater sources. Since groundwater in the desert is commonly evaporated, this can lead to erroneous conclusions because relative isotopic differences are due both to evaporation and origin. Davisson et al., (1999) showed that eliminating groundwater evaporation effects using both the oxygen-18 and deuterium simultaneously, resulted in unambiguous evidence for groundwater recharge areas. In southern Nevada they showed by this method that groundwater was much younger in age than previously thought by USGS researchers (e.g. Claassen, 1986; White and Chuma, 1989; Benson and Klieforth, 1989), and that previously unrecognized regional flowpaths existed. A manuscript is in preparation (Davisson, in prep) that documents a similar approach for groundwater in southeastern California, which provides the best evidence to date for ice-age groundwater for isolated areas of the western Mojave Desert. However, the conclusion by this method is that groundwater in the eastern Mojave Desert has isotope values identical to modern recharge sources, contrary to several conclusions from previous work (Smith et al., 1992).

The attempt in the USGS review to age-correct radiocarbon measurements on dissolved inorganic carbon in Fenner Basin shows similar inexperience with these isotopic systems. The simple algebraic correction model they used is a two end-member mass balance approach, and it was used originally in the Carrizo Aquifer of Texas. This aquifer comprises a uniform sandstone confined between fine grained layers, where the two carbon sources were from soil zone and aquifer cement. The model was subsequently extended to the Floridan aquifer of Georgia, where uniform carbonate rock and high recharge rates made the mass balance approach simply between soil zone and carbonate minerals. The use of this same model in a desert system comprising mixed lithologies, atmospheric entrainment in the soil zone, mixed vegetation types, and unquantified precipitation-dissolution reactions is strictly forbidden by the model premise. Davisson (2000b) showed that the range of possible ages calculated from the inorganic radiocarbon measurements could vary over an order of magnitude.

Davisson (2000c; see Appendix) subsequently constrained groundwater ages in the Fenner Gap using the radiocarbon content of dissolved *organic* carbon and the concentration of helium-4 dissolved in the groundwater. These independent age determinations were in good agreement, and were consistent with groundwater ages expected for recharge rates derived in the Draft EIR/EIS and Davisson and Rose (2000).

<u>USGS Maxey-Eakin Model</u>

The USGS review assumed that recharge does not occur below 4000 feet elevation in their Maxey Eakin model for the Fenner Basin. This is a non-unique elevation, and crediting Dettinger (1989) as its source is evasive. Donovan and Katzer (2000), Dettinger (1989), and Maxey and Eakin (1949) are among many workers that recognized recharge could occur below 4000 feet, but this elevation is commonly chosen for convenience. Actual recharge efficiencies at any

cular elevation depend on vegetation, the annual amount of precipitation, the type of
ipitation (i.e. rain vs. snow), and the rate of precipitation for any given event.

P82-17

treatment of precipitation-elevation data (page 3 and Figure 5 of USGS review appendix)
ot adhere to sound scientific principal. In particular, the USGS review disregarded the
ipitation-elevation data used in their model 2 because it was "unrealistically high". This is
irst time I have seen anyone characterize observed data as "unrealistic". If they had reviewed
recipitation data in the context of regional versus local processes, they would have
vered that the precipitation-elevation relationship varies as a function of longitudinal
ion. This is discussed in detailed in Davisson and Rose (2000). It should be further noted
f the USGS review had read any previous USGS publications, they would have found that
grad and Thordarson (1975) noted the same longitudinal relationship and cited an older
ence for its original discovery.

P82-18

ey-Eakin models depend on generating a recharge rate versus elevation curve. This curve is
rical, and its regularity for any given basin is assumed. A unique curve is needed for each
because local variables such as geology, topography, climate, and vegetation ultimately
ol recharge. A single curve applied to multiple basins results in large errors (see Watson et
976). The USGS review applied a Maxey-Eakin recharge curve developed among three
endent basins, two in west-central Nevada, and the other at Yucca Mountain. All of these
s are northwest of the Fenner Basin and have distinctly different geologic and hydrologic
itions. Davisson and Rose (2000) generated a unique Maxey-Eakin curve for the Fenner
calibrated against actual field and isotopic data collected in the basin. The estimated
rge rates from Davisson and Rose (2000) are consistent with those derived independently in
raft EIR/EIS.

P82-19

luding Comment

USGS review is an unusual document. My understanding is that all official USGS technical
ts must be peer-reviewed within the USGS before public release. Many competent and
working scientists reside in the USGS with recognized disciplinary expertise in all aspects
drology. However, given the lack of supporting evidence for conclusions drawn in this
S review, it is likely this document was never peer-reviewed. The science is poorly
trained, and the unbridled criticism for the Draft EIR/EIS, indicates that professional
view and competent editing was lacking. As a result, it appears as if a strongly biased
ion with questionable motives has emerged institutionally from the USGS due to the
lation of this review document.

P82-20

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Appendix

Lawrence Livermore National Laboratory

December 14, 2000

Jack Safely
Metropolitan Water District of Southern California
P.O. 54153
Los Angeles, CA 90054

Dear Sir,

Recharge estimates in desert groundwater basins often generate intensive discussion and occasional disagreement. Much of this appears to be due to the misconception that visibly dry landscapes are the result of negligible recharge of annual precipitation. However, in the past 20 years many groundwater recharge studies in arid and semi-arid environments have shown that a significant portion of annual precipitation recharges deep into groundwater aquifers. Among these are studies by Stephens and Knowlton (1986), Barnes et al. (1994), Stephens (1994), Gee et al. (1994), and Davisson et al. (1999), who have shown that desert recharge occurs by diffuse infiltration of sustained rainfall, concentrated pulses from melting snow packs, and focussed recharge through sandy-bottom washes. The results are undeniable and have been validated for several desert environments where measurements were made.

P82-21

The recent hydrogeological assessment by Geoscience Support Services Inc. for the Cadiz Groundwater Storage and Dry-Year Supply Program Draft EIR estimated recharge rates to the Bristol, Cadiz, and Fenner basins. Their rates were consistent with recharge rates measured for similar basins in the above cited references. The Geoscience estimates show no evidence for being unreasonably high, and their results using several independent approaches were based on sound scientific methodologies.

P82-22

For the past one and a half years, I have been making observations on groundwater in the Fenner basin. My independent recharge assessment using isotopic analysis on collected groundwater and Maxey-Eakin estimates, yield similar results to Geoscience. In particular, my observations of groundwater tritium occurrence imply that a significant quantity of groundwater annually recharges in the New York and Providence Mountains. Furthermore, two independent groundwater age determinations in the Fenner Gap, using methods of helium-4 accumulation and radiocarbon of dissolved *organic* carbon, show consistently young ages for this groundwater. My data suggests that groundwater age determinations using radiocarbon of *inorganic* carbon or by the chloride mass balance approach as proposed by others yield erroneously old ages, which subsequently underestimate recharge.

P82-23

The groundwater monitoring plan outlined in the Draft Supplement to the EIR appears to be designed to effectively detect potential impacts to the Fenner groundwater basin during operation of the Cadiz Groundwater Storage and Dry Year Supply Program.

P82-24

Given the convincing evidence that recharge rates to the Fenner basin are adequate to support the storage and supply project goals, and that the monitoring plan is thorough in its design, any concerns raised for potential, irreversible damage to the Fenner Basin water supplies at this point in time would appear to be unfounded.

Sincerely,

M. Lee Davisson

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Cc: Dennis Williams
Mark Liggett

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Maxey-Eakin Methods for Estimating Groundwater Recharge in the Fenner Watershed, Southeastern, California

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May 19, 2000

U.S. Department of Energy

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Maxey-Eakin Methods for Estimating Groundwater Recharge in the Fenner Watershed, Southeastern, California.

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May, 2000

Abstract

Recent review comments by the U.S. Geological Survey, Water Resources Division on the Cadiz Groundwater Storage and Dry-Year Supply Program Draft Environmental Planning Report were accompanied by an independent recharge estimate to the Fenner Basin based on a Maxey-Eakin method. The following report has analyzed WRD's recharge estimates and concludes that those results greatly underestimate annual recharge and lack credibility. Among the reasons outlined are 1) WRD's lack of geographic scale and context when analyzing precipitation-elevation data, 2) WRD's use of an un-calibrated Maxey-Eakin model, and 3) WRD's lack of direct observational experience in the eastern Mojave-Fenner Basin region. This report presents a more exhaustive analysis of data, supported by direct field observations, and estimates recharge using a calibrated Maxey-Eakin model. This report concludes that the possible range in annual groundwater replenishment rates to the Fenner Basin are between 7864 acre-ft and 29,185 acre-ft. The lower limit is a worst-case-scenario. This range is consistent with original recharge estimates calculated and presented in the Cadiz Groundwater Storage and Dry-Year Supply Program Draft Environmental Planning Report.

P82-2

Introduction

As part of a drought mitigation strategy and long-term planning for beneficial use of imported Colorado River water, the Metropolitan Water District (MWD) of southern California investigated the feasibility of storing river water in groundwater aquifers of the eastern Mojave Desert. This effort has culminated in the production and public release of the Cadiz Groundwater Storage and Dry-Year Supply Program Draft Environmental Planning Report, Groundwater Resources, Volumes I and II (Draft EIR). In particular, MWD and Cadiz Inc. contracted to Geosciences Support Services Inc. to perform pilot percolation studies, groundwater modeling, and precipitation/runoff analysis in the Fenner groundwater basin, which overlies the proposed storage site (Fig. 1). The project proposes to store and withdrawal Colorado River water over a 50-year period. During periods of groundwater withdrawal, MWD is committed to *not* exceed the natural replenishment rates of the groundwater basin. As part of a plan to insure that this will not happen, several independent analyses were conducted to estimate the rates of natural groundwater replenishment to the Fenner Groundwater Basin, which was included in the Draft EIR.

P82-4

During the public comment period for the Draft EIR, the U.S. Geologic Survey, Water Resources Division (WRD) officially submitted comments. It was their conclusion that the natural groundwater replenishment rates calculated for the Draft EIR were too high. In the WRD review, they provided an independent recharge calculation based on a Maxey-Eakin estimation approach.

P82-

The authors of this current report, under the auspices of Lawrence Livermore National Laboratory (LLNL), were asked to provide an analysis of WRD's Maxey-Eakin estimation. It is the conclusion of this report, that the recharge estimate by the WRD is unreasonably low. Their low estimate was due to 1) inadvertent exclusion of key data and underestimation of local precipitation, 2) underestimation of local groundwater recharge rates, and 3) use of an un-calibrated Maxey-Eakin recharge model.

P82-

Estimation of Annual Rainfall by WRD

The basic premise of a Maxey-Eakin recharge estimate is that the rate of groundwater replenishment is proportional to the annual rainfall. The method is best suited for arid environments, where high elevations typically experience much greater annual rainfall than low elevations. Recharge estimates using a Maxey-Eakin method requires predicting how precipitation (rain and snow) varies with elevation change on an annual basis in localized areas. From these data, a percentage of annual precipitation will contribute to groundwater recharge. Hence, a Maxey-Eakin model predicts recharge as a function of precipitation. P82-29

For the Fenner Basin a reasonable approach would be to plot mean annual precipitation data against its elevation collected at relevant sites. A curve can be fitted to this data to provide a quantitative means to calculate annual precipitation at various elevations. Note that the higher the slope on a precipitation-elevation curve, the higher the groundwater recharge estimate. However, previous attempts to create precipitation-elevation curves in western Nevada have been difficult and result in large uncertainty (for example, see Hevesi et al., 1992, and references therein). P82-30

In WRD's review comments on the Draft EIR, they presented a precipitation-elevation plot that included a variety of data points from southeastern California (Fig. 2). It should be noted that the data they selected does not represent the entire range of elevations contributing to groundwater recharge in the Fenner basin. In particular, their data only includes points less than 1500 meters elevation, however, the Providence and New York mountains in the Fenner basin both exceed 2000 meters. Although data from these sites do not exist, their ultimate exclusion will contribute to erroneous results. P82-31

In the WRD analysis of their data, they separated from the database four points that were in close proximity to the Fenner basin. They "visually" fitted an independent curve to these four points and a mathematical curve to the remainder of the database. In the case of the four data points, the slope of the curve was much higher than the curve fitted to the remainder of the data. WRD concluded that the higher slope was "unrealistic", but provided no evidence to support this conclusion. Subsequently, they favored the lower slope fitted to the remainder of the data even though these data are farther from the Fenner basin and show considerable scatter around the fitted curve. P82-32

Estimation of Annual Rainfall by LLNL

Several environmental factors complicate the distribution of rainfall throughout southeastern California and western Nevada. For example, the Sierra Nevada, San Gabriel, and San Bernadino mountains create a dramatic rain shadow effect that limits annual rainfall the east. In addition, winter storms originating from the Pacific Ocean have different trajectories and can produce locally intense snow and/or rain, but exclude other areas depending on its path. Furthermore, summer storms originating from the Gulf of California produce more annual precipitation in the eastern Mojave Desert, but much less in the western Mojave. In order to predict the annual precipitation as a function of elevation, the mechanisms that control the geographic distribution must be understood in P82-33

the context of these complications. In addition, the appropriate geographic scale needs to be represented in any data analysis, for which the WRD's data analysis lacks.

The strongest effect on annual precipitation in southeastern California and western Nevada is the rain shadow caused by the Sierra Nevada Mountains. The rain shadow effect will have its greatest intensity just east of the Sierra Nevada, and decrease in an eastward direction. The contribution of this effect extends eastward into Central Nevada. Therefore, the appropriate scale to understand the mechanism of rainfall distribution in southeastern California should include data from a large part of Nevada. Consequently, the relationship between annual precipitation and elevation should be controlled by east-west direction, or longitudinal position. This relationship has been recognized and documented by previous researchers, including the U.S. Geologic Survey, WRD (Winograd and Thordarson, 1975; see page C6 and references therein).

Below we plot annual precipitation and elevation data for weather stations throughout southeastern California and western to southern Nevada (Fig. 3; Table 1). This plot includes more data than used in the WRD analysis (Fig. 2), and unlike the WRD plot, it includes elevations in excess of 2000 meters. Like the WRD's plot, figure 3 isolates the same four data points in close proximity to the Fenner Basin, for which a mathematical curve has been fitted to the data. In addition, figure 3 separates the data into two groups: those data collected west of 116°W longitude, and those collected east of 116°W. This grouping of the data demonstrates an important east-west dependence on how annual precipitation varies as a function of elevation. In particular, those data closer to the Sierra Nevada (e.g. Western Mojave Desert) have significantly less annual precipitation at higher elevations than further east. The 116°W demarcation was used because it approximately coincides with a low elevation trend extending south from the Salton Sea trough and north toward Hot Creek Valley in Central Nevada. Prominent high elevation areas such as the Fenner watershed and the Spring Mountains lie east of 116°W, while the San Bernadino Mts., the Sierra Nevada, and the White Mts. lie to the west.

Mathematical curves fit to these two data groups, using an exponential function, shows an increasing slope with increasing distance from the Sierra Nevada. The quality of these curve fits is also good with R^2 regressions from 0.66 to 0.68. In addition, a curve was also fitted to the four data points used by the WRD for stations in the Fenner basin area. The curve fit for these data yielded a much higher slope, and predicts significantly higher precipitation rates at higher elevation.

The curve fit to data east of 116°W longitude illustrates the regional precipitation/elevation effect, which is given the term "*regional curve*". The Fenner Basin is a local area residing in this regional group. The *regional curve* describes the precipitation/elevation effect at a larger scale. At smaller scales (i.e. Fenner Basin), *local curves* with higher and lower slopes occur, that combined together form the *regional curve*. In figure 3, the four data points for the Fenner Basin area is one such example of a *local curve*. In this case, the four points form a higher slope than the regional curve, and represent the local, small-scale effect. Therefore, WRD's conclusion that the higher slope formed by the four points is "unrealistic" is not correct, but rather on the contrary, this

local curve more accurately reflects local conditions. It is, therefore, appropriate to use the steeper curve in figure 3 to calculate recharge to the Fenner basin. It is most appropriate to use the *regional curve* to calculate recharge to a larger, more regional area. Applying the *regional curve* to a local basin such as the Fenner Basin is an inappropriate matching of scales. PB2-37

In figure 3; the curve fitted to data west of 116°W longitude demonstrates that for the western Mojave Desert the rate of precipitation with respect to elevation is far lower than in the eastern Mojave. This implies that recharge rates are significantly lower in the western Mojave than in the eastern Mojave. Almost all of WRD's experience on desert groundwater recharge is in the western Mojave Desert (see Fig. 1), as evident in their review comments and their consistent referral to that work. Based on figure 3, however, WRD's knowledge of western Mojave Desert groundwater is not translatable to the eastern Mojave, and these groundwater systems are not analogous by virtue of their different climate. PB2-38

Scientific Basis for the Maxey-Eakin Method

The Maxey-Eakin method requires determination of both a precipitation rate and a recharge rate. Precipitation rates were estimated as a function of elevation (Fig. 3). Groundwater replenishment rates are estimated on the basis that some fraction of annual precipitation will recharge, and that fraction will increase with increasing elevation (Maxey and Eakin, 1949). This results in a hypothetical curve relating annual groundwater recharge to annual precipitation (Fig. 4) PB2-39

Field validation of recharge rates is critical in order to establish credibility to any estimate. This is due to the fact that the Maxey-Eakin approach is empirical. An empirical model is derived from practical experience rather than basic theory. Therefore, a validated Maxey-Eakin model in one groundwater basin does not necessarily translate to a different one. PB2-40

In the WRD's Maxey-Eakin model, they used a curve previously calibrated to three separate locations in *western* Nevada and applied it to the Fenner Basin (see Fig. 1). It is of particular importance to note that all three of the WRD's locations are *west* of longitude 116°W. As shown in an accompanying report, annual precipitation west of 116°W is significantly lower than east of 116°W. Therefore, the WRD's Maxey-Eakin curve was calibrated to a drier climate, and its application to the Fenner Basin lacks credibility. PB2-41

Recharge Rates in the Fenner Watershed

As part of LLNL's analysis, a new Maxey-Eakin curve was developed using four independent field observations in the Fenner Basin (Fig. 4). Recharge rates to these four sites were determined by a hydrologic mass balance method, for which three of the sites have been calibrated to groundwater age dates. Detailed discussions of each calibration point are presented in the Appendix. PB2-42

As can be seen in figure 4, the Maxey-Eakin curve developed for the Fenner Basin predicts significantly higher recharge rates than would be predicted by the WRD's curve. The differences in the two curves is expected since the Maxey-Eakin model is *empirical* and results will vary significantly between different geographic settings and between different geographic scales. The Fenner Basin curve is calibrated to field observation within project area basin, whereas the WRD's curve was calibrated outside the project area, at a larger scale, and in drier climates north and west of the Fenner Basin (Fig. 1).

P82-

LLNL Maxey-Eakin Recharge Estimates

Maxey-Eakin recharge estimates in the Fenner Basin require computing surface area as a function of elevation. These results are tabulated in Table 2 and were generated by digital methods. Average annual precipitation is then computed over the elevation range and is also presented in Table 2. Two precipitation-elevation curves were used: 1) the regional curve based on weather stations east of 116°W longitude in southeastern California and southern Nevada; 2) the local curve based on four stations nearby or within the Fenner Basin (Fig. 3). These curves encompass the possible range in annual precipitation in the Fenner Basin. However, the local curve is more relevant to the Fenner Basin due to its close proximity and its similar geographic scale.

P82-

The percent of annual precipitation that contributes to groundwater recharge is estimated from the Maxey-Eakin curve (Fig. 4). The Fenner Basin curve is used since it has been calibrated to four separate locations within the basin. No data exists on this curve for precipitation rates exceeding 380mm/yr. Therefore, a line is joined between the upper point of the Fenner Basin curve and the upper point of the WRD curve, which is used as an estimate of annual recharge for areas with precipitation rates exceeding 380mm/yr. However, the data points forming the Fenner Basin curve are linear over the range of observation and are used for all other recharge estimates.

P82-

The sum of annual recharge computed over the elevation range in Fenner Basin is presented in Table 2. The recharge rate is 16,214 acre-ft using the regional precipitation-elevation curve, and is 29,185 acre-ft using the local curve. Based on the methods and the available data, the 29,185 acre-ft estimate is a maximum recharge rate. However, assumptions used to calibrate the Maxey-Eakin curve for the Fenner Basin were based on conservative parameters (see Appendix). *Therefore, the maximum recharge rate could still be higher than 29,185 acre-ft per year.*

P82-

In Maxey-Eakin's original paper on recharge estimates (Maxey and Eakin, 1949), they assumed that no recharge occurred in areas receiving less than 200mm/yr (8in/yr) of precipitation. Although supporting evidence is lacking for this assumption, this report attempts to honor this notion by recalculating the annual recharge estimates in Table 2 and eliminating all potential recharge for areas less than 200mm/yr. This results in revised recharge estimates of 7864 acre-ft per year using the regional precipitation-elevation curve and 23,511 acre-ft using the local curve. Note that in eliminating areas of less than 200mm/yr precipitation, the annual recharge is still well within the range estimated by independent approaches outline in the Draft EIR.

P82-

In a risk-based analysis of the proposed groundwater storage project in Fenner Basin, the upper and lower limits of annual recharge are needed to assess potential environmental impacts. Based on the evidence and data analysis presented in this report, the possible range in annual recharge to the Fenner Basin is 7864 to 29,185 acre-ft per year. Based on the analysis, *the lower limit of 7864 acre-ft is a worse-case-scenario, and annual recharge is likely higher.*

PB2-48

The results of the LLNL Maxey-Eakin recharge estimates for the Fenner Basin differ greatly from those estimated by WRD in their review comments. They suggested recharge was between 2070 and 10,343 acre-ft per year for the Fenner Basin. They suggested the higher recharge rate was "unrealistic". However, their analysis and recharge estimate lacked 1) the geographic context set forth in this report, 2) a calibrated Maxey-Eakin curve, and 3) direct observational experience in the Fenner Basin. In their review comments, the WRD presented an interpretation that recharge rates should be low in the Fenner Basin. That interpretation was based on WRD's independent observations in the *western* Mojave Desert. As pointed out in this report, such comparisons lack credibility because of significant climate variability between the eastern and western Mojave Deserts.

PB2-49

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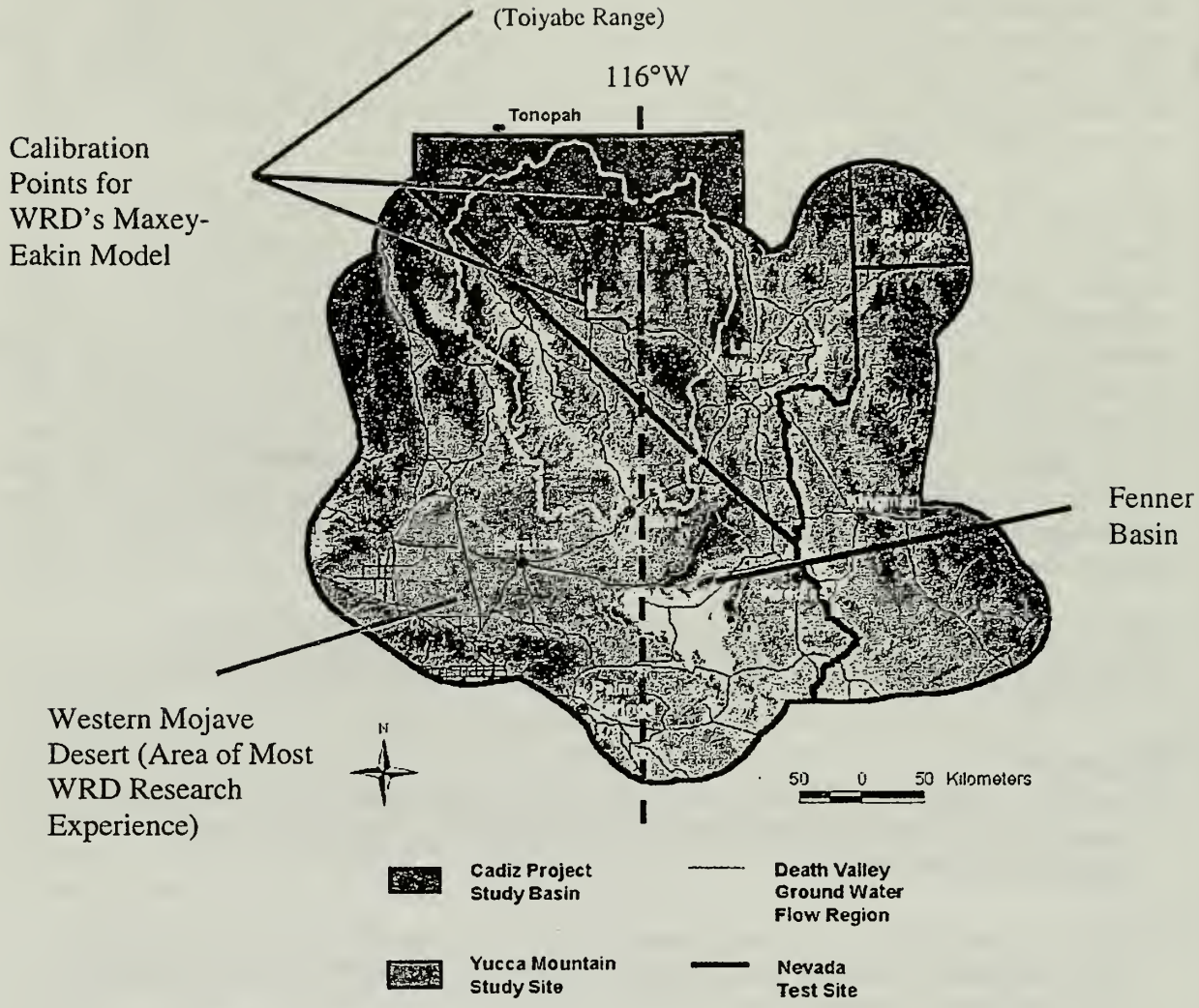


Figure 1. Proposed groundwater storage area is in the Fenner Basin.

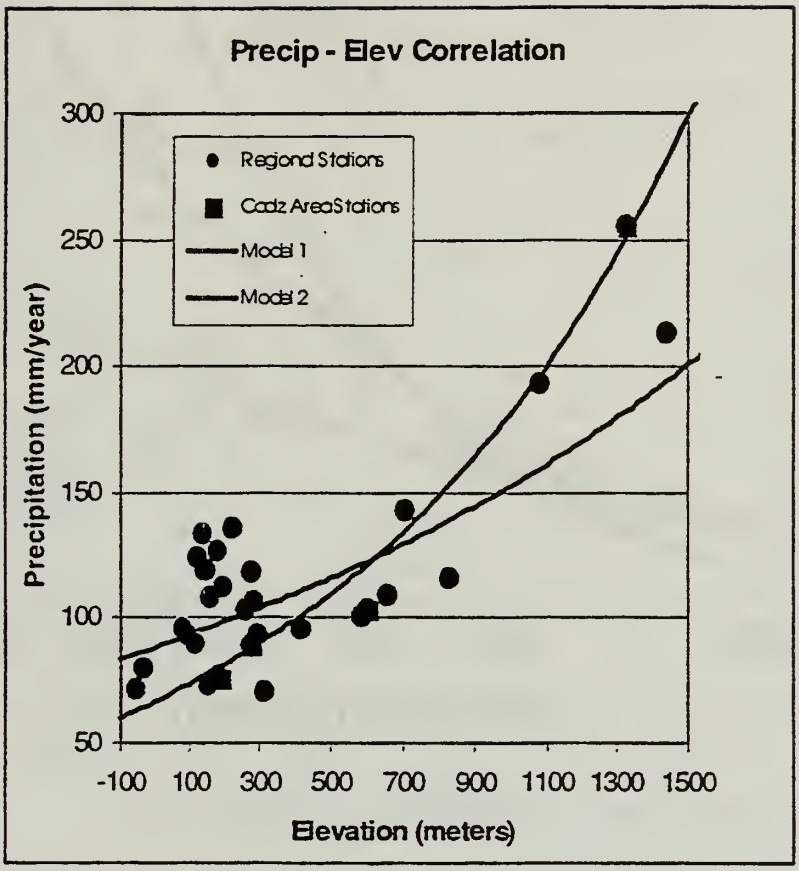


Figure 2. WRD's precipitation-elevation curves.

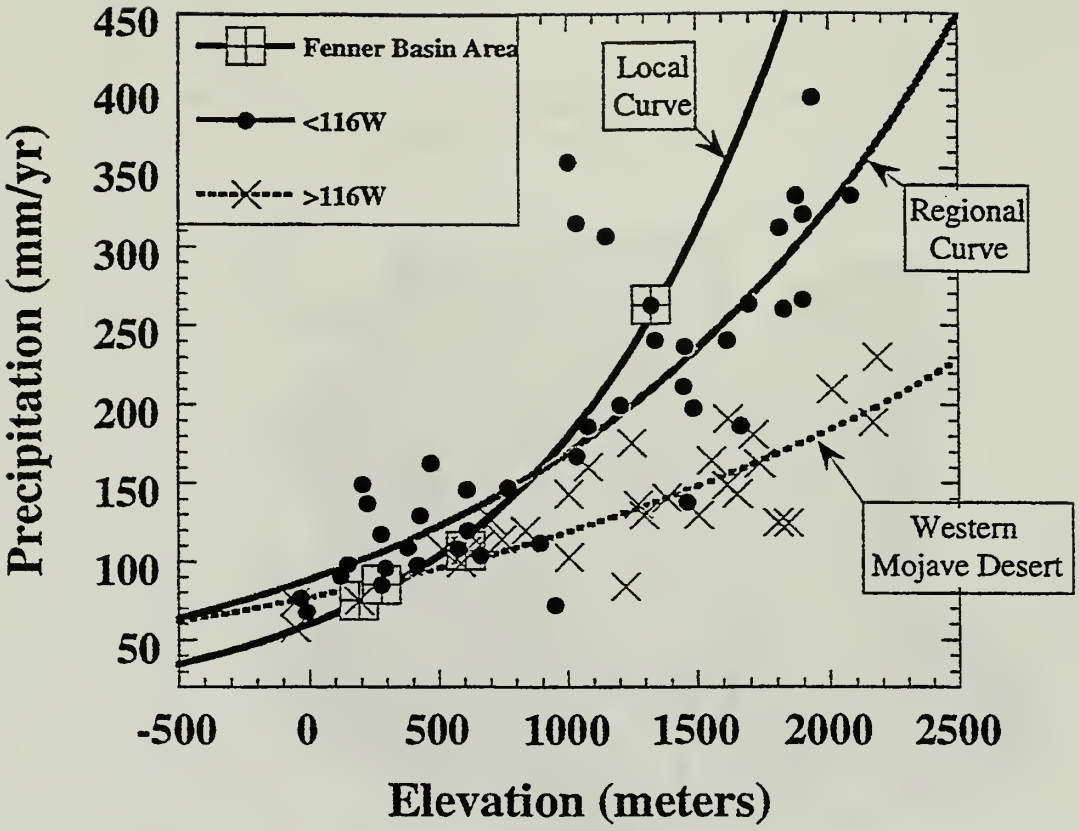


Figure 3. LLNL's precipitation-elevation curves.

Regional curve: $y = 88.6*e^{0.00065x}$
Local curve: $y = 60.1*e^{0.0011x}$

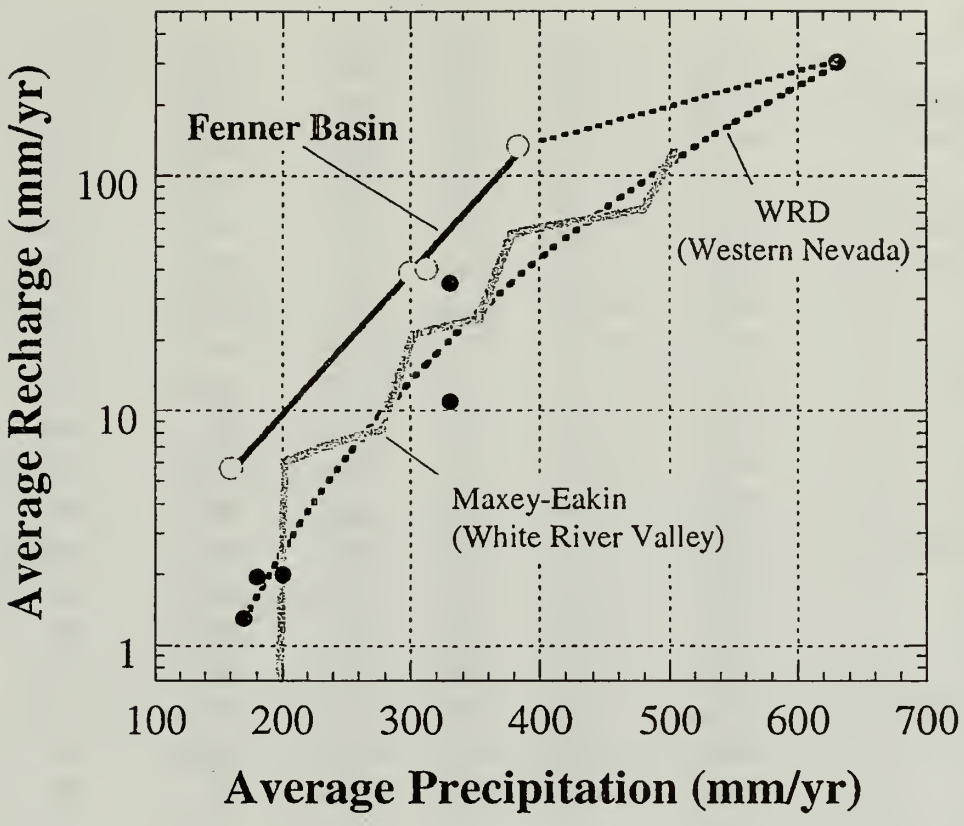


Figure 4. Maxey-Eakin curves used by LLNL, WRD, and Maxey-Eakin's original for the White River Valley, Nevada.

Table 1: Precipitation-Elevation Data Used in LLNL Maxey-Eakin Model

Precipitation Station	Latitude	Longitude	ppt in	ppt mm	Elevation ft	Elevation m	Years
SE California							
Barstow	34.90	117.03	4.40	110.9	2160	658	1961-1998
Barstow Fire Station	34.90	117.02	5.01	126.3	2320	707	1961-1998
Dagget FAA Airp	34.87	116.78	3.93	99.0	1920	585	1961-1998
Trona	35.77	117.38	4.27	107.6	1690	515	1961-1998
Wild Rose Ranger Station	36.27	117.18	6.97	175.6	4100	1250	1961-1998
Mitchell Caverns	34.93	115.53	10.44	263.1	4350	1326	1961-1998
Mt. Pass	35.47	115.53	8.42	212.2	4760	1451	1961-1990
Needles	34.77	114.62	4.67	117.7	910	277	1961-1998
Parker Reservoir	34.28	114.17	5.45	137.3	740	226	1961-1998
Iron Mt.	34.15	115.12	3.38	85.2	920	280	1961-1998
29 Palms	34.13	116.05	4.25	107.1	1980	604	1961-1998
Eagle Mt.	33.80	115.45	3.80	95.8	970	296	1961-1998
Hayfield Reservoir	33.70	115.63	3.90	98.3	1370	418	1961-1998
Mecca 2SE	33.55	116.05	2.94	74.1	-180	-55	1961-1998
Death Valley	36.47	116.87	2.28	57.5	-180	-55	1961-1998
Blythe	33.62	114.72	3.60	90.7	390	119	1961-1998
Gold Rock Ranch	32.88	114.87	3.90	98.3	480	146	1964-1996
Brawley	32.98	115.53	3.05	76.9	-110	-34	1961-1998
El Centro	32.78	115.57	2.71	68.3	-30	-9	1961-1998
Nevada							
Montgomery M NTC st	37.97	118.32	7.50	189.0	7110	2167	1961-1998
Hawthorne Airp	38.55	118.67	5.42	136.6	4180	1274	1961-1998
Mina NV	38.38	118.10	5.59	140.9	4550	1387	1961-1998
Smokey Valley	38.78	117.17	7.17	180.7	5620	1713	1961-1998
Reese R. O'Toole	39.03	117.45	8.33	209.9	6600	2012	1961-1998
Snowball Ranch	39.07	116.20	9.14	230.3	7160	2182	1961-1998
Duckwater	38.90	115.72	7.42	187.0	5470	1667	1961-1998
Currant HWY	38.80	115.35	10.59	266.9	6240	1902	1961-1998
Lund	38.85	115.00	10.48	264.1	5570	1698	1961-1998
Great Basin Nat.Par	39.00	114.22	13.20	332.6	6830	2082	1961-1998
Geyser Ranch	38.67	114.63	10.35	260.8	6000	1829	1961-1998
LAke Valley	38.32	114.65	15.69	395.4	6350	1936	1971-1998
Spr. Valley St. PArk	38.03	114.18	12.39	312.2	5950	1814	1974-1999
Pioche	37.93	114.45	13.19	332.4	6150	1875	1961-1998
Caliente	37.62	114.52	9.57	241.2	4400	1341	1961-1998
Elgin	37.35	114.53	12.52	315.5	3410	1039	1951-1999
Elgin 3SE	37.32	114.50	14.07	354.6	3300	1006	1965-1985
Bunkerville	36.75	114.13	6.48	163.3	1540	469	1979-1999

Table 1: Precipitation-Elevation Data Used in LLNL Maxey-Eakin Model

Precipitation Station	Latitude	Longitude	ppt in	ppt mm	Elevation ft	Elevation m	Years
Logandale	36.62	114.48	5.14	129.5	1410	430	1968-1992
Overton	36.53	114.43	4.34	109.4	1250	381	1948-1999
Valley of fire sp	36.43	114.52	5.81	146.4	2000	610	1961-1998
Boulder City	35.98	114.85	5.85	147.4	2520	768	1961-1998
Searchlight	35.47	114.92	7.42	187.0	3540	1079	1961-1998
Laughlin	35.17	114.62	5.94	149.7	680	207	1988-1999
Las Vegas WSO Airp	36.08	115.17	4.13	104.1	2170	661	1961-1998
Red Rock Canyn sp'	36.08	115.45	12.19	307.2	3780	1152	1977-1999
LAs Vegas	36.17	115.13	4.77	120.2	2010	613	1914-1956
N. LAs Vegas	36.22	115.13	4.31	108.6	1880	573	1951-1999
Pahrump	36.22	116.00	4.76	120.0	2740	835	1961-1998
Desert Game Range	36.43	115.37	4.46	112.4	2920	890	1961-1998
Indian Sprs	36.58	115.68	2.90	73.1	3120	951	1948-1964
Desert Rock WSMO	36.62	116.02	5.68	143.1	3300	1006	1961-1998
Armagosa FMS	36.57	116.47	4.54	114.4	2450	747	1965-1999
Beatty	36.90	116.75	4.08	102.8	3300	1006	1948-1972
Beatty 8N	37.00	116.72	6.36	160.3	3550	1082	1961-1998
Sarcobatus	37.27	117.02	3.34	84.2	4020	1225	1948-1961
Dyer	37.68	118.07	5.14	129.5	4950	1509	1961-1998
Silverpeak	37.67	117.58	5.15	129.8	4260	1298	1961-1998
Goldfield	37.72	117.23	6.45	162.5	5700	1737	1961-1998
Tonopah	38.07	117.23	4.95	124.7	6050	1844	1928-1954
Tonapah Airp	38.07	117.08	5.69	143.4	5430	1655	1961-1998
Pahrangat WL ref	37.27	115.12	6.66	167.8	3400	1036	1961-1998
Penoyer Valley	37.62	115.78	5.49	138.4	4800	1463	1967-1999
Tempiute 4NW	37.68	115.72	7.87	198.3	4890	1491	1972-1985
Key Pittman WMA	37.62	115.22	7.94	200.1	3950	1204	1964-1989
Diablo	37.92	116.05	6.53	164.6	5110	1558	1959-1979
Adaven	38.12	115.58	12.73	320.8	6250	1905	1928-1982
Twin sprs Fallini	38.20	116.18	5.90	148.7	5300	1615	1985-1999
Blue Jay HWY st	38.38	116.22	7.58	191.0	5320	1622	1963-1984
Rattlesnake	38.45	116.17	4.96	125.0	5920	1804	1948-1966
Blue Eagle Ranch	38.53	115.55	9.41	237.1	4780	1457	1978-1999
Sunnyside	38.42	115.02	9.58	241.4	5310	1619	1961-1998

Table 2: LLNL Maxey-Eakin Recharge Estimates

Area m^2	Mean Elev. (m)	Annual Precip. (mm) Regional Curve	Annual Precip. (mm) Local Curve	Total Precip. (m^3) Regional Curve	Total Precip. (m^3) Local Curve	Annual Recharge (m^3) Regional Curve	Annual Recharge (m^3) Local Curve		No Recharge Below 200mm/yr Regional Curve	No Recharge Below 200mm/yr Local Curve	
2.52E+08	400	115	93	2.90E+07	2.35E+07	7.82E+05	5.16E+05		0	0	
5.60E+08	600	131	116	7.32E+07	6.48E+07	2.12E+06	1.75E+06		0	0	
7.89E+08	800	149	144	1.18E+08	1.14E+08	4.00E+06	3.75E+06		0	0	
5.33E+08	1000	170	179	9.04E+07	9.56E+07	3.43E+06	4.11E+06		0	0	
3.10E+08	1200	193	223	5.99E+07	6.92E+07	2.63E+06	4.08E+06		2.63E+06	4.08E+06	
1.93E+08	1400	220	278	4.26E+07	5.37E+07	2.51E+06	5.21E+06		2.51E+06	5.21E+06	
1.61E+08	1600	251	346	4.05E+07	5.58E+07	3.24E+06	1.13E+07		3.24E+06	1.13E+07	
3.20E+07	1800	285	430	9.15E+06	1.38E+07	9.60E+05	3.85E+06		9.60E+05	3.85E+06	
6.77E+06	2000	325	535	2.20E+06	3.62E+06	3.39E+05	1.36E+06		3.39E+05	1.36E+06	
3.46E+05	2200	370	666	1.28E+05	2.31E+05	31134	1.32E+05		31134	1.32E+05	
2.84E+09	Total					2.00E+07	3.60E+07	Total (m^3)	9.70E+06	2.60E+07	Total (m^3)
(1097 mi^2)						16,214	29,185	Total Acre-ft	7864	23,511	Total Acre-ft

Appendix

Calculating recharge rates at individual groundwater well sites requires an estimation of the annual precipitation accumulating in the recharge area of each well, the aquifer volume of groundwater flowing past each well, and a groundwater age. Dividing the aquifer volume by the groundwater age provides an annual replenishment rate. That rate is compared to the annual precipitation rate and used as a calibrating point for the Maxey-Eakin curve. For a spring sample, the annual volume of spring discharge is simply compared to the annual precipitation rate accumulated in the spring's recharge area. P82-50

The recharge rates are estimates that require some assumptions about aquifer dimensions and recharge areas. In the following calculations, values for these parameters are chosen as to minimize the potential annual recharge. In doing so, the actual recharge rates may be higher than those calculated as final values. P82-51

Example #1

The first example is from a groundwater well in the Providence Mts. The well is located in the upper part of Gold Valley (35°5.9'N, 115°23.7'W). The well is reported to be completed in alluvium. This well was sampled and measured for radiocarbon age dating (Stephens and Associates, 1992). The radiocarbon abundance of the dissolved inorganic carbon had a "bomb-pulse" concentration (104 percent modern carbon), indicating that the groundwater was recharged less than 40 years ago. Bomb-pulse radiocarbon occurs in young groundwater due to surface testing of nuclear weapons, which injected an abnormal amount of radiocarbon into our atmosphere in the early 1960's. P82-52

This well has an estimated maximum recharge area of 12.9km^2 (5mi^2). The mean elevation of the recharge area is 1650m (5400ft), and the annual precipitation is estimated between 259mm/yr (10.3in/yr) and 365mm/yr (14.5in/yr), based on precipitation-elevation curves (Fig. 3). Therefore, the total annual precipitation accumulating in the recharge area is 2708 to 3817 acre-ft (3.3 to 4.7x10^6 m^3). We assume a minimum aquifer depth of 15m (~50ft), a mean porosity of 10%, and a groundwater age of 40 years. This results in an annual average recharge to the aquifer of 392 acre-ft (4.8x10^{5}m^3). Dividing this into the annual precipitation suggests that on average 10 to 15% of the annual precipitation recharges this area. This is equivalent to 40.3mm/yr (1.6in/yr). P82-53

Example #2

The second example is a well sampled by LLNL February 3, 2000 in Round Valley (Mid Hills area; 35°08'52.5", 115°21'28.8"; NE,SW1/4 sec3 T12N R15E). This well also had a bomb-pulse radiocarbon value (113 percent modern carbon). The well also had bomb-pulse tritium (16.7 pCi/L) originating from post-1963 precipitation. Its maximum recharge area is ~11.7km^2 (4.5mi^2). The mean elevation is ~1600m (5249ft), and a mean annual precipitation rate ranges from 251 to 346mm/yr (10 to 13.7in/yr). Assuming the same aquifer parameters and groundwater age as the first example, the calculated annual recharge rate is 11 to 15% of the annual precipitation, or 40mm/yr. This is nearly identical to the previous example. P82-54

Example #3

The third example is from the New York Mountains and a well located at the southern end of Caruthers Canyon (35°13'33.7"; 115°17'58.3"). Technically, Caruthers Canyon does not recharge the Fenner groundwater basin, but rather is thought to flow east towards the Colorado River. However, very similar canyons to the west in the New York Mountains (e.g. Fourth of July Canyon) provide recharge areas to the Fenner Basin. The well in Caruthers Canyon was sampled by LLNL February 3, 2000. This well also had bomb-pulse tritium (18.2 pCi/L), indicating recharge less than 40 years ago.

The recharge area for this well is 8.9km^2 (3.45mi^2). The mean elevation is estimated at 1875m (6150ft). Estimated annual precipitation is between 300 and 467mm/yr (11.9 to 18.5in/yr). This is equivalent to an annual accumulated precipitation in the recharge area between 2.7 and 4.2x10^{6}m^3/yr.

The well purportedly is completed 350 feet (107m) below ground surface (Gary Overson, personal communication). It is assumed that the mean aquifer depth over the recharge area is 40m, and has a mean porosity of 10%. This suggests an aquifer volume of 35.6x10^{6}m^3. Dividing this volume by 40 years, suggests an annual recharge of 0.89x10^{6}m^3/yr. Comparing this annual recharge to the accumulated precipitation, a suggested total of 21 to 33% of annual precipitation is recharged.

Example #4

The fourth example is from Bonanza spring located on the southeastern side of the Clipper Range (NW,NW1/4 sec22 T7N R15E, Castle Dome, Calif 7.5 USGS Quad). This spring discharges at 640m and has a maximum potential recharge area of about 15.5km^2 (6mi^2) in the Clipper Range. This recharge area has an elevation range between 640 and 1100m. LLNL sampled this spring February 2, 2000. It was discharging at 0.1 cubic foot per second (cfs; 0.17m^3 per minute). The discharge was perennial and supported a maturely vegetated wetland extending at least 1.5km downstream of the spring immersion point.

Assuming a sustained flow of 0.1 cfs annually, we calculate a total annual discharge from Bonanza spring of 71 acre-ft (87,577m^3). The recharge area averages ~900m in elevation. The annual average precipitation rate is calculated to be 160mm/yr. This is a total accumulated precipitation volume of ~2,139,000m^3, or 1734 acre-ft per year. The ratio of spring flow to annual precipitation in the recharge area indicates that the recharge rate for Bonanza spring is 4% of annual precipitation, or 5.5mm/yr.

UCRL-ID-138321

Discussion Regarding Sources and Ages of Groundwater in Southeastern California

M.L. Davisson

March 3, 2000

U.S. Department of Energy

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Discussion Regarding Sources and Ages of Groundwater in Southeastern California

M. Lee Davisson

Health and Ecological Assessment Division
Lawrence Livermore National Laboratory

March 3, 2000

Introduction

A planned groundwater storage project for future drought relief has been assessed in the Fenner Gap area of the Fenner, Cadiz, and Bristol watershed region of southeastern California. Questions regarding the source and age of groundwater beneath the proposed project area were resolved using natural isotope abundances measured at LLNL. The following presents data (Table 1), briefly summarizes conclusions of that data, and records correspondance with the sponsor Geosciences Support Services Inc.

Groundwater Sources

The deuterium and oxygen-18 data were measured as a ratio to the more abundant isotope hydrogen and oxygen-16, respectively. The measured ratio is normalized to Standard Mean Ocean Water, which is the internationally recognized standard, and converted to parts per thousand deviation from this standard, known as a "del (δ) value. The δD and $\delta^{18}O$ values have minimal differences among the Fenner Gap groundwater, indicating that all groundwater collected is either from the same source or that the aquifer water in this region is well mixed. The absolute value of the δD and $\delta^{18}O$ is proportional to the elevation (temperature) of the recharge area. This is due to a well-known isotope depletion effect in precipitation caused by increasing elevation and decreasing air temperature. The δD and $\delta^{18}O$ values of mean annual precipitation have been documented in southeastern California by Irving Friedman and others (1992). The site closest to your field area monitored by Friedman and others is at Mitchell Caverns, at approximately 4000 feet located several miles to the north. The mean annual δD value of precipitation at this site was –74 per mil (winter average was –82, and summer –67). This compares favorably with the groundwater values measured (-78 to –80 per mil), suggesting a mean recharge elevation for the groundwater of around 4000 feet. An additional conclusion from this data is that since the δD and $\delta^{18}O$ values reflect the same values observed in modern precipitation. This suggests that the groundwater is of Holocene age (<10,000 years old). This assumes that during the Pleistocene the isotope values of mean annual precipitation were lower than today due to global cooling.

The δD and $\delta^{18}O$ data can also be compared on a cross-plot. A well established linearity between δD and $\delta^{18}O$ in precipitation forms a line known as the Meteoric Water Line (MWL), which has a characteristic slope of 8 and a y-intercept of 10 (see Craig, 1961). Almost all precipitation originating from the Pacific Ocean have isotopic values lying essentially on the MWL. As condensed precipitation evaporates (i.e. in a lake or vadose zone), the δD and $\delta^{18}O$ value plots progressively to the right of the MWL. The groundwater isotopic values measured for your study plot very close to the MWL, suggesting almost no evaporation had occurred during recharge.

Groundwater Ages

Radiocarbon (^{14}C) was measured on the dissolved inorganic carbon (DIC) in the Fenner Gap groundwater. ^{14}C is radioactive and decays at a slow, constant rate, having a half-life of 5730 years. This half-life is ideal for dating old groundwater. ^{14}C is produced naturally in the upper atmosphere at a low concentration (10^{-12} ^{14}C atoms for every ^{12}C). Surface testing of nuclear weapons in the late 1950's and early 1960's doubled the inventory of ^{14}C in the atmosphere, and has been slowly returning to normal levels since. The ^{14}C data is presented as a percent of modern carbon (pmc), which is a $^{14}C/^{12}C$ ratio normalized to the $^{14}C/^{12}C$ ratio of atmospheric CO_2 in 1950, multiplied by 100. In a pure system a ^{14}C content of ≤100 pmc is equivalent to an

age prior to 1950, while a content ≥100 pmc represents a more recent age, which has incorporated nuclear bomb produced ^{14}C.

P82-63

The four groundwaters measured show similar ^{14}C contents (18 to 25 pmc), and have an apparent age range of 14,000 to 11,500 years old. The apparent age is calculated directly from the measured ^{14}C and doesn't account for any ^{14}C -absent carbon added to the DIC by water-rock interaction. Assuming that the groundwater is not a mixture of older and younger groundwater, the apparent ages represent maximum subsurface residence times. Calculating "true" ages for these groundwaters would require knowing the amount of ^{14}C-absent carbon that was dissolved in the groundwater during and after recharge. The database is not extensive enough to calculate these ages. It has been recognized in many groundwater basins that typically 15-20% of the DIC in groundwater originated from ^{14}C-absent sources, most likely incorporated during recharge. However, the potential amount of ^{14}C-absent DIC incorporated during recharge is 0-50%. Taking this into account, in general the groundwater ages are probably early Holocene to late Pleistocene in age. Given that the δD and $\delta^{18}O$ values of these groundwaters are consistent with modern precipitation values, the groundwater ages are more likely early Holocene in age.

P82-64

The database also includes $\delta^{13}C$ values, which are the ^{13}C /^{12}C ratios normalized to a recognized standard. The values are typical for groundwater, which can range from 0 to -20 per mil. The potential sources contributing to the $\delta^{13}C$ values are 1) soil zone CO_2 respired by plants (-28 per mil for C3 plants; -13 per mil for C4 plants), 2) atmospheric CO_2 (-8.0 per mil), and 3) dissolved carbonate minerals in the subsurface (0 to –10 per mil). The contribution from each of these sources to the Fenner Gap groundwater cannot be discerned due to the lack of data.

P82-65

The tritium (^3H) analyses of the groundwater indicate that no measurable tritium is present in these samples. ^3H is a rare isotope of hydrogen that is naturally produced in the upper atmosphere. Surface testing of nuclear weapons also increased the inventory of ^3H in the atmosphere. Almost all observable ^3H today in environmental samples is residual from the testing era. ^3H has a short half–life of 12.43 years, making it ideal for age dating of young groundwater. The data are presented as a radioactivity measurement of picocuries per liter of water (pCi/L). One tritium unit (TU) is equivalent to 3.2 pCi/L. The amount of ^3H expected in modern rainfall in southern California is around 10TU. This amount is significantly lower than precipitation in the early 1960s, which was around 300TU.

P82-66

Water Quality

One independent sample (PW-1) was measured for total organic carbon (TOC). The TOC was below the instrument detection limit of 100 parts per billion. This TOC level is typical for old groundwater in oxidized environments, where sedimentary organic matter is low.

P82-67

Issues in Chloride Mass Balance

Wet deposition of chloride in southern California. According to Liljestrand and Morgan (1981), wet deposition ranged between 5.0 and 164μeq/L (0.177 to 5.8 mg/L). The lowest was at Wrightwood (San Gabriel Mts.) and the highest in Los Angeles. Big Bear was 5.2μeq/L (0.184 mg/L), although the data only represents 3 months of sample collection in 1979 and probably doesn't represent a statistically significant database. Wrightwood was only 10 months of data collection. For further reference, Riverside was 30μeq/L (1.06 mg/L).

P82-68

Dettinger (1989) makes references to limited work that collected bulk chloride in the eastern Sierra Nevada. He states that this data is likely skewed to the wet deposition concentration because the manner in which they were sampled. Dettinger (1989) uses 0.6 mg/L for total chloride deposition for groundwater basins in Nevada.

The chloride mass balance approaches to estimating recharge has many hidden trap doors, since chloride sources and deposition rates are likely complex. For example, one instructive data correlation is the $\delta^{18}O$ versus the chloride concentration (Fig. 1). These data are from Dan Stephens' report. Note that higher $\delta^{18}O$ values (lower recharge elevations and/or greater evaporation) have higher chloride concentrations. The regression is very good (R^2=0.95), particularly leaving out the Danby well and PAHO. Danby well is an open well casing and is suspect because it may be evaporated, while PAHO is actually in the Orange Blossom Wash south of the Marble Mts. Including these two points in the regression yields R^2=0.65.

If we assume that the chloride deposition is constant throughout the Fenner basin, then the $\delta^{18}O$-chloride correlation suggests that higher elevation recharge (lower $\delta^{18}O$) has less total evaporation, while lower elevations have higher total evaporation.

However, if we compare the average chloride concentration measured in Fenner groundwater (62.7 mg/L Daniel P. Stephens report) to those in Nevada groundwater (10.2 mg/L; Dettinger, 1989), the Fenner groundwaters are unusually high. This may suggest that either chloride deposition rates are higher (up to six times higher, or 3.6 mg/L), or other sources of chloride (rocks?) are dissolved in the groundwater.

One could also argue that the total evaporation is higher in Fenner, and hence the recharge rate is lower. That argument is hard to defend, however, since the climate, lithologies, and basin morphologies of Fenner and Nevada are very similar.

Another important process controlling chloride concentration is mixing. Mixing of groundwater occurs in the Fenner Gap, as indicated by the stable isotope results (Fig. 2). Since the chloride concentration of recharge decreases with increasing recharge (i.e. $\delta^{18}O$-Cl plot), then mixing between low elevation and high elevation recharge sources in Fenner Gap skews the chloride toward the low elevation concentration. This mixed chloride concentration will yield higher evaporation rates using a chloride mass balance approach, and will result in a lower recharge rate.

Fig. 1

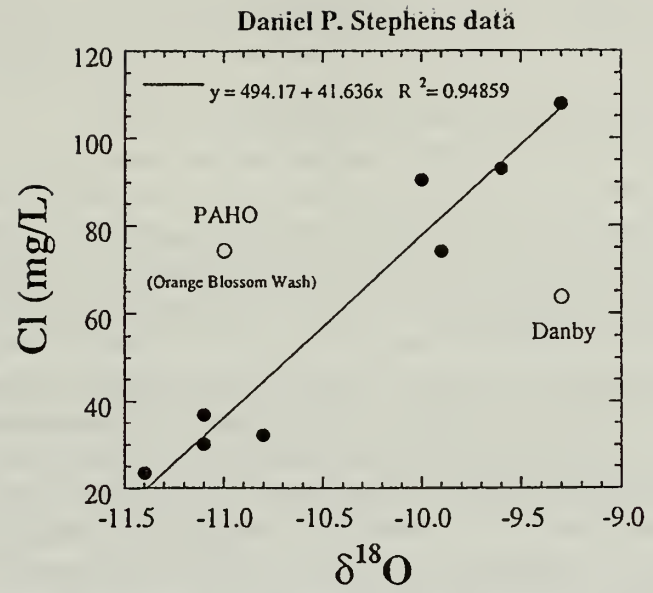
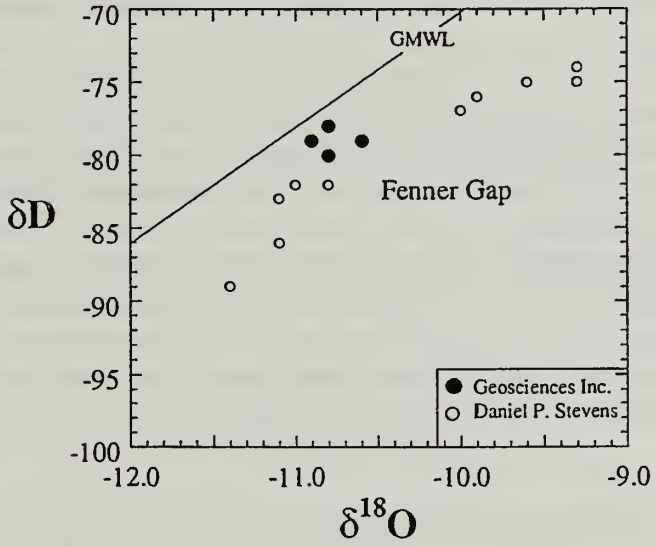


Fig. 2



Radiocarbon Interpretation Assuming No Mixing (Piston Flow).

Indicated in figure 1 are the data that LLNL generated and those from Daniel P. Stephens' report. Also illustrated are likely end-member compositions for inorganic carbon sources dissolved in groundwater in the recharge areas (open squares). The ^{14}C values of recharging groundwater can range from 50 to 100 pmc. Paleozoic carbonate rock has no ^{14}C and likely a high $\delta^{13}C$ value. Reaction of recharging water with the Paleozoic carbonate results in the lower initial ^{14}C. Dashed lines are trajectories for water-rock interaction between the different recharge carbon sources and the Paleozoic carbonate rock. Note that most of the groundwater ^{14}C and $\delta^{13}C$ values for Fenner Gap groundwater lie slightly to the left of the reaction lines. If they were lying directly on these lines, then we could have invoked a simple water-rock interaction to account for all the ^{14}C depletion relative to a recharge source. However, because they lie slightly to the left of the lines,

PB2-75

some radioactive decay is suggested. As indicated by the horizontal arrows, an age range from 6518 to 9901 years is calculated. These are the oldest possible ages that can be calculated from these ^{14}C values. However, for these ages, no mixing of groundwater occurs.

Possible Groundwater Ages Assuming Mixing (Dispersive Flow)

Modeling radiocarbon ages in dispersive flow regimes has not been reported in published scientific literature. Difficulties in interpreting ages stem from tracking the thousands of individual flow lines, determining their transport rates, and following their carbonate equilibrium reactions. This would be difficult with only an observational database. In the Fenner basin, three basic lithologies exist: fractured granitic rock, fractured Paleozoic carbonates, and coarse-grain alluvium. Because of tectonic deformation and juxtaposition of these lithologies, groundwater flow can transcend these different lithological regimes. Each lithology presents a unique environment for carbonate equilibria. For example, a groundwater whose dissolved carbon equilibrates with the Paleozoic carbonate, and subsequently flows into granitic rock would likely precipitate a large portion of its dissolved carbon because it would be in a supersaturated state. This could cause significant shifts in $\delta^{13}C$ value, but none in ^{14}C. As another example, mixing of a groundwater in equilibrium with granitic rock with a groundwater in equilibrium with Paleozoic carbonate, would skew the ^{14}C value of the mixture toward the carbonate groundwater.

Using the various mixing and reaction scenarios for groundwater in the Fenner basin, figure 2 illustrates one in which the ^{14}C values can be interpreted as a mixture of young groundwater. As an example, we can assume that a groundwater originates in the Paleozoic carbonate and resides in there for 1000 years. The resulting ^{14}C value can be as low as 5 pmc (see Fig. 2 and Davisson et al., 1999). If this water were then to flow into a regime dominated by granitic rock, much of the dissolved carbon would precipitate. Figure 2 shows the $\delta^{13}C$ effect when 80% of the dissolved carbon precipitates as calcium carbonate under a Rayleigh process. If this $\delta^{13}C$ - modified groundwater were then to mix with a young alluvial groundwater with an initial ^{14}C of 50 pmc, then a mixing line can be drawn through the Fenner Gap groundwater. The mixed ages of the Fenner Gap groundwater would only range from 550 to 700 years, even though the ^{14}C values are low.

It is likely that this mixing scenario is not common throughout the basin, however, it may occur in areas where volumetrically significant quantities of groundwater recharge and flow. The example was provided simply to provide a lower limit to possible age interpretations.

Additional Issues

An important point about the ^{14}C determinations is that they do not necessarily represent an integrated sampling of groundwater flowing beneath the Fenner Gap. The small number of samples collected and measured do not systematically sample at various depths and geographic locations across the gap. Therefore, the ^{14}C values measured could be skewed toward older flow paths.

Based on the $\delta^{18}O$ and δD of the Fenner Gap wells, mixing with some local or lower elevation recharge is probable. Note that the ^{14}C of the Fenner Gap wells are slightly higher than similar wells in the Fenner Basin listed in the Daniel P. Stephens report. This suggests some younger, more local recharge occurs toward the Fenner Gap.

Other sources of dissolved carbon cannot be ruled out. For example, magmatic CO_2 can be present, and doesn't necessarily need an active volcanic edifice to manifest itself (see Rose and Davisson, 1996). Given the moderate heat flow (100 mW/m^2) and recent volcanic activity for the area, magmatic CO_2 cannot be easily discounted, and its presence would reduce the ^{14}C value of groundwater.

P82-81

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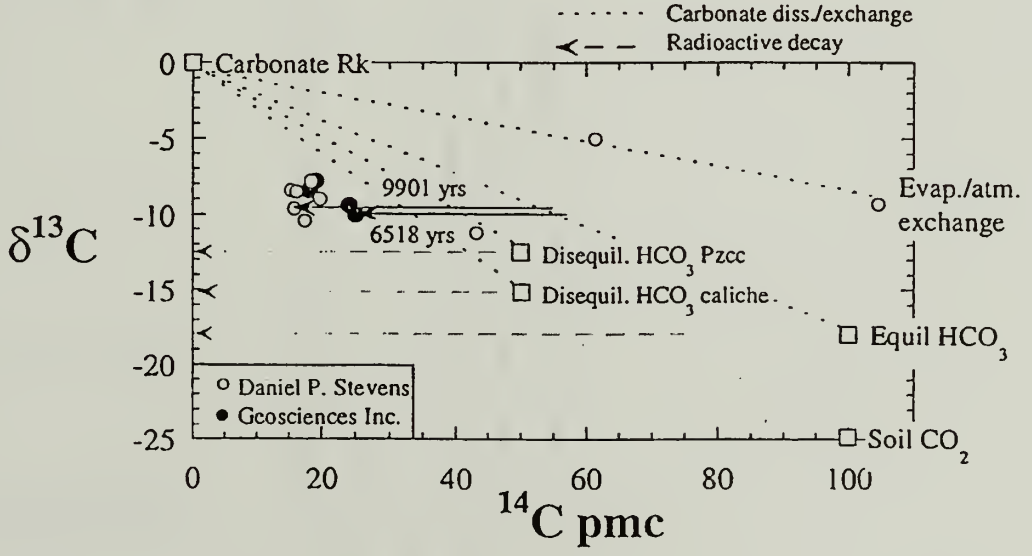


Fig. 1. No Mixing.

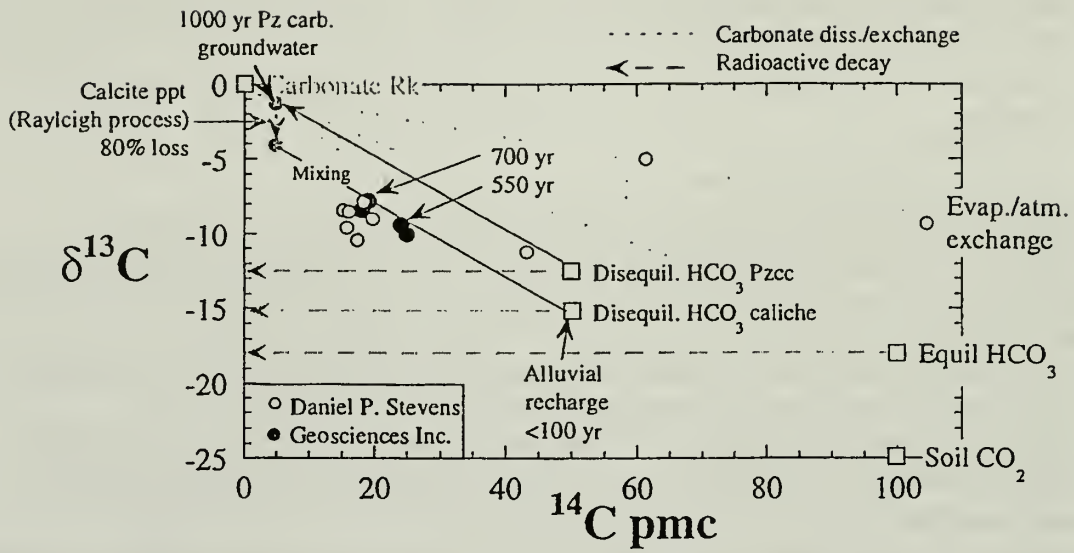


Fig. 2. Possible mixing scenario between young groundwaters resulting in low ^{14}C values.

Sample	Date	$\delta^{18}O$ smow	δD smow	^{3}H pCi/L	DIC mg/L	$\delta^{13}C$ PDB	^{14}C pmc	Apparent age yrs.	TOC mg/L
CI-1	2/25/99	-10.9	-79	<1	147	-7.8	19	13,600	-
CI-2	2/25/99	-10.8	-78	<1	168	-8.4	18	14,000	-
CI-3	2/25/99	-10.8	-80	<3	159	-9.4	24	11,900	-
MW-7	2/25/99	-10.6	-79	<1	170	-10.0	25	11,500	-
PW-1	3/18/99	-	-	-	-	-	-	-	<0.1

$\delta^{18}O$ smow and δD smow are the per mil deviation of $^{18}O/^{16}O$ or D/H ratio relative to NBS Standard Mean Ocean Water (smow)

pCi/L is picocuries of activity per liter of water

DIC is the dissolved inorganic carbon

$\delta^{13}C$ PDB is the per mil deviation of the $^{13}C/^{12}C$ ratio relative to NBS standard PeeDee Belemnite

^{14}C pmc is the $^{14}C/^{12}C$ ratio relative to the ratio in atmospheric CO_2 in 1950, reported as a percent of modern carbon (pmc).

Apparent age calculated directly from ^{14}C decay constant and ignores any contribution from water-rock interaction.

TOC is the total organic carbon

UCRL-ID-13

Summary of Age-Dating Analysis in the Fenner Basi Eastern Mojave Desert, California

M.L. Davisson

June 1, 2000

U.S. Department of Energy

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Summary of Age-dating Analysis in the Fenner Basin, Eastern Mojave Desert, California

June, 2000

M. Lee Davisson

Health and Ecological Assessment Division

Age of Groundwater

Stable isotopes of oxygen (oxygen-18) and hydrogen (deuterium) in water were measured to determine recharge sources for Fenner Basin groundwater. The deuterium and oxygen-18 signatures (reported as δD and $\delta^{18}O$ values) ranged from –11.9 to –9.3 per mil (Davisson, 2000). The more negative values originate from high elevation recharge in the New York Mountains and were also observed in the northern and eastern parts of the groundwater basin. Less negative values were observed in the Providence Mountains along the western part of the basin. Groundwater collected in the Fenner Gap (i.e. Project Area) had signatures between –10.6 and –10.9 per mil, suggesting a mixture of recharge from both northern, western, and probably local recharge areas in the basin. The annual contribution of groundwater recharge to Fenner Gap from the Clipper, Marble, and Old Woman mountains is still inconclusive due to lack of isotopic data. P82-82

Isotopic signatures of mean annual precipitation collected by Friedman and others (1992) at Mitchell Caverns, as well as recently recharged groundwater in the Providence and New York mountains, are similar to the isotopic values in Fenner Gap groundwater. This indicates that this groundwater has a Holocene age (less than 10,000 years old), since groundwater recharged during the Pleistocene had isotopic signatures significantly more negative than today due to past global cooling (see Stute et al., 1995; Guilderson et al., 1994). P82-83

Shallow groundwater in recharge areas of the Providence and New York mountains were found to have groundwater less than 40 years old. This was concluded based on tritium and radiocarbon measurements, which were abnormally high in the groundwater. Tritium and radiocarbon are also abnormally high in the atmosphere due to surface testing of nuclear weapons in the early 1960s. Abnormal concentrations in the groundwater are consistent with young recharge. P82-84

Two independent and direct measures of groundwater age indicate groundwater in the Fenner Gap is around 1000 to 3000 years old. One approach measured the radiocarbon age of dissolved organic carbon (DOC) in a production (PW-1) in the Fenner Gap. The DOC originated from the soil of the recharge area(s) and flowed with the groundwater, largely unaffected by reactions with other carbon sources (Wassenaar et al., 1991). Preliminary measurements indicate the radiocarbon age of the DOC is between 1000 and 2800 years, with an estimate mean of 1500 years. P82-85

Another approach measured the accumulated helium-4 isotope dissolved in the groundwater also collected from the same production well in Fenner Gap at the same time as the radiocarbon sample. Continental crust rocks beneath groundwater basins produce helium-4 from radioactive decay of uranium and thorium. This helium-4 diffuses slowly upward toward the surface under steady-state conditions. Shallow groundwater above the crust will accumulate the helium-4 in a dissolved state over time. The older the groundwater, the more helium-4 that accumulates. The helium-4 concentration measured on the Fenner Gap well indicates that the accumulated helium-4 is only about 2 times above the concentration expected for water in equilibrium with air. This suggests the age is only between 1000 and 2000 years old. Ten-thousand year old water has accumulated helium-4 concentrations approximately 10 times the concentration expected for water in equilibrium with the atmosphere (see Mazor and Bosch, 1992, Solomon et al., 1999). P82-86

The radiocarbon was also measured on the dissolved inorganic carbon (DIC) from groundwater in the Fenner Gap. Possible ages estimated from the DIC radiocarbon measurements range from less than 1000 up to 9000 years old. The wide range is due to uncertainty in subsurface geochemical reactions occurring between DIC and radiocarbon–absent limestone aquifer rocks. The geochemical pathways are poorly understood and cannot be predict based on available data (see Davisson et al., 1999; Davisson, 2000). P82-87

Acknowledgments

This work was performed under the auspices of the U.S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under contract No. W-7405-Eng-48.

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January 8, 2001

P83

Mr. Jack Safely, Project Manager
Metropolitan Water District
Water Resources Management Group
PO Box 54153
Los Angeles, CA 90054-0153

via fax: 213-217-6949

Dear Mr. Safely,

This is a letter to protest the continuance of the water project devised by Cadiz, Inc. and the Metropolitan Water District to store and extract surplus public water in the Mojave Desert. Despite MWD's mandate to supply water for Southern California, and the district's experience in banking water, there are serious questions left unanswered in the current document about potential health problems, decimation of public lands, and threats to the Mojave's ecosystem. In short, this plan is in violation of the California Public Trust Doctrine. P83-1

It appears that the science behind the projections is skewed toward political paybacks. In recent history, the MWD seemed to rise above more base concerns with its intelligent conservation and other programs to fulfill its mandate for all the people of Southern California. But now it seems hubris could again have a great cost for the public and the environment. What if other science-based predictions come true? No matter how advanced MWD is in treating polluted water for consumption, there are some other obstacles you can't surmount. It is highly feasible, for instance, that pumping water from underground will cause subsidence of soils, which will cause compaction and loss of porosity. If there is increased water runoff in the desert, its drying can lead to dust storms, which will carry bacteria to huge numbers of people, as happened with the Owens Valley project. P83-2

Two national parks and five wilderness areas are involved in this project. They were set aside by Congress for protection by the State, which is the trustee for resources held in common by *all* the people of this state. Over the past few decades, the public has gained a greater understanding of collective rights. We hope that the MWD and the BLM will follow the requirements for protecting public resources and reject this plan as proposed for private gain. P83-3

Sincerely,

Peggy Lauer

Peggy Lauer
President
The Public Trust Alliance

Page 1 of 3

P84

TO

James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714
fax: 909-697-5299

FROM

Bob Criss
Department of Earth & Planetary Sciences
Washington University
1 Brookings Drive, Campus Box 1169
St. Louis, MO 63130-4899

Phone: (314) 935-7441
Fax: (314) 935-7361
E-mail: criss@levee.wustl.edu

Washington
WASHINGTON·UNIVERSITY·IN·ST·LOUIS

Department of
Earth and Planetary Sciences

January 8, 2001

Jack Safely
Metropolitan Water District of Southern California
P.O. 54153
Los Angeles, CA 90054

Dear Sir,

In August, 2000 I had the opportunity to visit the Metropolitan/Cadiz pilot spreading basins and do field work in the Fenner Basin. I was impressed by the scale of your project design and the thoroughness of its planning. The monitoring plan outlined in the Draft Supplement to the EIR also appears well designed for detecting any potential impacts to the Fenner groundwater basin during operation of the Cadiz Groundwater Storage and Dry Year Supply Program. P84-1

However, I was alarmed when I came across a USGS review (dated Feb. 23, 2000) of the Draft EIR/EIS. This extraordinary USGS review asserts that the Draft EIR/EIS overestimated natural recharge to the Fenner Basin by "5 to 25 times" the values estimated by the USGS review team using "similar methods" (p. 1 & 2). I have conducted an independent review of the USGS review and find it to be without scientific substance. The serious deficiencies disclosed by my review and my own examination of the Fenner Basin include the following: P84-2

1) The USGS report uselessly mis-characterizes the hydrogeologic and tectonic setting of the basin. For example, p II-5 refers to the probable low permeability of the "dominantly granitic and metamorphic consolidated rock types of the watershed area." Astonishingly, more than 80% of the Fenner Basin is characterized by unconsolidated alluvial deposits. The authors of the USGS review could not harbor such basic geologic misconceptions of the region had they made a single trip to the area, or even had they simply referred to a state geologic map. P84-3

2) In their criticism of the precipitation estimates for the Fenner Basin, the USGS reviewers discard valid precipitation data collected within the basin (e.g., Mitchell Caverns SP), and instead substitute precipitation data collected outside the basin. The latter are obviously invalid, and the only apparent reason for such a "substitution" is to achieve a predetermined result that supports the USGS position and contradicts the claims of the Draft EIR/EIS. The USGS review then presents distorted, confusing plots that support their point of view. P84-4

3) The low groundwater recharge estimates (1710 acre feet per year; p. 3) made by the USGS is four times lower than the current pumping rate on the Cadiz Inc. property. This pumping has been ongoing for more than a decade and there is no evidence of subsidence, declines in water levels, or negative impacts to the down gradient playas. P84-5

4) In my visit to the USGS gauging station in Caruthers Canyon, near the NE border of the Fenner Basin in the New York Mts., I found the location of the station purported by USGS to be in error by more than 0.5 km! The actual location was at a significantly higher elevation and wasn't even in the same township as reported by USGS.

P84

5) The isotopic and geochemical models presented by USGS are contrived, outdated and baseless. No reference is made in the USGS report to the finest current literature on desert hydrology.

P84

In short, while the USGS review asserts that it is using "similar methods" as the Draft EIR/EIS to derive its conclusions, the USGS authors present no evidence of familiarity with the most basic hydrogeologic characteristics of the Fenner Basin. Moreover, data are distorted, substituted and eliminated at will to derive conclusions favored by USGS. Unencumbered by the constraints of the scientific method and, evidently, of peer review, the report appears to be a rambling, baseless, and possibly unethical attempt to interfere with a private corporation and a municipal entity that are cooperating on a legitimate project that could very likely benefit millions of US citizens. Having been employed by the USGS earlier in my own career, I cannot conceive how such a destructive and unscholarly document could have received the "Director's Approval" that is required for all USGS publications.

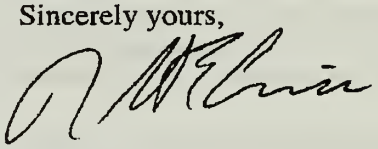
P84

I suggest that the authors of the USGS review should actually visit the Fenner Basin. Such a trip would provide them with a much-needed opportunity to correct their hydrogeologic misconceptions, and might even enable them to contribute some data rather than baseless assertions. At the same time they could confirm the serious misrepresentation by their organization of the location and site hydrology of the Caruthers Canyon gauging station. They could also confirm the erroneous USGS representation of the UTM coordinates of the Pinto Mountain topographic quadrangle. Until such shortcomings are addressed, the USGS operations in this area cannot be construed as "Science in the Public Service."

P84

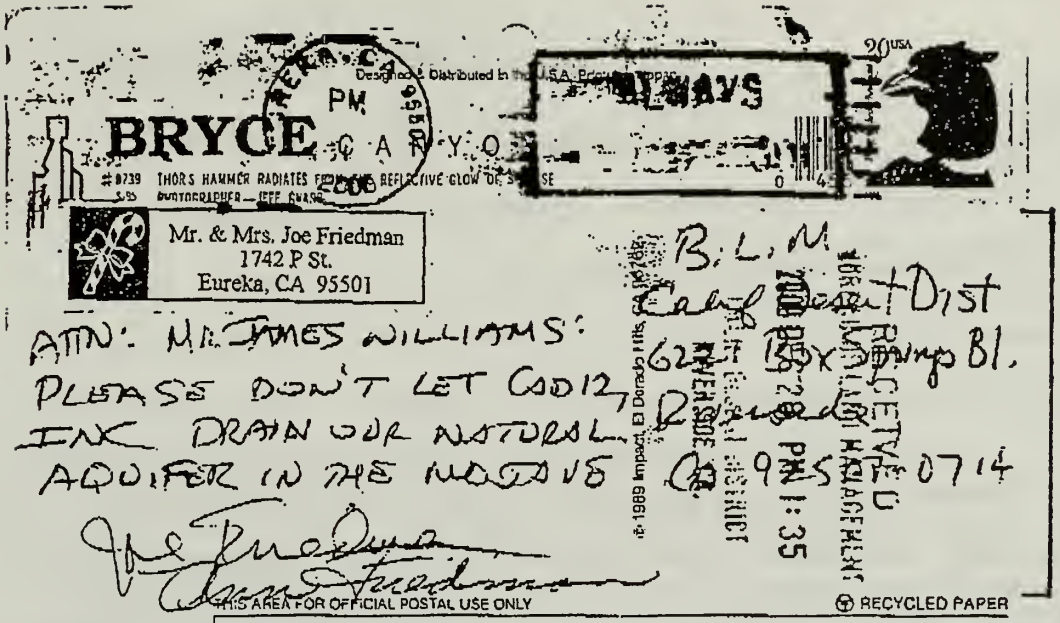
Thank you for your attention.

Sincerely yours,



Robert E. Criss
Professor

Cc: James Williams
Mark Liggett


BRYCE
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Mr. & Mrs. Joe Friedman
1742 P St.
Eureka, CA 95501
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P85

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CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P86

MAJ (Ret) Richard F. Sloan
1509 East Fallbrook Avenue
Fresno, California 93720-2744
(559) 297-5367

29 December 2000

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Mr. James Williams,

The effect of the Cadiz Project on the Mojave Desert gives me cause for great concern about the impact it will have on ground water tables and the aquifer. As a life long resident of Fresno California, I have had the opportunity to observe what happens in a ~~city that has a large~~ system of ground water recharge stations. In the 1960's Fresno was reputed to have the best drinking water of any large city in the US. The water table was also at 40 feet. City wells are now down to 120' and water quality is terrible in ~~many wells~~. P86

I currently do environmental ~~restoration~~ work along the San Joaquin River. ~~Restoration projects~~ now have to have supplemental irrigation because native riparian plants can not reach the water table to get established (this is with ground water recharge). P86

The desert ecosystem as you know is much more ~~fragile~~. It is imperative that a government agency which does not benefit from the ~~Cadiz~~ Project be an "honest broker". P86

Ground water recharge and pumped storage was going to solve Fresno's problems. It didn't. It won't solve Los Angeles' water problems either and it will screw up the desert ecosystem to boot. P86

Thank you for your timely help and assistance in this matter.

Sincerely,

Richard F. Sloan

CF:

San Joaquin River
Parkway and
Conservation Trust

Richard Sloan
Land Stewardship Assistant
1550 East Shaw Ave.
Suite 114
Fresno, CA 93710
(559) 248-8480
FAX 248-8474
email: rsloan@riverparkway.org

P87

Bureau of land Management,

I am very concerned about the Cadiz Project as I live in Morongo Valley and know what draining into water supply can mean. Our wells here drawn on an underground water source and we can not survive here with out it. P87-1

I do believe that living in the desert we really know what our sources of water really mean. P87-2

My hopes are that lack of water will slow or stop the desert growth. Our weather is a real draw but our roads and freeways are not keeping up with the abundance of traffic. P87-3

Laura Sherrod
7266 Matzene
Morongo Valley, Ca
92256

RECEIVED
BUREAU OF LAND MANAGEMENT
2008 JAN 23 AM 8:33
CALIF. DISTRICT
RIVERSIDE, CA

P88

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -3 AM 8:33
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

December 30, 2000

14355 Huston St., #225
Sherman Oaks, CA 91423

Mr. William James
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Dear Mr. James:

I am writing you to urge you to reject the Cadiz Inc.'s plan to drain water from aquifers beneath the Mojave Desert. There are several important reasons why the Cadiz Inc's plan should be rejected. First, the water from these aquifers is precious to a variety of rare plants and animals such as the desert tortoise and desert bighorn sheep. Second, the water from these aquifers will be extremely expensive, if not impossible to treat. Third, sustainable alternatives that are less environmentally destructive, such as water conservation measures, need to be considered. Fourth, public lands outside the area of extraction, including two national parks and five wilderness areas managed by the BLM, would be adversely affected by the draining of these aquifers. P88-1

I am convinced there are environmentally sound, sustainable solutions to our current water problems. I encourage you to explore these options rather than permitting the Cadiz Inc.'s "quick fix" entrepreneurship. P88-2

Sincerely,

Seth Shteir

Barry Melius
BX 191
Tecopa CA 92389

James Williams
BLM
Riverside CA 92507

P89

Mr. Williams:

Re: Cadiz Groundwater Storage Program

I apologize for getting comments in just under the 12/4/00 wire but life as you know is busy. 89-1

The plan seems well thought out and the BLM is to be congratulated on showing such concern for environmental considerations. Thank you.

As you know the devil is in not only the details but also the execution, so:

1- Selection of 8 springs to monitor flow levels. High altitude springs would be the last to run dry - could 50% of the selected springs be high altitude - even better could a concerned environmental group pick 50% of the springs! 89-2

2- There seems to be adequate safeguards for wells affected by the project but more vague ones for springs that are affected - why not the same recourse for springs as wells? If they aren't affected then the cost would be modest. 89-3

3- Monitoring of test wells has potential for mischief - outside verification by a concerned enviromental group would keep everybody honest. 89-4

4- relating to above - again, access to all records, especially electronic data base by a representative of concerned environmentalists would reassure us tree-huggers. 89-5

5- Expansion of Cadiz, Inc's agricalture activities would entail a lot of water - short shrift (one sentence) was given to this in the report. 89-6

determining

"6-17 Last paragraph! - ~~determining~~ "if groundwater level changes were above background levels and directly attributable to project operations" - all sorts of mischief potential there if determination is allowed without concerned environmental parties having their own monitoring rights of the determination as well as flow levels. 89-1

Many thanks again for the effort you've put in here and the BLM's job is balancing all the concerns in it's environmental efforts. 89-8

Yours,

Barry McLean

Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -5 PM 3:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P90

Dear Mr Williams,

I am deeply concerned about the proposed Cadiz Project as I believe it will adversely affect wildlife, water and air quality in the Mojave National Preserve, Joshua Tree National Park and nearby BLM wildlife areas. 90-1

First, the monitoring and mitigation will be under the auspices of Cadiz, Inc. and its primary customer for the water, the Metropolitan Water District. As they have a vested interest in the project, their ability to adequately monitor and redress the certain damage to the area by such a water grab is dubious at best, and is in direct conflict with what I feel to be the public interest. 90-2

Second, while the above-mentioned and flawed plan to monitor the project exists, a plan for the management of subsequent environmental problems does not. Further, the BLM's role is not only ill-defined but will be determined beyond the realm of public comment, hearing and, therefore, public interest. 90-3

Third, the project and its supplemental environmental impact statement contain inadequate water quality information on both the aquifer and the replacement water from the Colorado River. As it is likely that one or both sources of water will contain significant amounts of toxic materials requiring costly treatments, and as said treatments will likely be at taxpayers expense, full examination and disclosure of the water quality is in the public interest. 90-4

Fourth, federal and state laws mandate the review of viable alternatives. I recommend water conservation methods to reduce demand as the most beneficial and least environmentally destructive alternative. 90-5

Fifth, and most importantly, this project poses a potential danger to the unique ecosystem of this area. The SEIS should contain clearly defined, low-threshold criteria that would allow an impartial and environmentally educated oversight body to halt the project to prevent irreversible damage to the ecosystem. 90-6

Thank you for your time and attention.

Sincerely,

Alison Sweetser 12-30-00

Alison Sweetser
24084 Clayton Rd.
Grass Valley, CA 95949

P91

Mr. James Williams
BLM
6221 Box Springs Boulevard
Riverside, CA 92507

Dear Mr. Williams:

I just read the supplement for the Cadiz Groundwater Storage and Dry Year Supply Program draft EIR and EIS. I am requesting that my comments be included in all pertinent documents relating to the adequacy of this proposed water export scheme. I would like to be notified of all public hearings on this matter. 91-

I was a Mono County Supervisor from 1991 to 1995. During my term I served on the Great Basin Unified Air Pollution Control District Board of Directors. One of my tasks was to negotiate the annual amount the city of Los Angeles was assessed to fund projects to figure out a solution to the dust storms created by the LADWP destruction of both the Mono and Owens Lake basins. I'm not looking for a job, I'm just noting that I have dealt with the disastrous results of cyanide and arsenic clouds created by water exporting and light winds. 91-

This Cadiz proposal is very different but far more dangerous because it will suck the aquifer dry and leave nothing but another man-made dustbowl disaster. This also is a hijacking of a public resource by some entrepreneurs who are full of manure. Taking nearly 50 billion gallons a year will, without question, eliminate all plant and animal life. It is ridiculous to provide water for more homes for Southern California, a region that exceeded its carrying capacity decades ago. 91-

The burden of proof is upon Cadiz and the MWD to show that this project will not cause damage to the environment. They have failed to provide this guarantee in their document. Do they have one single project in the world where it can be shown that water extraction did not result in substantial environmental degradation? The monitoring proposal is totally insufficient for the size and scope of this project. 91-

I think it is a sham that tax dollars were spent on such a ludicrous proposal. Learn from history. Don't let history repeat itself in the Mojave. Don't create another Owens Valley. Find a new plan. 91

Sincerely,

RIVERSIDE, CA.
CALIF. DESERT DISTRICT
2001 JAN 10 PM 2:21
RECEIVED
BUREAU OF LAND MANAGEMENT

Michael T. Jarvis
2089 Ivar Ave.
Los Angeles, CA 90068
310-459-3498

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:58
CALIFORNIA DESERT DISTRICT
RIVERSIDE, CA.

P92

BLM - California Desert District
221 Box Springs Blvd.
Riverside, CA 92507-0714

Re: Cadiz Project

Dear BLM:

Please do not approve the Cadiz Project. It reduces non-replacable "fossil" groundwater, and probably violates state law to take the water & sell it. P92-1

Thanks

Donald R. Holt
11826 The Oaks
El Monte CA 91732





BLM - California Desert District

2037 Roseday Street
Westlake Village, CA
(805)379-2768
JERIANDREW@AOL

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P93

Dear Mr. Williams and Mr Safely,

I write to you about my concern about the proposed pumping the aquifer below the Mojave National Preserve.

The project is not in the best interest of the environment or the public that you serve.

You are urged to oppose this project.

Most Sincerely,

Jeri Andrews

Andrews
2037 Roseday
Westlake Village, CA
91361

LONG BEACH CA
PM
08 JAN
2001
USA

Mr. James Williams
BLM - Ca Desert Committee
6221 Box Springs Blvd.
Riverside, CA 92507-0714

92507+0714

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN 10 PM 2:57
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

P94

The Cadiz proposal to drain the Mojave aquifer.

Approval of this project will endanger the rare animals
plants of the Mojave desert community, including the
of tortoise and the desert bighorn sheep, thus causing
versible damage. It affects the wildlife
air quality in the Mojave National Preserve, Joshua
e National Park and five BLM wilderness areas. 94-1

decision has enormous ramifications for the future
water management. Let's stop playing God! 94-2

ie Garcia
Mississippi St. #12
Diego, CA 92104





Bureau of Land Management
California Desert District
6221 Box Spring Blvd.
Riverside, CA 92507-0714

92507+0714

RE
BUREAU OF
2001 JAN 10 PM 2
DISTRICT
RIVERSIDE, CA

P95

Dear Mr. Williams,

We are concerned about the plans of Cadiz, Inc. to drain an ancient aquifer that underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas. 95

This project could endanger the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep. Two of the several wildernesses that could be impacted by this project are the Trilobite and Clipper Mountain Wildernesses, home to the second largest herd of desert bighorn sheep in the state. 95

The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Under the plan all monitoring and decision making is dominated by Cadiz, Inc. and its customer, Metropolitan Water District, both of which have built-in incentives to favor continued groundwater extraction. This puts profit focused decision makers in charge of the protection of our public resources. This does not protect the public interest. 95

The BLM's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations, subject to political pressure instead of public oversight. The terms of BLM's authority and oversight needs to be 95

addressed and publicly disclosed in another environmental impact statement. 95-4

The document needs to justify the actual need for this project and examine alternatives that are actually sustainable, safer, and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. 95-5

The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the BLM. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. 95-6

The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in Southern California. 95-7

This decision has enormous ramifications for the future of water management, public health and the protection of the natural resources of Southern 95-8

California. We need to urge the Metropolitan Water District and the Bureau of Land Management to make a decision that is informed, reasoned, and that promotes the public interest rather than private profit.

Lane P. Labbé
530-283-9771



EW ENGLAND
RANCH

Quincy Junction Road, Quincy, California 95971



BLM California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

Attn: Mr. James Williams

92507/0714

P96

RECEIVED
BUREAU OF LAND MANAGEMENT
2001 JAN -9 AM 9:25
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

eau of Land Management
fornia Desert District
agement Group
: Mr. James Williams
1 Box Springs Boulevard
erside, CA 92507-0714

opolitan Water District
er Resources STOP
: Mr. Jack Safely
Box 54153
Angeles, CA 90054-0153

Mr. Williams, and Mr. Safely,

I am informed that the project described below currently proposed by the Cadiz organization
nts threats to fragile, precious, and irreplaceable natural environments which are unacceptable
se see excerpts below.) I urge you to employ your best judgment and use the authority of your
es to avoid levels of controversy, tragic loss and damage, and mitigation such as we have
essed/experienced in areas such as Mono and Owens Lakes. If errors are to be made, let us error in
ommon sense direction of safety and preservation.
Thank your for your consideration and for your efforts in this regard. 96-1

Michael Rifkind

5899 Empire Grade Rd.
Santa Cruz, Ca. 95060

z, Inc. is an agricultural company in the California desert that is laying down plans to drain an ancient
er that underlies the Mojave National Preserve and five Bureau of Land Management wilderness
. The company wants to drain up to 652 billion gallons from this aquifer that has sustained the
le ecosystems of the western Mojave Desert for millennia. The Mojave Desert is home to a wide
ty of rare and vulnerable plants and animals, including the threatened desert tortoise and
rt bighorn sheep. 96-2

z's customer is the Metropolitan Water District, water purveyor for businesses and residents in Los
les and San Diego. In addition to selling off the native groundwater, Cadiz intends to pump
rado River Aqueduct water into the aquifer so they can call it a Colorado River "storage" project and
act the public from the fact that this is groundwater mining. Recently, cancer-causing toxins were
vered in this groundwater, making it clear that the Cadiz project would require expensive water
ment. By draining this aquifer, the Cadiz project could turn two nearby "dry" lakes into sources of
dust storms, comparable to the air pollution which resulted from the infamous drying of Owens
and cost Los Angeles tens of millions of dollars to control. 96-3

project could endanger the unique and rare plants and animals of this desert community, including
reatened desert tortoise and desert bighorn sheep. Two of the several wildernesses that could be
cted by this project are the Trilobite and Clipper Mountain Wildernesses, home to the second largest
of desert bighorn sheep in the state. 96-4

"monitoring and mitigation" plan is ill defined and offers questionable management for environmental
cts. Under this plan, all monitoring and decision-making will be dominated by Cadiz, Inc. and its
mer, Metropolitan Water District, both of which have built-in incentives to favor continued 96-5

Please see reverse side of this page.

groundwater extraction. This puts profit-focused decision-makers in charge of the protection of our public resources. This does not protect the public interest. The document needs to spell out the criteria it will use to stop this project before it causes irreversible damage.

The Bureau of Land Management's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations, subject to political pressure instead of public oversight. The terms of BLM's authority and oversight needs to be addressed and publicly disclosed in another environmental impact statement.

The document needs to justify the actual need for this project and examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in southern California.

This decision has enormous ramifications for the future of water management, public health and the protection of the natural resources of southern California. TMetropolitan Water District and the Bureau of Land Management must make a decision that is informed, reasoned, and that promotes the public interest rather than private profit.



BLM
Ca Desert Dist
Management Group
Attn Mr. J. William
Riverside Ca 92507-0

DR. THOMAS M. MC NICHOLAS
STEPHANIE E. MC NICHOLAS
1020 LONGRIDGE RD.
OAKLAND, CA 94610

RECEIVED
*OAKLAND CA MANAGEMENT

2001 JAN -4 PM 2:28

P97

DECEMBER 30, 2000

MR JAMES WILLIAMS
CALIF. DESERT DISTRICT
RIVERSIDE, CA.
BUREAU OF LAND MANAGEMENT
CALIFORNIA DESERT DISTRICT
6221 BOX SPRINGS BLVD
RIVERSIDE, CA 92507-0714

DEAR MR WILLIAMS:

THIS LETTER IS TO EXPRESS MY CONCERN FOR THE POTENTIAL NEGATIVE IMPACTS THAT COULD OCCUR IF THE CADIZ PROJECT IS ALLOWED TO DRAW THE AQUIFER UNDER OUR PUBLIC DESERT LANDS. 97-1

THE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THIS PROJECT NEEDS TO INCLUDE A COMPREHENSIVE PROJECT RISK MANAGEMENT PLAN, AN IN-DEPTH REVIEW OF SUSTAINABLE ALTERNATIVES AND A MORE FOCUSED TREATMENT OF THE ENVIRONMENTAL RAMIFICATIONS FOR THE FUTURE OF WESTERN WATER MANAGEMENT BECAUSE OF THE SCOPE OF THE CADIZ PROJECT. 97-2

I URGE YOU TO INSIST THAT ANY AND ALL DECISIONS ON THIS PROJECT BE CONSIDERED IN THE LIGHT OF PUBLIC INTEREST AND THE FUTURE NATURAL TREASURES WE WISH TO LEAVE OUR CHILDREN. 97-3

SINCERELY YOURS

T. M. MCNICHOLAS

DR. THOMAS M. MC NICHOLAS
STEPHANIE E. MC NICHOLAS
1020 LONGRIDGE RD.
OAKLAND, CA 94610

OAKLAND CA PM 2 JAN 2001

USA EGG NEBULA

MR JAMES WILLIAMS
BUREAU OF LAND MANAGEMENT
CALIFORNIA DESERT DISTRICT

Dear Mr. Safely,

I am extremely concerned about the Cadiz Water Project. Draining of this ground water will impact Two national parks and FIVE wilderness areas around it. It will impact and ENDANGER the rare plants and animals of this desert area. The plan needs to define the criteria necessary to prevent irreversible damage to the Flora + Fauna.

P98

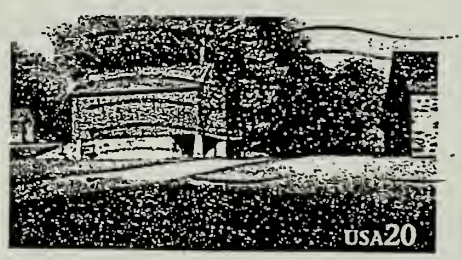
P98-1

Dee Lagger

They thought Ogallalla aquifer in midwest was huge - but it's in trouble now.

P.O Box 8556
93205

BAKERSFIELD CA
PM



Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

attn: Mr. Jack Safely

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

P99

Dear Mr. Safely

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not think this project is environmentally responsible, and the DEIS does not adequately address the potential threats of the project.

P99-1

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P99-2

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P99-3

Please support the public interest and reject this proposal. Thank you.

p99-4

Sincerely,

Derek Sowers

Derek Sowers
PO Box 381
Oceanside, OR 97134

n
es. Distr.
Box Springs Blvd.
s.de, CA 92507-0714
Mr. Williams
opolitan Water District
Resources Mgmt Grp.
Box 54153
Angeles CA 90054-0153
Mr. Subdy

P100

Whom It May Concern:

I am opposed to the Cadiz Project, groundwater grab, in the Mojave Desert. It involves healthy water & impacts sensitive lands & species. The SEIS is incomplete in examining potential problems, water quality monitoring, spelling out criteria for protection of endangered species & public lands. It needs to examine alternactives

P100-1

pact affects 2 national parks & five lderness areas. This project robs us of otection of our public lands & is acceptable as is.

Thankyou,

Cheryl A. Reiff
1152 Sloan Cyn Rd
Idyllwild, CA 92549

P101

Can you please tell me why
this had to be mailed to me over
"Certified Mail" when a 32¢
stamp would have done the job?

Thank you

A B Amster

P101-

A. B. Amster
PO Box 1106
Ridgecrest, CA 93556

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

REFER TO COMMENT P101-1

October 18, 2000

Dear Interested Party:

Notice of Availability of the Supplement to the Draft EIR/EIS
for the Cadiz Groundwater Storage and Dry-Year Supply Program

This notice is to inform you that the Metropolitan Water District of Southern California (Metropolitan) and the U.S. Department of the Interior Bureau of Land Management (BLM) have jointly prepared a Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (Supplement) for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program (Cadiz Project) pursuant to the California Environmental Quality Act and the National Environmental Policy Act. Agencies cooperating in the preparation of the Supplement are U.S. Department of the Interior, National Park Service and U.S. Geological Survey.

The Draft EIR/EIS, published in November 1999, evaluates a range of alternatives for conveying water between the Colorado River Aqueduct and the aquifer underlying the Cadiz and Fenner valleys. A plan amendment to the California Desert Conservation Area Plan (1980) is also proposed to allow for the proposed right-of-way for the pipeline outside of an existing utility corridor. This Supplement provides additional information regarding management of groundwater resources and related air quality issues in response to comments on the Draft EIR/EIS.

The aim of the Cadiz Project is to ensure the reliability of Metropolitan's existing water supply in the Colorado River Aqueduct. The project achieves this goal by storing Colorado River water in the Cadiz/Fenner aquifer and withdrawing the stored water along with indigenous groundwater during dry years. The project area is located in the eastern Mojave Desert region of San Bernardino County in the Cadiz and Fenner valleys and crosses federal land administered by the BLM.

We are providing you an opportunity to review and comment on the Supplement. Copies of the Supplement are available for review at the Metropolitan and BLM offices and at public libraries as follows:

- Metropolitan Water District, 700 N. Alameda Street, Los Angeles, California
- Bureau of Land Management, 6221 Box Springs Boulevard, Riverside, California
- Bureau of Land Management, 101 West Spike's Road, Needles, California

REFER TO COMMENT P101-1

- Norman Feldheym Central Library, 555 West 6th Street, San Bernardino, California
- Needles Branch Library, 1111 Bailey Avenue, Needles, California
- Twentynine Palms Branch Library, 6078 Adobe Road, Twentynine Palms, California
- Barstow Branch Library, 304 East Buena Vista Street, Barstow, California

The Supplement is being distributed for a 45-day review and comment period beginning October 20, 2000 and ending on December 4, 2000. Due to the time limits mandated by State and federal law, your comments should be sent at the earliest possible date, but not later than the December 4, 2000 closing date for public review of the Supplement. Comments should be directed to Mr. Jack Safely, Project Manager, Metropolitan Water District, P.O. Box 54153, Los Angeles, California 90054 or to Mr. James Williams, U.S. Bureau of Land Management, 6221 Box Springs Boulevard, Riverside, California 92507. Telephone inquiries should be directed to Mr. Safely at (213) 217-6981 or to Mr Williams at (909) 697-5390.

Very truly yours,

Grace L. Chan, Section Manager
Water Resource Management Group

KMK:bvf
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REFER TO COMMENT P101-1

MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

November 1, 2000

A. B. Amster
P.O. Box 1106
Ridgecrest, CA 93556

Dear Mr./Ms. Amster:

Use of Certified Mail for Sending Notification of Environmental Impact Reports

The Metropolitan Water District of Southern California (Metropolitan) recently sent you a Notice of Availability of the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (Supplement) for the Cadiz Groundwater Storage and Dry-Year Supply Program via certified mail. I am responding to your inquiry regarding the reason for using certified mail rather than standard postal delivery for the notice.

Certified mail is used to provide Metropolitan with a record of its provision of notice or of the documents themselves to organizations and individuals that have requested them. Because the California Environmental Quality Act (CEQA) and the Guidelines implementing CEQA have rigorous requirements for public notice, Metropolitan needs to have a record of its adherence to these requirements. Notice is also provided by publication of legal notices in newspapers of general circulation in the area of the proposed project and posted in the office of the county clerk in the county in which the proposed project is located.

We are mindful of your concern for responsible management of costs associated with planning and proposing public projects. The one-page notice you received was sent to many people and organizations on a lengthy mailing list instead of sending the volume of the Supplement, which would be much more expensive. Copies of the document have been made available at numerous public libraries and at Metropolitan and BLM offices, and the Supplement has been posted on the Internet in order to provide the public with an opportunity to review and comment. Documents were only mailed to public agencies that could be potentially affected or that have jurisdiction by law over the project, to those that have previously submitted comments on the project, and to public officials who may receive inquiries about the project. Of course, we will also send copies to any interested parties that request the document.

700 N. Alameda Street, Los Angeles, California 90012 • Mailing address: Box 54153, Los Angeles, California 90054-0153 • Telephone (213) 217-6000

REFER TO COMMENT P101-1

We appreciate your concern. Should you have further questions, please contact me at (213) 217-6798 or Ms. Kathleen Kunysz of my staff at (213) 217-6272.

Very truly yours,

/s/ Grace L. Chan

Grace L. Chan, Section Manager
Water Resource Management Group

KMK:bvf
o\clustr11\mgr\corres\kmkamster.doc

P102

Bureau of Land Management
California Desert District
6221 Box Springs Road
Riverside, CA 92507-0714

Attn: Mr. James Williams

Dear Mr. Williams:

I oppose the proposed Cadiz Project and ask that you provide your best effort to preventing its implementation as currently planed. P102-1

In particular, it appears to me that the public lands that would be impacted by this project include two national parks and five wilderness areas managed by your Bureau. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. The Cadiz Project is a groundwater grab in the Mojave Desert. It affects wildlife and air quality in the Mojave National Preserve, Joshua Tree National Park, and five BLM wilderness areas. This decision has enormous ramifications for the future of water management, public health and the protection of the natural resources of southern California. We need to urge the Metropolitan Water District to make a decision that is informed, reasoned, and that promotes the public interest rather than private profit. I hope your Bureau will make a decision on those grounds also. P102-2

Please keep me advised of your progress in this matter. P102-3

Sincerely,

Matthias F. Reese 3rd

PASADENA CA 911 PM 2000

2980 Reposa Lane
Altadena, CA 91001-1735
mreese2228@cs.com
(626)794-5626

RECEIVED
BUREAU OF LAND MANAGEMENT
2000 DEC 13 PM 1:15
CALIF. DESERT DISTRICT
RIVERSIDE, CA

P.S. This letter was also sent to the Metropolitan Water District

TEMS INC.
a Lane
01-1735

6057 Ann Arbor Ave. NE
Seattle, WA 98115-7618
December 21, 2000

P103

Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

Dear Mr. Safely:

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will not be sufficient. P

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest. P

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. P

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. P

Please support the public interest and reject this proposal. P

This identical letter wa
Sent by the commentor
on the attached list

Sincerely,

Bonnie E. Miller

Bonnie E. Miller

P-103
Identical letters also received from:

Dennis De Mots
11 Ricky Lane
Oakdale CT 06370

P103

Diane Albert
4781 Quemazon
Los Alamos, NM 87544

Penny Payne
44100 Paget Terrace
Ashburn, VA 20147

Kenneth A. Wyberg
5604 Morgan Ave. S.
Minneapolis, MN 55419

Bryan L. Wyberg
12854 Raven Street NW
Coon Rapids, MN 55448

Brian A. Ridder
733 Hyder Street #9
Anchorage, AK 99501

Carol Landry-Decker

Dee C. Leggett
Robert N. Leggett Jr.
P.O. Box 650
Great Falls. VA 22066

Kevin C. Gummer
203 East College Ave.
Frostburg, MD 21532

Nikki G. Orlemann

Edwin West
P.O. Box 1355
Martinez, CA 94553-7355

Dennis K. Huffman
1903 Broadway
Grand Junction, CO 81503-9500

P104

Mr. Jack Safely
Metropolitan Water District — Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

January 4, 2001

Dear Mr. Safely,

I'm writing to demand that you reconsider the Cadiz Project. The current SEIS on the project falls far short in looking at the consequences of draining the aquifer even partly. P10

1. The SEIS doesn't have complete information on the water quality of the groundwater or of the Colorado River water that would be imported to this aquifer. This is a reckless oversight, considering the recent discovery of high levels of chromium 6 in the groundwater, and given the likelihood that these water sources contain arsenic, radon, MTBE and rocket fuel. P10

2. This project will probably endanger desert wildlife. Remember, deserts are not hardy, indestructible patches of asphalt; like rainforests, they are fragile ecosystems dependent on underground water. P10

3. The area affected by the Cadiz Project includes two national parks and five wilderness areas managed by the BLM. These areas were set aside by Congress to be permanently protected; sucking the groundwater from under their feet is hardly protection. P10

4. The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Under this plan, Cadiz, Inc. and MWD will be the primary monitors and decision-makers of groundwater. This is a bad idea: profit-focused people put environmental concerns behind making money. It's in the financial and political interest of these parties to extract as much groundwater as they can. P104

5. The environmental analysis for this project is still incomplete. Although there is a plan for monitoring environmental problems, there isn't one for doing something about them. The plan lacks information on how water quality problems will be addressed. And the BLM's authority is not defined in the latest EIR, and will instead be defined in closed-door meetings. As the Cadiz/MWD plan has an enormous impact on a sizable chunk of California, I demand that this issue be open to public discussion and review. P10

6. The SEIS needs to present safer, sustainable, and less environmentally destructive alternatives to this plan. Los Angeles has historically resisted water conservation tooth and nail. They shouldn't be allowed more water to satisfy the waste that they call "need." P10

Thank you for doing the right thing, P10

Marianna Cherry
1040 Balboa St,
San Francisco, CA 94

P104 - Identical letter sent by Kathleen A. Bouvier
(no address, January 4, 2001)

January 2, 2001

P105

Mr. Jack Safely
Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153

Dear Mr. Safely,

I object to the Supplemental Environmental Impact Statement on the Cadiz Project on the following grounds:

1) It does not fully examine the problems that could arise from draining the desert ecosystem of its vital water supply.

2) It does not have complete information on the water quality of both the groundwater and the Colorado River water that would be imported to this aquifer. Because of the recent discovery of exceptional high levels of chromium 6 in the groundwater, and the likelihood that one or both of these water sources contain arsenic, radon, MTBE, and rocket fuels, I feel that a fuller study needs to be made. If the water is contaminated, it will be very expensive to treat and the cost would be a burden on the taxpayers and water customers in Southern California.

The monitoring and mitigation plan is not well defined and offers questionable management for environmental impacts. If the monitoring and decisions are done by Cadiz, Inc., and its customer, the Metropolitan Water District, this puts profit-focused decision-makers in charge of the protection of public resources and does not protect the public interest.

The environmental analysis for this project is still incomplete. There is a plan for monitoring, but not a plan for management of environmental problems. There is also no information on how water quality problems will be dealt with.

The project could endanger the habitat of rare plants and animals, including the desert bighorn sheep and desert tortoise, both of which are threatened.

The document needs to examine alternatives, that are less environmentally destructive, and all of these issues need to be publicly disclosed in another EIS..

Sincerely,

Carol Prager

Carol Prager
1400 Cleveland Road
Glendale, CA 91202-1415.

P105 - Identical letter sent by Ronald F. Brusha, 1400 Cleveland Road, Glendale, CA 91202-1415 (January 2, 2001)

P106

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

December 22, 2000

Attn: Mr. James Williams

P106-1 These are my concerns regarding the SEIS and Cadiz, Inc., the agricultural company in the California desert that proposes to drain up to 652 billion gallons from an ancient aquifer that underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas.

P106-2 * The SEIS does not fully examine the potential problems that could result from draining a fragile desert ecosystem of its precious and scarce water supply. This is SERIOUS, should not be taken lightly, nor should economic or political pressures drive such a process.

P106-3 * The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in southern California.

P106-4 * This project could endanger the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep.

P106-5 * The "monitoring and mitigation" plan is ill-defined and offers questionable management for environmental impacts. Under this plan, all monitoring and decision-making will be dominated by Cadiz, Inc., and its customer, Metropolitan Water District, both of which have built-in incentives to favor continued groundwater extraction. This puts profit-focused decision makers in charge of the protection of our public resources. **This does not protect the public interest.**

P106-6 * The environmental analysis for this project is still incomplete. There is a plan for monitoring, but not a plan for management of environmental problems. There is also no information on how water quality problems will be addressed. The Bureau of Land Management's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations. **All of these issues need to be addressed and publicly disclosed in another environmental impact statement.**

P106-7 * The document needs to examine alternatives that are actually sustainable, safer, and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P106-8 * The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. **These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.**

P106-9 Please, I behoove you to consider these comments and take seriously the long-lasting repercussions of such actions.

Sincerely,

Kelly O. Cohen
P.O. Box 676
Rim Forest, CA 92378

CELESTE MOORE

December 26, 2000

P107

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attn: Mr. Jack Safely

Dear Sir:

I urge you to stop Cadiz, Inc's draining of the aquifer under the western Mojave Desert and five BLM wilderness areas as well as the storage of California River Aqueduct water there. P107-1

The SEIS does not fully examine the potential problems that could result from draining a desert ecosystem of its precious and scarce water supply. P107-2

The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in southern California. This project could endanger the unique and rare plants and animals of this desert community, including the threatened desert tortoise and desert bighorn sheep. The document needs to spell out the criteria it will use to stop this project before it causes irreversible damage. P107-3 P107-4

The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Under this plan, all monitoring and decision-making will be dominated by Cadiz, Inc. and its customer, Metropolitan Water District, both of which have built-in incentives to favor continued groundwater extraction. This puts profit-focused decisionmakers in charge of the protection of our public resources. This does not protect the public interest. P107-5

The environmental analysis for this project is still incomplete. There is a plan for monitoring, but not a plan for management of environmental problems. There is also no information on how water quality problems will be addressed. The Bureau of Land Management's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations. All of these issues need to be addressed and publicly disclosed in another environmental impact statement. P107-6

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. P107-7

The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. P107-8

Sincerely,

Celeste Moore

650 W. CALIFORNIA BLVD · PASADENA, CALIFORNIA · 91105
PHONE 626-796-5181

January 9, 2001

Metropolitan Water District
Water Resources
Attn: Mr. Jack Safely
P.O. Box 54153
Los Angeles, CA 90054-0153

P108

Dear Mr. Safely:

P108-1 I am writing to state my concerns with the problems associated with the proposed water mining that Cadiz, Inc. is planning o the aquifer that underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas.

P108-2 This project could endanger the unique and rare plants and animals of this desert community, including the threatened deser tortoise and desert bighorn sheep. Two of the several wildernesses that could be impacted by this project are the Trilobite an Clipper Mountain Wildernesses, home to the second largest herd of desert bighorn sheep in the state.

P108-3 The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Unde this plan, all monitoring and decision-making will be dominated by Cadiz, Inc. and its customer, Metropolitan Water District both of which have built-in incentives to favor continued groundwater extraction. This puts profit-focused decision-makers i charge of the protection of our public resources. This does not protect the public interest. The document needs to spell ou the criteria it will use to stop this project before it causes irreversible damage.

P108-4 The Bureau of Land Management's authority is not defined in the latest environmental report and instead will be defined in closed-door negotiations, subject to political pressure instead of public oversight. The terms of BLM's authority and oversigh needs to be addressed and publicly disclosed in another environmental impact statement.

P108-5 The document needs to justify the actual need for this project and examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a requirement under both state and federal law. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P108-6 The public lands that could be impacted by this project include two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P108-7 The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. This is troubling, given the recent discovery of extraordinarily high levels of chromium 6 in the groundwater and the likelihood that one or both of these water sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water will be very expensive to treat, likely at the expense of taxpayers and/or water customers in southern California.

P108-8 This decision has enormous ramifications for the future of water management, public health and the protection of the natural resources of southern California. We need to urge the Metropolitan Water District and the Bureau of Land Management to make a decision that is informed, reasoned, and that promotes the public interest rather than private profit.

Sincerely,

Tom Camara
474 Green Glen Way
Mill Valley, CA 94941

P109

Mr. Jack Safely

Metropolitan Water District
Water Resources Mgmt Group
P.O. Box 54153
Los Angeles, CA 90054-0153

Dear Mr. Safely,

P109-1 I am strongly opposed to the Cadiz, Inc. proposal to drain an ancient aquifer the underlies the Mojave National Preserve and five Bureau of Land Management wilderness areas.

P109-2 The SEIS does not fully examine the potential problems that could result from draining a desert ecosystem of its precious and scare water supply. These problems are many. The SEIS does not contain complete information on the water quality of the ground water. The project could endanger the unique and rare plants and animals of the desert community, including the threatened desert tortoise and desert bighorn sheep. The

P109-3

P109-4 "monitoring and mitigating" plan is ill defined and offers questionable management for environmental impacts. The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures.

P109-5

P109-6 The public lands that will be impacted by this project include lands that were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection. I urge the MWD and BLM to make a decision that is informed, reasoned, and that promotes the public interest rather than private profit.

Sincerely,

Jason Hashmi

P110

Iris Edinger
5534 Pattilar Ave.
Woodland Hills, CA 91367
(818) 883-4723
email: INE 3163 @CSUN

January 3, 2001

Metropolitan Water District
Water Resources Management Group
P. O. Box 54153
Los Angeles, CA 90054-0153

Attn: Mr. Jack Safely

Dear Mr. Jack Safely:

I urge the BLM and the Metropolitan Water District to not allow the Cadiz Project to take water from the Mojave Desert. P110

The reasons for making this decision are: P110

1. The SEIS does not fully examine the potential problems that could result from draining a desert ecosystem.
2. The SEIS does not contain complete information on the water quality of the groundwater or the Colorado River water that would be imported to this aquifer. P110
3. The project could endanger rare plants and animals including the desert tortoise and sheep. P110
4. The monitoring would be carried out be Cadiz, Inc, and thereby put profit-focused decision makers in charge of protection of public resources. P110
5. The document needs to examine alternatives that are sustainable, safer, and less environmentally destructive, including water conservation measures. P110
6. The water taken contains cancer-causing toxins, and would be dangerous for recipients. P11

For all the above reasons I again urge you not to allow Cadiz to mine the aquifer under the Mojave Desert. P11

Very truly yours,

Iris Edinger

Iris Edinger

P111

JANUARY 5. 2001

ANNICK WOLF
1149 POINSETTIA DRIVE
WEST HOLLYWOOD, CA 90046

METROPOLITAN WATER DISTRICT
WATER RESOURCES MANAGEMENT GROUP
P.O.BOX 54153
LOS ANGELES, CA 9005-0153

ATTN: MR JACK SAFELY

DEAR MR SAFELY,

P111-1 I AM WRITING IN REGARD TO THE "CADIZ PROJECT" AS I AM VERY CONCERNED OF THE POTENTIAL PROBLEMS THAT MAY ARISE FOR THE DRAINAGE OF THE ANCIENT AQUIFER.

MANY ISSUES NEED TO BE ADDRESSED AND PUBLICLY DISCLOSED:

P111-2 - A COMPLETE INFORMATION ON THE WATER QUALITY - AS I HAVE READ OF A RECENT DISCOVERY OF HIGH LEVELS OF CHROMIUM 6 IN THE GROUND WATER.

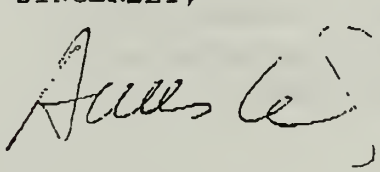
P111-3 - A PLAN TO TREAT THIS WATER AND THE COST - AS IT WILL BE PASS ON TO THE TAXPAYERS.

P111-4 - TO CONSIDER OTHER ALTERNATIVES THAT ARE SAFER AND LESS ENVIRONMENTALLY DESTRUCTIVE - INCLUDING WATER CONSERVATION MEASURES.

P111-5 - TO CHECK ON THE IMPACT ON PUBLIC LANDS, WILDERNESS AREAS AND NATIONAL PARKS THAT ARE LOCATED AROUND CADIZ.

P111-6 I URGE THE METROPOLITAN WATER DISTRICT TO MAKE A DECISION THAT IS INFORMED, REASONED, AND THAT PROMOTES THE PUBLIC INTEREST THAN PRIVATE PROFIT.

SINCERELY,



Mark Weaver
595 Merritt Ave. #5
Oakland, CA 94610

P112

Metropolitan Water District
Water Resources Management Group
P.O. Box 54153
Los Angeles, CA 90054-0153
Attn: Mr. Jack Safely

Dear Mr. Safely,

I have lived in Los Angeles and am quite familiar with the area and people, and with the excesses that abound there. For a century the LAMWD has stopped at nothing to feed the unstoppable LA hunger for unchecked development and green lawns. Please find some common sense and kill the Mojave groundwater project. Here is a copy of the letter I have sent to the BLM:

P112-

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. Hasn't the Los Angeles hunger for more green lawns and golf courses done enough to irreparably damage our valuable California Desert ecosystems like the Owens Valley and Mono Lake? I am outraged at the audacity involved here for the profit of a few. Growth restrictions and more creative conservation are needed, not the destruction of more natural resources like the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will not be sufficient.

P112-

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest.

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. P112-3

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. P112-4

Please support the public interest and reject this proposal. P112-5

Thank you.

Sincerely,



Pam McMichael
<PamMcMKY@aol.com>

01/04/01 04:50 AM

To: "Mr. James Williams" <james_williams@blm.gov>
cc:
Subject: Don't Endanger Mojave Desert Areas

Dear Mr. Williams:

I am writing to comment on the draft of SEIS (supplemental environmental impact statement) for the Cadiz Groundwater Storage and Dry-Year Supply Program. The SEIS does not adequately address the dangers nor does it offer reliable, sustainable solutions. P113-1

The Cadiz plan might cause widespread air and water pollution; SEIS also poses terrible dangers to the fragile ecosystems that depend on this vital aquifer, including the Mojave National Preserve and five nearby desert Wilderness Areas. P113-2

Much more study is needed before the plan is approved, and even then the dangers suggest the entire plan should be dropped. P113-

Please consider the public interest and reject the plan.

Sincerely,

Pam McMichael
7801 Rose Island Road
Prospect, KY 40059

P 113 - Identical Emails received from the following individuals

Last Name	First Name	City	State
(none)	Christi	San Diego	CA
(none)	drf21	Perrin	TX
(none)	Ethan	Chicago	IL
(none)	Fekoons	(none)	(none)
(none)	Jose	(none)	(none)
(none)	Keith	(none)	(none)
(none)	Lewis	(none)	(none)
(none)	Marsha	(none)	(none)
(none)	Melissa	(none)	(none)
(none)	Poo0oop	(none)	(none)
(none)	Sandy	(none)	(none)
(none)	Tootie	(none)	(none)
(none)	Trevor	Sittingtree	(none)
(none)	Victoria	(none)	(none)
Achtert Jr.	Alfred	Uppper Darby	PA
Ackerman	Ilse Lieve	Ithaca	NY
Adams	M.S.	Albuquerque	NM
Aerni	John C.	(none)	(none)
Agans	Michelle	St. Augustine	FL
Aldrich	Louise	San Rafael	CA
Allee	Pamela D.	Portland	OR
Allen	S.Y.	North Richland Hill	TX
Alvarado	Denise	(none)	(none)
Anderson	Elizabeth Lemke	San Jose	CA
Anderson	Micah	(none)	(none)
Anthony	Elizabeth	Hemet	CA
Aoki	Kyoko	(none)	(none)
Apple	Laurie	Philadelphia	PA
Augustine	Ruth	(none)	(none)
Ayers	Phoebe	Mission Viejo	CA
Babler	Sepp	Woden	AUS.
Bacon	Brian P.	(none)	(none)
Bain	Jordan J.	Annandale-on-Huds	NY
Ballantine	Linda A.	Bow	WA
Banzaf	Joyce	(none)	(none)
Barber	Kathleen	Tucson	AZ
Bard	Imre	Honolulu	HI
Barg	Lori	Plainfield	VT
Barros	Suzanne	Brooklyn	NY
Baston	Al, Jane	Eureka	CA
Bauman	Mark	Santa Rosa	CA
Bayhouse	Kevin M.	Boise	ID
Bearden	Jim	Milpitas	CA
Beardsley	Janet M.	Dansville	NY
Bechdol	Barbara L.	(none)	(none)
Bechman	Stuart	Simi Valley	CA
Beeler	Meg	Menlo Park	CA
Beety	Valena E.	Chicago	IL

Beltram	Steven H.	Spartanburg	SC
Benham	Melissa K.	San Jose	CA
Bennett	Jonathon	Brooklyn	NY
Bensadia	Rachel A.	(none)	(none)
Bergtold	Susanna	Leonia	NJ
Bernath	Janice Weeks	Bordentown	NJ
Bessonnet	Veronique	(none)	(none)
Beth	Alicia D.	(none)	(none)
Bethune	Jacqueline	Lincoln	NE
Bir	Natasha	San Jose	CA
Blanchfield	Joshua	Windsor Locks	CT
Blank	Joani	(none)	(none)
Blazquez	Frank	Aurora	IL
Blick M.S.	Maurie	(none)	(none)
Bobby	Susan	Valparaiso	IN
Bobosky	Patrick	(none)	(none)
Bodyke	(none)	(none)	(none)
Bogart	Susan	Santa Fe	NM
Bolden	Hilda	Marina del rey	CA
Bolen	Debbie	St Petersburg	FL
Bonick	Alexander U.	Urbana	IL
Bonner	Scott	Boise	ID
Bors	Deborah	Baltimore	MD
Boswell	Amy	Ormond Beach	FL
Boudart	Jan	(none)	(none)
Bouey	Kelly	San Ramon	CA
Boutault	Jill	Irvine	CA
Boyd	Eileen	Dallas	TX
Bradburn	Steve	(none)	(none)
Braddon	Elizabeth A.	Brooklyn	NY
Brady	Matthew	Los Angeles	CA
Branscomb	Allan	Eugene	OR
Breen	John	Tucson	AZ
Breitenstein	Richard D.	Arlington	VA
Bretza	Gregory J.	Palm Springs	CA
Brewer	Evan	Reno	NV
Briganti	Mary Ellen	Fowler	MI
Brinkman	Lee	Bergenfield	NJ
Brody	Sharda	(none)	(none)
Brooke	Seth	Lafayette	IN
Brown	Elizabeth	Wharton	NJ
Brown	Gordon	Red Hook	NY
Brown	Patricia	Menlo Park	CA
Brown	Susan T.	Rutledge	MO
Brownstein	Erick	San Francisco	CA
Brunner	Linda	(none)	(none)
Bucher	Scott	(none)	(none)
Buell	Brent	New York	NY
Burkey	Jedediah	San Jose	CA
Busse	Barbara	Phoenix	AZ
Calamuci	Daniel Stephen	Brooklyn	NY
Callahan	Michael	San Anselmo	CA

Callbeck	Helen	San Rafael	CA
Calouro	Janis M.	(none)	(none)
Campbell	Donna Waugh	(none)	(none)
Capillo	Maureen	Notre Dame	IN
Carlson	Keith	Amherst	MA
Carroll	Christopher	La Grange	IL
Cassioli	Donna	Madison	WI
Castellano	Sharon C.	Brandon	FL
Caulk	Stacey	(none)	(none)
Cestero	Georgina	(none)	(none)
Chadburn	Melissa	(none)	(none)
Chadwick	Pamela	Ridgecrest	CA
Hamdani	Jeannie	n	(none)
Champney	Brenda	(none)	(none)
Chapman	Myron	(none)	(none)
Chorun	T.	(none)	(none)
Church	Susan	(none)	(none)
Chuse	Ellen	Brooklyn	NY
Civiletti	Tom	Milwaukie	OR
Clark	Craig D.	Austin	TX
Clark	Dylan	Boulder	CO
Clayton	Jennifer	Chapel Hill	NC
Clift	Loren	(none)	(none)
Cohen	David S.	Chula Vista	CA
Colby	Nancy	(none)	(none)
Coleman	Timothy J.& Susan K.	Republic	WA
Collier	Richard M.	Calgary	CAN
Combes	Craig D.	(none)	(none)
Conley	Mike & Deborah	(none)	(none)
Conn	Eric E.	Davis	CA
Connor	Thomas V.	Wallkill	NY
Conrad	Charles P.	(none)	(none)
Conroy	Jim	Portland	OR
Cook	Gretchen M.	Concord	NH
Copeland	Donna	(none)	(none)
Corbett	Craig	Orlando	FL
Cotton	Keith	Olympia	WA
Crawford	BJ	Santa Cruz	CA
Creed	John H.	(none)	(none)
Cronen	Joey	Ithaca	NY
Cronin	Colleen	(none)	(none)
Crowe	Francis	(none)	(none)
Cruz	Lynette Hilani	Honolulu	HI
Culp	Marguerite	Santa Fe	NM
Culver	Soula	(none)	(none)
Cummings M.S.	Jim	Philadelphia	PA
Cutler	Barry	(none)	(none)
D'Ambruso	Sarah	(none)	(none)
Danowski	K.	Midland	MI
Davis	Bert	Holiday	FL
Davis	Elizabeth	Shokan	NY
Davis	Pamela	(none)	(none)

dc la Cruz	Aries	East Elmhurst	NY
Dean	Mary M.	(none)	(none)
Denvir	Dan	Washington	DC
Dermody	T. Joseph	(none)	(none)
DeRouen	Brian	Indianapolis	IN
Devlin	Joyce	(none)	(none)
Dichter	Jean	(none)	(none)
DiFabio	Joseph	Utica	NY
DiModica	John	(none)	(none)
Diop	Binta	(none)	(none)
Dolan	P.	(none)	(none)
Dorinson	David	(none)	(none)
Douglas	Theresa A.	Studio City	CA
Dowell	Cynthia	San Diego	CA
Drelles	William	Fairport Harbor	OH
Dubuque	Ray	East Haven	CT
Dundon	Kasandra D.	(none)	(none)
Dunkley	Michael J.	Alexandria	VA
Dvorin	Cedar	(none)	(none)
Edelman	Rachel	Ann Arbor	MI
Eder	Martin	San Diego	CA
Efross	Monnie Reba	Pinole	CA
Elliot-McCrea	Kellan	Cambridge	MA
Enslin	Mark	(none)	(none)
Erezyilmaz	Deniz	Duvall	WA
Erwin	Zoe	(none)	(none)
Evans	Benjamin	Chicago	IL
Evans	Bill	(none)	(none)
Evans	Monica	Bakersfield	CA
Everett	Chris J.	Arcata	CA
Falbo	Marie	Winter Park	FL
Falk	Nina	(none)	(none)
Farrenbach	Jeanne E.	(none)	(none)
Farseth	Erik	St. Paul	MN
Fegan	Kathie	New Orleans	LA
Ferrell	Sally	Boomer	NC
Fischer	Cheryl	(none)	(none)
Fitzmaurice	Anne	Berkeley	CA
Flanigan	Helen P.	San Jose	CA
Flowers	Bobbie D.	New York	NY
Fox	Bernie	So. San Francisco	CA
Fox	Ruth A.	(none)	(none)
Francisco	Camilo	San Francisco	CA
Franklin	Hilary	Belleville	IL
Franson	John	Mission	KS
Freeland	Ken	(none)	(none)
Freelander	Iris	Long Beach	CA
Freidel	Trudy	San Bernadino	CA
Freimark	Judith E.	Chapel Hill	NC
French	Marc B.	(none)	(none)
Froman	Jeffrey Brian	Quincy	IL
Funke	William C.	Elizabeth	NJ

Gagnon	Bruce	Gainesville	FL
Gaither	Larvester	(none)	(none)
Gang	Elliot L.	Sunnyvale	CA
Gannon-Rowley	Nigel	Chicago	IL
Garcia	Debra	Berkeley	CA
Garcia	Vicky B.	Oakland	CA
Gartner	Robert	Houston	TX
Gaudioso	Jennifer	Ithaca	NY
Gelman	Mischa	(none)	(none)
George	Katherine	Corona	CA
Gibson	Holly	(none)	(none)
Gifford	Mike	(none)	(none)
Gilbert	Tavia Lin	Seattle	WA
Gill	Mandeep S.	Stanford	CA
Gillette	Sally	Los Gatos	CA
Glasstetter	Josh	West Salem	OH
Gleim	Bradford	Roslindale	MA
Glesmann	Matt	Fort Collins	CO
Goggin	Cynthia	Pittsburgh	PA
Goitein	Ernie	Atherton	CA
Goldberg	Eve	(none)	(none)
Golze	Dot	St. Joseph	MI
Gomez	Sandino	Santa Cruz	CA
Goo	Winston	Hacienda Heights	CA
Goodin	Robert	(none)	(none)
Goodman	Sid	Paramus	NJ
Goodman, R.D.	Bob	Decatur	GA
Goodpasture	Stella	Oakland	CA
Goss	Debbie	Henderson	NV
Gottesman	Jeffrey	Berkeley	CA
Graf-Brennen	Miles	Seattle	WA
Green Party of Kent County		Grand Rapids	MI
Greenwell	Lloyd	Franklin	IN
Greer III	William L.	Redwood City	CA
Groenke	Joseph R.	Ann Arbor	MI
Gude	Alison	Oakland	CA
Guynn	Matthew R.	Richmond	IN
Hagler	Arlo	(none)	(none)
Halbeisen	Johanna	Northampton	MA
Hall	Meghan	Olympia	WA
Halter	Kelli A.	Canton	OH
Hamdani	Jeanne	(none)	(none)
Hammett	Matthew J.	Reston	VA
Hampson	Mandy	(none)	(none)
Hanahan	Lillian	San Francisco	CA
Hancock	Charles M.	Berkeley	CA
Hannon	Nathaniel	(none)	(none)
Hanrahan	Steve	Portland	OR
Hansen	Gerard	Lubbock	TX
Hansen	Marcus C.	Alstead	NH
Harrigan	Lynn	Saint Louis	MO
Harris	Laverne	Buckley	WA

Harrison	Bridget M.	So. San Francisco	CA
Harrison	Joel Douglas	Los Angeles	CA
Harrison	Maryna	(none)	(none)
Harrison	Norma J.F.	Berkeley	CA
Haviv	Ayana	West Hills	CA
Hawk	Candyce J.	(none)	(none)
Hawkins	Bruce	Northampton	MA
Hawkins	Nancy	Austin	TX
Hawthorne	Joel	(none)	(none)
Hayes	Ken	Austin	TX
Heatlie	Jody	Portland	OR
Hebert	Elizabeth	Farmington	CT
Hegeman, PhD	Elizabeth	New York	NY
Hensahw-Plath	Evan	Northampton	MA
Herman	Anne	(none)	(none)
Herman	Mark	New York	NY
Hersh	Reuben	Santa Fe	NM
Heyman	Ken	(none)	(none)
Hildebrandt	Ziporah	Shutesbury	MA
Hirsch	Fred	Santa Cruz	CA
Hoeppner	Iona	Dothan	AL
Hollenbeck	Beth	Orlando	FL
Holt	Kathryn A.	Havre	MT
Honeyman	Robert	Miami Beach	FL
Horrigan	Leo	(none)	(none)
Horvath	David	Louisville	KY
Hoskins	Warren	Miami	FL
Houston	Lynn	Avon	CT
Howard	Barb	(none)	(none)
Howard	Willa	Suttons Bay	MI
Hoyt	Jennifer	(none)	(none)
Huntington	Jonathon	Burke	VA
Hurst	Charlice	Spring Valley	CA
Ineterhemispheric Resource Center		(none)	
Inwood	Sara	Berkeley	CA
Isaacs	Cheryl S.	Joshua	TX
Jackson	Erin Rae	Kalamazoo	MI
Jackson	Jennifer	(none)	(none)
Jackson	Kelly M.	West Bloomfield	MI
Jacobs	Feather	(none)	(none)
Jarstfer, M.D.	Bruce S.	San Antonio	TX
Jay	Jonathan	Seattle	WA
Jebousek	Nyla	(none)	(none)
Jenkins	Tony	New York	NY
Jenvey	Paul	Pontiac	MI
Jiranek	Pamela S.	Earlysville	VA
Jochum	Janice C.	Seminole	FL
Johnson	Kamau & JoAndra	Lawndale	CA
Johnston	Timothy	(none)	(none)
Jopp	Ken	(none)	(none)
Jordan	Tracy	Galivants Ferry	SC
Jorgensen	Walter R.	Olympia	WA

Joseph M.A.	Martine A.	New Britian	CT
Joyner	Lora Kim	Rochester	MN
Justice	Lincoln B.	(none)	(none)
Kamps	Paula	Hilbert	WI
Karpinski	Lisa	San Jose	CA
Katz	Rachel	(none)	(none)
Kauffman	Ryan	Rossiter	PA
Kaufman	Ben J.	(none)	(none)
Kaufman	Dan	(none)	(none)
Keeney	Dorigen	Plainfield	VT
Kellner	Neal	Hansville	WA
Keltner	Jeanie	(none)	(none)
Kendig, M.S.	Susan	Santa Cruz	CA
Kessenich	Lawrence J.	Watertown	MA
Kim	Suzy	Diamond Bar	CA
Kim	Suzy	Chicago	IL
King	Gregory	(none)	(none)
Kinstle	A.M.	Braselton	GA
Knott	Jennifer	San Mateo	CA
Knowles	Maggie	Phoenix	AZ
Knute	(none)	Chicago	IL
Koch	Andy	Colorado Springs	CO
Kogel	Nancy	New York	NY
Kohen	Ari	Durham	NC
Kopka	Ylda M.	Chicago	IL
Kretzman	Martin E.	(none)	(none)
Kuras	Eva	(none)	(none)
Lack	Steven	Miami	FL
Lafler	Timothy	Mulberry	FL
LaFleur	Lydia M.	Hartford	CT
Lambright Jr.	Michael Joseph	(none)	(none)
Lane	Stephanie	(none)	(none)
Lane IV	Victor Hugo	Jackson Heights	NY
Langfeldt	Vicki	(none)	(none)
Leeper	Donald	Ukiah	CA
Lent	Tom	Berkeley	CA
Letwin	M.	(none)	(none)
Levine	Dave	Williams	OR
Levine	Joan M.	Eugene	OR
Levy	Esther	(none)	(none)
Levy	Mark	(none)	(none)
Lian	Rochelle Lee	Mount Shasta	CA
Liechty	Jeanne	(none)	(none)
Lindberg	Aaron	(none)	(none)
Lindemann	Marc. A	(none)	(none)
Lindorff	Dave	(none)	(none)
Liu	Carol	Whitestone	NY
Lord	Charlie	Pleasant Hill	TN
Lorentzen	Robin	(none)	(none)
Louis	Tim	(none)	(none)
Loy	Sarah Michaux	Norman	OK
Loya	Patricia	Oakland	CA

Lubofsky	Nicholas	Highlands Ranch	CO
Lucey	Rita	Orlando	FL
Luoto	Krista	(none)	(none)
Lutenegger	Brian	Champlin	MN
Lynch	Brian	Mine Hill	NJ
Macallister	D Colin	New York	NY
Macaluso	Marie	Seattle	WA
MacIntyre	Joan M.	Oakland	CA
MacIntyre	Stuart	Oakland	CA
Madden	Lisa Marie	Portage	MI
Madden	Thomas R.	Yulee	FL
Madison	Berlin	Detroit	MI
Maloney	Phillip J.	Memphis	TN
Malott	Randy	Tampa	FL
Manning	Elizabeth	New York	NY
Manon	Peter	Ocala	FL
Manousos	Anthony	(none)	(none)
March	Jonathan & Gerda Ray	University City	MO
Mariechild	Diane	(none)	(none)
Marion	Jeanne	(none)	(none)
Marks	Bebe	(none)	(none)
Marks	Susan P.	Sitka	Ak
Markwig	Eva	Heidelberg	GER
Marquez	Alma	(none)	(none)
Martinez	Orlando	(none)	(none)
Masaoka	Mark	Los Angeles	CA
Mason	Elizabeth	(none)	(none)
Mattison	Mark	Grand Rapids	MI
Maxwell	Krista	Dallas	TX
Mayo	Michael John	Syracuse	NY
Mazer	Craig	(none)	(none)
McBee	Catherine	Round Rock	TX
McCall	Dr. Aaron D.	Montgomery	AL
McCullough	Brian P.	(none)	(none)
McElvy	Pope	Franklin	NC
McInnis	David	Rochester	NY
McKenna	Andrew	Austin	TX
McLaughlin	Kristina	(none)	(none)
McMicheal	Pam	Prospect	KY
McNabb	Ramona June	(none)	(none)
McPherson	Jennifer	Midlothian	VA
McWayne	Erick	(none)	(none)
Meier	Nicholas	Aptos	CA
Memarian	Parisa	(none)	(none)
Mendler	Sebastian	(none)	(none)
Menther	Danny	(none)	(none)
Meredith	Phyllis	West Hartford	CT
Merlin	Donald	Blair	WI
Mesmer	Eva	Lyons	CO
Metzger	Chris	(none)	(none)
Meyer	Melissa	Tallahassee	FL
Middleton	Terri	(none)	(none)

Migliore	Tara	Seattle	WA
Mikelsons	Nancy	Oak Park	IL
Miller	Larry	Grass Valley	CA
Miller	Roger	San Francisco	CA
Miller	Stephen	(none)	(none)
Miner	Ana	(none)	(none)
Minert	David. B.	Port Henry	NY
Minshall	Janet	Douglasville	GA
Mokma	Deborah	(none)	(none)
Moongarden	Krista M.	(none)	(none)
Moor	Bluford J.	San Francisco	CA
Moore	Danielle	Pittsboro	NC
Morearty	John	(none)	(none)
Moren	Mike	Dallas	TX
Morgan	Karen	Austin	TX
Moroney	Alan	Hove	ENG
Morris	Robert	Oakland	CA
Morris	Sue & John	Springfield	VT
Morse	Kathryn	Winnfield	LA
Mosely	Carol	(none)	(none)
Mosqueda	Larry	Olympia	WA
Murphy	Emmett J.	Satsuma	FL
Murray	Fred L.	Columbus	OH
Myers	Marjorie	(none)	(none)
Nafziger	Tim	(none)	(none)
Nash	Connie Lynn	Brevard	NC
Neel	Judith R.	Houston	TX
Nerode	Gregory	Ithaca	NY
Newnham	Randy	Eugene	OR
Newton	Elbert W.	Pasadena	CA
Nichols	Alan	Columbia	MO
Nicholson	Peg	(none)	(none)
Nigh	Greg	(none)	(none)
Nolde	Francie	Boxborough	MA
Norlund	James M.	Rocky Ford	CO
Nsamba	Sam	(none)	(none)
Oldmixon	Seth	Austin	TX
Olikus-Abraham	Arlene	Union City	NJ
Olshewsky	Steven J.	College Station	TX
Ondriezek	Ryan	(none)	(none)
O'Neal	John & Cassandra	Tucker	GA
Ortiz	Jessie	(none)	(none)
Orzek-Byrnes	Alex	(none)	(none)
Osborne	Benjamin T.	Ann Arbor	MI
Osterberg	Eli	(none)	(none)
Ostwald	David	(none)	(none)
Padamsee-Garrett	Tasleem J.	Ann Arbor	MI
Palmer	Jean	(none)	(none)
Palmer	Lee Erica Byron	(none)	(none)
Pantoga	Julia	Shorewood	WI
Parker	Cynthia L.	(none)	(none)
Parkin	John	(none)	(none)

Pastore	J	San Jose	CA
Paterson	Geoffrey	New Orleans	LA
Patriot	Joe	(none)	(none)
Patterson	Briana	(none)	(none)
Patterson	Jean	Miami	FL
Patterson	Jean	Escazu'	Costa Rica
Pawlowska	Anna	Ontario	CAN
Pearson	Ed	Faber	VA
Pearson	Susan	(none)	(none)
Peck	Sally	(none)	(none)
Pehling	Jamie	Fremont	CA
Pellett	Howard A.	Anacortes	WA
Peltz	William I.	Albany	NY
Perlman	Joseph	East Northport	NY
Peterson	Donald	(none)	(none)
Pfeffer	Carla Ann	Ann Arbor	MI
Phelps	Kim	(none)	(none)
Phillips	Nickie	(none)	(none)
Phillips	Stephanie	PT. Vedra Beach	FL
Pinkel	Georgia Lee	Vancouver	WA
Pober	Michal	(none)	(none)
Pollitt	Katha	(none)	(none)
Pon	Janet P.	El Monte	CA
Porter	Shawn	Little Rock	AR
Power	Mimi	(none)	(none)
Pratt	Don B.	Lexington	KY
Pratt	James	(none)	(none)
Price-Edmonds	Delilah	Alexander City	AL
Quinones	Diana	(none)	(none)
Rankin	Starlene	Lawrence	MA
Raphael	Dana	Westport	CT
Ratkovic	Gina	St. Albert	CAN
Raymond	John	Pflugerville	TX
Reams	Laine	Portland	OR
Reback	Mark	Los Angeles	CA
Rees	Jennifer	Seattle	WA
Reilly	Peter C.	Berea	KY
Rene	Paul	Martinsburg	WV
Retherford	Leah Marie	(none)	(none)
Rev. Konte-Paasewe		Olentangy/Washitav	OH
Reynolds IV	Edwin S.	Tampa	FL
Richa		Grand Rapids	MI
Richards	Cynthia C.	(none)	(none)
Richmond	Charles	Los Altos Hills	CA
Riggins	Larry	Atlanta	GA
Riley	Timothy P.	(none)	(none)
Ripton	Charmaine	Las Vegas	NV
Ritchards	Toni	Sacramento	CA
Rivera	Randolph	Hato Rey	PR
Rives	Mary	Amherst	MA
Roberts	Martha	Stanford	CA
Robinson	Ian	Ann Arbor	MI

Robinson	Nick	Oxford	OH
Ropp	Greg	(none)	(none)
Rosario	Tania	Los Angeles	CA
Rose	Andrew	San Francisco	CA
Rosenberg	Judith E.	Berkeley	CA
Rosewood	Hecate	(none)	(none)
Ross	Jodi	Great Barrington	MA
Roth	David	Arlington	VA
Rovin	Robert Harry	(none)	(none)
Rubin	Sarah	(none)	(none)
Rudnick	Eric	(none)	(none)
Ruiz	Osiel. E.	Paterson	NJ
Rupert	Greg	Spokane	WA
Rusheed	Patricia A.	Spring Valley	CA
Ruski	Eileen	Decatur	IL
Ryan	Hugh	(none)	(none)
Sacred Heart		(none)	(none)
Saksewski	Shannon Lee	Ann Arbor	MI
Salas	Vidal R.	Highland	CA
Samarsky	Ksenya	Eugene	OR
Sanders	Bryan	(none)	(none)
Saudek	Richard F.	(none)	(none)
Sawaya	Marie	(none)	(none)
Scanlan	Dan	Nevada City	CA
Scarr	Carolyn	Berkeley	CA
Schatz	Bernie	Robbinsdale	MN
Schmitz	Gladys	(none)	(none)
Schreiber	Daniel	(none)	(none)
Schueler	Carla	(none)	(none)
Schwartz	Ellen	Sacramento	CA
Senders	Virginia L.	Shutesbury	MA
Severns	Laurel	(none)	(none)
Shadid	Basil	(none)	(none)
Shanholtzer	Crairg & Charis	Carey	ID
Shank	Christopher G.	Fortuna	CA
Sheldon	James	San Jose	CA
Shipley	Alan 'Mickey'	(none)	(none)
Shippen	Nancy	(none)	(none)
Shisinday	Alessandra C.	Houston	TX
Shows	Laurie R.	Kettering	OH
Shumaker	Link	(none)	(none)
Sifers	Charles	(none)	(none)
Simons	Stephen	Philadelphia	PA
Sinclair	Melanie	Austin	TX
Smirin	Dana	San Francisco	CA
Smith	Cecile	(none)	(none)
Smith	Charles D.	(none)	(none)
Smith	Charles T.	Troy	MO
Smith	Kevin	(none)	(none)
Smith	Peter	Los Angeles	CA
Smith	Stansfield	Chicago	IL
Snider	Stewart	Austin	TX

Snyder	Erykaa	Weston	MA
Snyder	Roger	Huntington	NY
Sodja	Zoe	Santa Cruz	CA
Solinas	Christina	Aptos	CA
Sorgen, Esq.	Michael	Berkeley	CA
St. Onge	Patricia	Oakland	CA
St. Pierre	Leslie	Bradenton	FL
Stade	Kirsten Eva	Santa Fe	NM
Stageman	Daniel Lee	Ypsilanti	MI
Stainthorp	John	Chicago	IL
Stanek	Michael	Chicago	IL
Stanton	Phillip	Binghamton	NY
Statton	Anne E.	(none)	(none)
Steffens	Susan	San Jose	CA
Sterrett	Frank S.	Foster	RI
Stewart	Sharon	(none)	(none)
Still, Ph.D.	Gloria	Cleveland	OH
Stillwell	Lisa M.	Lancaster	PA
Stock	Jay & Sharon	St. Augustine	FL
Stokesberry	Mele	Pukalani	HI
Stone	Dwight	Pacific Palisades	CA
Stone	Peter	Rochester	NY
Stoner	Amy	Portland	OR
Sutton	Victoria	Mesa	AZ
Svigals	Alicia	(none)	(none)
Sweeney	Margaret	(none)	(none)
Swennerfelt	Ruah	Charlotte	VT
Swift	Alice C.	Amherst	MA
Takarabe	Clara	Chicago	IL
Tamblyn	Jason P.	Duluth	GA
Tanner	Stuart M.	Campbell	CA
Taylor	Dr. Timothy D.	New York	NY
Taylor	Hal	Cinnaminson	NJ
Taylor	J.P.	(none)	(none)
Teall-Flemming	Dennis R.M.	Alpharetta	GA
Tenney	Gerry	(none)	(none)
Thibault	Katherine M.	Albuquerque	NM
Thorene	Rev. Kimberely	Seattle	WA
Tifford	Paul	(none)	(none)
Tomashevsky	Bob	(none)	(none)
Tongco	Dianne L.	Lakeside	CA
Torres	Judith S.	San Antonio	TX
Tothe	Anthony	(none)	(none)
Totonchi	Sara J.	(none)	(none)
Toy	Jim	(none)	(none)
Trasoff	Stephanie	Pomona	CA
Troetschler	Ruth	Los Altos	CA
Trotta	Kristina	Cross River	NY
Trudeau	Scott	Ann Arbor	MI
Tulenko, M.D.	Kate	Randellstown	MD
Turner	Kathleen Kaeding	Green Bay	WI
Ussery	Clyde	Crossville	TN

Valanti	Lisa	(none)	(none)
Valdes	Aymee	Los Angeles	CA
Van Handel	Jason	Portland	OR
Van Natta	Wil	Palm Beach	FL
Vargas	Kathryn	(none)	(none)
Vasquez	Monica	St. Petersburg	FL
Victor	Arisa	Richmond	CA
Vignola	Radha	Santa Cruz	CA
Virag	Gregory	McDonough	GA
Vonderplanitz	Aajonus	Santa Monica	CA
Walsh	M. Teresa	San Francisco	CA
Ware	Loma' Lin Gidget	Birmingham	AL
Watson	Adam	(none)	(none)
Watson	Lisa	(none)	(none)
Waugh	Marianne Ross	Windsor	CA
Wein	Jo Ann	(none)	(none)
Welford	Gabrielle	Kailua	HI
Welford	Jane	Berkeley	CA
Wermont	Joyce	Oakland	CA
Westerfeld	Sara	Portland	OR
Wetcher	Laurie Jo	Ann Arbor	MI
White	Jane	Boulder	CO
Widmalm	Marianne U.	Ann Arbor	MI
Wilham	Kathryn	Suquamish	WA
Wilhelm	Andrea	Atlanta	GA
Willebrand	Julia	New York	NY
Willemin	Chris	Lockport	IL
Wilson	Andrea	(none)	CA
Wine	Jamie	Concord	MA
Wingard	Greg	Seattle	WA
Winquist	Colleen	Ester	AK
Winsberg	Julie	Evanston	IL
Wirt, M.D.	Daniel P.	Houston	TX
Wolfe	Eli	Ann Arbor	MI
Wolverton-Beachley	Melissa Lynn	Charlotte	NC
WorldPeace	John	Houston	TX
Yokota	Terry	(none)	(none)
Young	James	Arlington	TX
Young	Roxanne Elizabeth	Kalamazoo	MI
Zavaleta	Irma	(none)	(none)
Zimmerman	Elizabeth	(none)	(none)
Zuckerman	Cory	(none)	(none)
Zunes	Stephen	Santa Cruz	CA
Zurick	Jennifer S.	Sherman Oaks	CA

Susan Stuart
<sstuart@lausd.k12.ca.us>

01/08/01 06:26 AM
Please respond to
sstuart

To: jwilliam@ca0062.caso.ca.blm.gov
cc:
Subject: Cadiz Groundwater Storage DEIS comments

P114

Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Re: Cadiz SEIS

To Mr. James Williams

I would like to articulate the following points concerning the proposed Cadiz groundwater storage project and the supplemental environmental impact statement
(SEIS) for this project:

* The SEIS does not fully examine the potential problems that could result from
draining a desert ecosystem of its precious and scarce water supply.

* The SEIS does not contain complete information on the water quality ofthe groundwater or the Colorado River water that would be imported to this aquifer.
This is troubling, given the recent discovery of extraordinarily high levels of
chromium 6 in the groundwater and the likelihood that one or both of these water
sources contain arsenic, radon, MTBE and perchlorates (rocket fuel). This water
will be very expensive to treat, likely at the expense of taxpayers and/or water
customers in southern California.

* This project could endanger the unique and rare plants and animals of this desert
community, including the threatened desert tortoise and desert bighorn sheep. The
document needs to spell out the criteria it will use to stop this project before it
causes irreversible damage.

* The "monitoring and mitigation" plan is ill defined and offers questionable management for environmental impacts. Under this plan, monitoring and decision-making will be dominated by Cadiz, Inc. and its customer, Metropolitan
Water District, both of which have built-in incentives to favor continued groundwater extraction. This puts profit focused decisionmakers in charge of the
protection of our public resources. This does not protect the public interest.

* The environmental analysis for this project is still incomplete. There is a plan
for monitoring, but not a plan for management of environmental problems. There is
also no information on how water quality problems will be addressed. The Bureau of
Land Management's authority is not defined in the latest environmental report

and
instead will be defined in closed-door negotiations. All of these issues need to
be addressed and publicly disclosed in another environmental impact statement.

P 114-6

- The document needs to examine alternatives that are actually sustainable, safer
and less environmentally destructive, including water conservation measures. The
review of such viable alternatives is a requirement under both state and federal
law. Alternatives that should be considered include other existing, planned or
feasible water storage projects and a host of easily adopted water conservation
measures that have successfully reduced water demand in other areas.

P 114-7

- The public lands that could be impacted by this project include two national
parks and five wilderness areas managed by the Bureau of Land Management. These
lands were set aside by Congress to be permanently protected for their nationally
significant natural and cultural resource values. This project is likely to undo
that protection for future generations.

P 114-8

Thank you for consideration of these points in your review of this project.

Sincerely, Todd Shuman, · · 605 S. Adams St. Apt G, Glendale, CA 91205

January 8, 2001



"Sue Buckley and Wally Elton" <eb@vermontel.net>

01/06/01 02:34 PM

To: <james_williams@blm.gov>
cc:
Subject: Comments-Cadiz Project DSEIS

P 115

January 6, 2001

Mr. James Williams
Bureau of Land Management
California Desert District
Riverside, California

Dear Mr. Williams:

I am writing to comment on the Draft Supplemental Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-year Supply Program. I believe that this document neither adequately addresses a number of potentially significant environmental risks nor provides sufficient safeguards to protect the environment.

In particular, I have concerns about:
1. Possible impacts on the Mojave Desert ecosystem, including portions within the Mojave National Preserve and several desert Wilderness Areas.
2. The authority given to Cadiz, Inc., and the Metropolitan Water District, both of which have economic interests in the project, to make decisions affecting the desert ecosystem and protection of public resources.
3. The potential for air pollution threatening public health as well as two national parks and several BLM Wilderness areas, as occurred after the drying of Owens Lake, if the water table beneath other so-called dry lake beds is drawn down even a few feet.
4. The failure to consider alternatives, including increased water conservation and the use of other current or feasible water storage projects, that are less environmentally harmful and could be sustainable in the long term. In fact, I question whether not considering such alternatives is legal.

In view of these major shortcomings, I urge you to act in the larger public interest and reject this proposed project.

Thank you for the opportunity to comment.

Sincerely,

Wallace M. Elton
69 Elm Hill Street
Springfield, VT 05156



<grstewart@csupomona.edu>

12/24/00 01:02 AM

To: <james_williams@blm.gov>
cc:
Subject: STOP MOJAVE WATER GRAB!

P116

December 24, 2000

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear James Williams,

As a zoologist who has studied desert wildlife for over 35 years, I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment and wildlife will not be sufficient.

P116-1

P116-2

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, the Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest.

P116-3

The document needs to examine alternatives that are actually sustainable, safer, and less environmentally destructive, including water conservation measures. The review of such viable alternatives is a legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned, or feasible water storage projects, and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P116-4

The subject lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. Please support the public interest and reject this proposal!

Thank you for your attention to my comments.

P116-5

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient.

P116-6

Specifically, I am concerned that the plan for monitoring and

P116-7

mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest.

P116

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

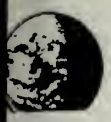
P116

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P116

Please support the public interest and reject this proposal. Thank you.

Glenn Stewart
Biological Sciences Dept., Calif. State Polytechnic Univ.
Pomona, CA 91768



<davlow123@aol.com
>

12/31/00 01:21 AM

To: <james_williams@blm.gov>
cc:
Subject: STOP MOJAVE WATER GRAB!

P117

December 31, 2000

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear James Williams,

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient.

P117-1

Rather than go intotechnical specifics, I'd like to make a more philosophical appeal: specifically, that you be willing to undergo a dearth in popularity and approval for the sake of what is really right for the future and posterity. Have the discipline and fortitude to put longer-term interests over shorter-term political and financial benefits. Think of--say, 100 years from now--the people who will not contract certain diseases, or will not have to pay exhorbitant water bills, or who will not have to invest in expensive purification equipment, as a result ofthe better decision which you make.

P117-2

Please support the public interest and reject this proposal. Thank you.

P117-3

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient.

P117-4

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest.

P117-5

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible

P117-6

water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P117-6

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P117-7

Please support the public interest and reject this proposal. Thank you.

David and Marsha Low
8018 Hammond Rd.
CHELTENHAM, PA 19012

<newviv@erols.com>

12/30/00 05:08 PM

To: <james_williams@blm.gov>
cc:
Subject: STOP MOJAVE WATER GRAB!

P118

December 31, 2000

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear James Williams,

As a fan of the California Desert I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. To my mind the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas should be of paramount concern. Yet this environmental review does not adequately address the potential threats and outlines so-called safeguards clearly inedequate for protecting the environment. P118-1

The plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater and neither of which has responsibility for or reason to be protective of the ecosystem. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest -- that is your job! P118-2

Please go back to the drawing board and identify (and require) alternatives that are based on water conservation and prevent pollution.

Thank you for the opportunity to comment. P118-3

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient. P118-4

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest. P118-5

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that P118-6

should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

P118-6

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

P118-

Please support the public interest and reject this proposal. Thank you.

P118

Vivian Newman
PO Box 388
South Thomaston, ME 04858-0388

<Mkbuhler@aol.com>

12/26/00 11:54 AM

To: james_williams@blm.gov
cc: TakeAction@npca.org
Subject: Mojave Natural Preserve water management

P119

25 December 2000

Dear Mr. Williams,

As a member of NPCA, I am writing to comment on the proposal of Cadiz Inc. and So. California Metropolitan Water Authority to drain an aquifer under the Mojave National Preserve and five BLM wilderness areas - about 652 billion gallons - to sell to cities in So. California. Demand for Water is gaining all over our country with the pressure of populations burgeoning around most urban areas. In the future, a concerted plan will have to be adopted, one that will not endanger, or undermind, our precious land or put our population's health in danger. The above proposal does both of these in all likelihood and does not bode well for our future. Regional problems that have national implications as the water problem is need to be handled with a larger and longer view in mind. The Cadiz proposal reeks of short term solution with maximum financial gain for commercial interests. This we, the population of So. California, the country, our desert, cannot afford. Please take a longer, less impetuous look at this problem before you start draining an ancient water source to help solve a problem which needs a bigger more longterm solution.

P119-1

P119-2

P119-3

Thank you for considering the value of the land you are selling short. I hope that you can come up with something that will not dry the land out more, dry up lakes and create a potential for toxic dust storms. Be sure this proposal is well thought through.

P119-4

Sincerely,

Melissa K. Buhler - mkbuhler@aol.com
4321 Pompano Drive, S.E.
St. Petersburg, FL 33705.

P120

"Joan Gambill"
<joangg@home.com>
12/21/00 06:27 AM

To: <james_williams@blm.gov>
cc:
Subject: Our National Parks

Dear Mr. Williams,
As a great grandmother and devotee of our National Parks, I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will be sufficient. P120-1

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest. P120-2

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. P120-3

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. Your family and mine need all our help and determination to leave this Earth and our Nation with wonderful wild places to visit and live near by. P120-4
Please support the public interest and reject this proposal.
Thank you. Joan G Gambill P120-5

<lbtidball@earthlink.net>

To: <james_williams@blm.gov>
cc:
Subject: STOP MOJAVE WATER GRAB!

01/05/01 01:26 AM

P121

January 5, 2001

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Boulevard
Riverside, CA 92507-0714

Dear James Williams,

I regualary hike and travel in the desert. This weekend I will be climbing East Ord and viewing Indian artifacts. The California desert is very important to me and to all Americans. P121-1

I am writing to comment on the draft supplemental environmental impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will not be sufficient. P121-2

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest. P121-3

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas. P121-4

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations. P121-5

Please support the public interest and reject this proposal. Thank you. P121-6

I am writing to comment on the draft supplemental environmental P121-7

impact statement on the Cadiz Groundwater Storage and Dry-year Supply Program. I am concerned about the possible impacts this project could have on the Mojave National Preserve and several desert Wilderness Areas. I do not believe that this environmental review adequately addresses the potential threats. I also feel that the safeguards outlined to protect the environment will not be sufficient.

Specifically, I am concerned that the plan for monitoring and mitigation is not well defined and offers questionable management for environmental impacts. The plan gives too much authority for decisions affecting the desert ecosystem to Cadiz, Inc. and its customer, Metropolitan Water District, both of which have an economic interest in extracting groundwater. Allowing profit-focused decision-makers to be in charge of the protection of our public resources does not protect the public interest. P121

The document needs to examine alternatives that are actually sustainable, safer and less environmentally destructive, including water conservation measures. The review of such viable alternatives is legal requirement. I believe much more progress should be made in water conservation before parks and natural areas are further threatened by projects such as this. Alternatives that should be considered include other existing, planned or feasible water storage projects and a host of easily adopted water conservation measures that have successfully reduced water demand in other areas.

Finally, I am concerned about the possible air pollution that could result if the water table under the nearby "dry" lakes drops even a few feet. We have already seen what can happen when this occurs, namely Owens Lake. In addition to the nearby inhabitants, this pollution threatens public lands including two national parks and five wilderness areas managed by the Bureau of Land Management. These lands were set aside by Congress to be permanently protected for their nationally significant natural and cultural resource values. This project is likely to undo that protection for future generations.

Please support the public interest and reject this proposal. Thank you.

Barbara Tidball
3826 N Weston Pl
Long Beach, CA 90807-3317

P121 Nearly identical email letters received from:

Last Name	First Name	City	State
(none)	Bobbie	(none)	(none)
Aaron	Frank	Dallas	TX
Abrams	Eric	Chandler	AZ
Adams	Caitlin	Clearwater	FL
Adams	Donna	Rolla	MO
Adams	Brad	Greensboro	NC
Aderhold	Steven	Fallbrook	CA
Albers	Kenneth	Massapequa Park	NY
Albers	Tim	Massapequa Park	NY
Albertson	Kerry Baugher	Panama City	FL
Alexander	Sharon	Gardner	KS
Allen	Jennifer	Boise	ID
Altman	Allen	Great Barringtron	MA
Anagnos	Peter	Poughkeepsie	NY
Andelin	Clark	Fox River Grove	IL
Anderson	Dennis	Minnetonka	MN
Antuna	Martin	Lake Helen	FL
Anzelone	Marielle	Brooklyn	NY
Aslaksen	Andrew	Prescott	AZ
Awana	Kaipo	Athens	GA
Babad	Julian	Tucson	AZ
Bailey	Marsha	Blacksburg	VA
Bandy	Leslie	San Francisco	CA
Barron	John	Millbury	MA
Barrow	Carol	Lakewood	CO
Bartlett	William	Rancho Cordova	CA
Baskin	Gregory	Scottsdale	AZ
Battier	Beatrice	Ventura	CA
Beam	Andrew	Anaheim	CA
Beamer	Lesa	Columbia	MO
Beckley	James	New Berlin	WI
Bedel	Mary C.	Hebron	KY
Beitia	Maria	Boulder	CO
Benjamin	Lois	Boca Raton	FL
Benjamin	Sarah	Newton	MA
Bennett	Sonya	Harrisburg	PA
Berg	Karin	New York	NY
Berry	Jeana	Dallas	TX
Besser	Judith L.	Homewood	IL
Bessette	Wayne	Schaumberg	IL
Bickel	Stephen	Santa Monica	CA
Bjerregaard	Marcia	Crawfordville	FL
Black	Don	Lancaster	CA
Blackburn, Dr.	Nancy	Palm Beach	FL
Bleyle	Derek	The Plains	OH
Blum	Bruce	Columbia	MD
Book	Joan	Shrewsbury	PA
Boston	Brian	Carlinville	IL
Botticher	Pamela	Lawton	MI
Boulanger	Nicole	Monson	MA
Bowen	Joyce	Lakeland	TN
Bowling	Beth, Gene	Pottsboro	TX
Boyce	Barbara	Richardson	TX
Brandlen	Julie	Jamaica Plain	MA
Brandon	Hugh	Aubrey	TX
Bratton	Norman	Cheyenne	WY
Dally	Shawn	Kansas City	MO
Davis	Jessica	Davis	CA
Davis	Thomas	Harrisburg	PA
Bretall	Erica	Cardiff	CA
Bribitzer-Stull	Matthew	State College	PA
Briggs	Elizabeth L. Pandolfo	Blacksburg	VA
Briscombe	Barbara	Port Townsend	WA
Brown	Michael	Laurel Springs	NJ
Brown	Michael	Chattanooga	TN
Brown-Carmicle	Marlene	Liberty	KY
Brueck	Gregg	Richmond	VA
Brugger	Kathleen	Highlands	NC
Buell	Kirsten	Beavercreek	OH
Buell	Mark	Beavercreek	OH
Buhler	Melissa K.	St. Petersburg	FL
Bunting	Bonnie	Washington	DC
Burtt	Jack	South Park	PA
Butler	Doug	Painted Post	NY
Buttazoni	Brian	Las Vegas	NV
Cagle	Wilhelmina	Hillsboro	NH
Caldwell	Fletcher	Ardmore	PA
Calhoon	Mary	Wilmington	IL
Calhoun	Mary	Grinnell	IA
Calvert	Paul	Roanoke	VA
Carlson	Chris	Wilmington	IL
Carson	Corinne	Eugene	OR
Carson	Karen	Fayetteville	NC
Cascario	Kelly	Wind Gap	PA
Casner	Stephen	Spring	TX
Cavallo	Sharon	Auburn	CA
Chase	Everett	Los Angeles	CA
Chavez	Gabriel	Madison	WI
Chelman	Donald	Dayton	OH
Chelman	Donna	Dayton	OH
Chisena	Melissa	(none)	(none)
Christian	Roseanne	Fremont	NE
Cicetti	Melissa	New York	NY
Cinqemani, Dr.	D.K.	Largo	FL
Ciuffini	Mary Ann	Maui	HI
Ciuki	Marcella	Munster	IN
Clar	Lonnie	Loudonville	NY
Clayton	Sarah	Palmer	MA
Clements	Patricia	Goodlettsville	TN
Clemmer	Wayne	Tallahassee	FL
Coe	Philip H.	Wimberley	TX
Coen	Jerolyn	Portsmouth	RI
Coffey	Patricia	Vincennes	IN
Connolly	Cynthia	Washington	DC
Conroy	Thomas	Manhattan Beach	CA
Corcino	Kevin	Natick	MA
Corcoran	Josephine	Haverhill	MA
Corriere	Caryn	Hammond	IN
Counterman	Jessie	Sioux City	IA
Cover	Melissa	Cincinnati	OH
Cozzi	Matthew	Chicago	IL
Crawford	Peter	Clearwater	FL
Crocker	Susan E.	Milwaukie	WI
Crowell	Lee	Deland	FL
Dailey	Eugene	Pleasanton	CA
Garbutt	Sunny	Davis	CA
Garwin	Michael	Sausalito	CA
Gee	Todd	Chicago	IL

Last Name	First Name	City	State
de Silva	Carola	Mannheim	GER
Denison	Lou Anna	Long Beach	CA
Derr	Gideon	Dallas	TX
DeShong	Scott	Norwich	CT
Dietz	Robert	Arlington Heights	IL
Dillehay	Amy	Columbia	TN
Dinger	Marilyn	Kaysville	UT
Dollard	Katherine	San Louis Obispo	CA
Dornblaser	Mark	Lafayette	CO
Downing	Jeffrey	Wyoming	MI
Dressel	Michael	Chicago	IL
Doyle	Kristine	Lancaster	CA
Eardley	Christine	Long Valley	NJ
Edlund	Marylin	Renton	WA
Edwards	Donald & Katherine	Zephyr Cove	NV
Edwards	Robert	Howard Beach	NY
Elliott	Hank	W. Hartford	CT
Elton	Wallace M.	Springfield	VT
Embry	Judith	North Adams	MA
Emerson	Claudia	La Grange	NC
English	William	Falmouth	MA
Erb	Jay	Pottstown	PA
Ericson	Benjamin	Portland	OR
Everton	Clyde	Boise	ID
Ewalt	Christine	Louisville	KY
Fagan	Mary	Brooklyn	NY
Fagan	Michael	Oconomowoc	WI
Fair	Theresa	Meriden	CT
Falcone	Janet	Goffstown	NH
Farro	Jeff	Annandale	VA
Fehrer	Ilia	Snow Hill	MD
Feldstein	Marc	Chicago	IL
Fickling	Karl	Grand Prairie	TX
Fitzpatrick-Bjorn	Jeff & Erin	Portland	OR
Finch	Johnny	Bumpass	VA
Flick	Jean	Sherman	TX
FNAIC	Carol	Fontana	CA
Follett	Kenneth	Tucson	AZ
Follett	Kenneth	Tucson	AZ
Fonken	Gunther	Kalamazoo	MI
Ford	Kevin	Hendersonville	TN
Fort-Strietzel	J.K.	Meadowlands	MN
Foster	Daniel	Atlanta	GA
Fowler	Beverly	Sun Prairie	WI
Fowler	Beverly	Sun Prairie	WI
Francine	Duckworth	Clayton	NJ
Frank	Lawrence	Atlanta	GA
Frederick	Roger	Sebring	FL
Frey	Shawn, Luanna	Algonquin	IL
Friedman	Elyse	Fox River Grove	IL
Fuller	Mickey	Beaufort	SC
Galluzzi	Joseph	Memphis	TN
Ganus	Carolyn	Madison	WI
Jackson	Weldon H.	Santa Rosa	CA
Jancosek	Misti	South Bend	IN
Janezic	Louis	Woodbridge	VA
Jardine	Ann	Nassau	NY
Jeffries	Lynne	Laguna Niguel	CA
Jene	Robert	Forest Park	IL
Jereb	Marguerite	Chesterland	OH
Jesswein	Amy	Blowing Rock	NC

Last Name	First Name	City
George	Marvin	Sierra Vista
Gephart	Siobhan	Philadelphia
Gesuale	Peter	Billings
Gilbert	Tracy	Rialto
Gillies	Charles	Petersburg
Gipson	Raymond	Morgan Hill
Goode	Jim	Cabot
Gorsetman	Mark	Whitestone
Grainger	Ross	Woodside
Grant	Jacqualine	Brooktondale
Griffith	Karen	Hammond
Haag	Brian	Chicago
Hancammon	William	North Lauderdale
Hanley	Jeane	Louisville
Harpham	Bruce & Laura Stiles	Auburn
Harries	Susan	Aurora
Harrington	Blair	North Pomfret
Harris, Jr.	Louis C.	Cherry Hill
Harstad	Ruthanne	Des Moines
Hartman	Todd	Huxley
Hartsgrove	Kristy	Iowa City
Harvill	Karen	Waveland
Hastie	Colin	North Bend
Hayes	Sara	Long Beach
Haynes	Susan	Marietta
Helland	Steve	Auburn
Hembree	James	Winston
Henke	Erin	Lexington
Herath-Veiby	Gail	Westborough
Herner	Betty Jean	Strongsville
Hert	Diane	Canton
Herweck	Stefanie	Madison
Hikson	Barry	Portland
Hinkelman	Carol	Rochester
Hoegh	Bruce	Irvine
Hoegh	Bruce	Irvine
Hogan	LuAnn	Rock Island
Hollenbach	Michelle	(none)
Holtz	Tamara	Dickinson
Hoop	Darwin	Ann Arbor
Hopkins	Patricia	Biddeford
Horgan	Michael	Millbury
Hoyme	Craig	Kingsport
Hubbs	Earl	Atascadero
Hudock	Chris	Bethlehem
Hughes	Judy	Canton
Hughes	Judy	Canton
Hult	Philip	Mahomet
Hunt	Cashin	Winston Salem
Hunt-Brinkmann	Stephanie	Manchester
Hustad	Raymond	(none)
Ippolito	Emil	Chatham
Jackson	Andrea	Stewartstown
LaRuffa	C.M.	Bronx
Lau	Paul	Walnut Creek
Lau	Yewah	Durham
Lawrence	Macon	Newton
LeBaron	Patricia	Medford
Leblang	Linda	Scottsdale
Lefler	Susan	Austin
Leibowitz	Thomas	Walnut Creek

Last Name	First Name	City	State
Johnson	James	Brighton	MI
Johnson	Jesse	Denver	CO
Johnson	Larry	Crystal Lake	IL
Johnson	Paul	Allison Park	PA
Johnson	Wendy	West Haven	UT
Jonas	Jack	Davis	CA
Jones	Mr. & Mrs. Bob	(none)	(none)
Jones	Nolan	Salt Lake City	UT
Jones	Nolan	Salt Lake City	UT
Jones, Dr.	Linda K.	Seattle	WA
Jutz	Deborah	New York	NY
Kania	Laurie	Saint Paul	MN
Kapadia	Nisha	Ann Arbor	MI
Kashner	Dale	Seven Valleys	PA
Kaspar	Patricia	San Mateo	CA
Kastner	Audrey	Carol Stream	IL
Keating	Natalie	Coral Gables	FL
Keim	Susan	Sun Prairie	WI
Kelly, P.E.	Gregory	Richmond	VA
Kennedy	Brenda	Hull	MA
Kennedy	Mary	Albuquerque	NM
Kent	William	Moab	UT
Kern, Sr.	Charles R.	Chandler	AZ
Kerr	Michael E.	Bay Point	CA
Kibitlewski	David	Ingleside	IL
Kille	Stephen	Saint Louis	MO
King	Jean	Livermore	CA
Kingery	Lori	Seattle	WA
King-Helenihi	Kelly	Palm Harbor	FL
Klagge	David	Newton	UT
Klein	Barry	Oak Park	MI
Klein	Mark	Norwood	MA
Klein	Samantha	Fairfield	CT
Klink	Daniel	Strasburg	OH
Knox	Richard H.	Bishop	CA
Kohlwey	Tracy	Mesa	AZ
Krassonsky Jr.	Michael	Boulder	CO
Kress	Kiersten	Washington	DC
Kuehlwein	Kevin	Philadelphia	PA
Kurtz	Barbara	Lexington	IL
Lancaster	Shad	Ft. Worth	TX
Landry-Decker	Carol	Hesperia	CA
Lane	Earl	Hannibal	MO
Lang	Audna	Las Vegas	NV
Langone	Claire	S. Farmingdale	NY
Laqueur	Bernadette	Seattle	WA
LaRocco	Richard	Mount Airy	MD
Larsen	Bjorn	Boynton Beach	FL
Mehlman	Carole	Tampa	FL
Metz	Rebecca	Los Angeles	CA
Meyer	Su-Lin	Los Angeles	CA
Meyers	Christine	Tariffville	CT
Miani	Jim	Plymouth Meeting	PA
Milam	Melinda	Los Angeles	CA
Mojher	Molly	Manteca	CA
Monk	Mary	Hartland	MI
Montague	Susan	Troy	NY
Moor	Judy	Estes Park	CO
Moore	Richard	Salt Point	NY
Morgan	David	Moscow	ID
Morgan	W.M.	Austin	TX
Morresi	Gian A.	Fairfield	CT

Last Name	First Name	City	State
Leishman	Jack	Talent	OR
Leland-Nelson	Pam	Hudson	OH
Lenz	Dennis J.	Amityville	NY
Leske	Jeanne	Casper	WY
Letendre	Michael	Portsmouth	NH
Levin	Ross	Brooklyn	NY
Lilley	Stacy	Del Rio	TX
Lindgard	Sue	Casa Grande	AZ
Little	Larry	Stone Mountain	GA
LoBianco	Ro	Kentfield	CA
Logan	Stanley	Dixon	IL
Lovas	Cecelia	Crestwood	IL
Loveday	Stacy	Houston	TX
Lovely	William	Shrewsbury	MA
Low	David & Marsha	Cheltenham	PA
Lubow	Judy	Boulder	CO
Lupo	James	Boulder	CO
Lutenegger	Brian J.	Madison	WI
Lutz	Christine	Washington	NJ
Mack	Linda J.	Monmouth Beach	NJ
Main	Cheryl	Chicago	IL
Maisey	Seymour	Amherst	MA
Mallory	Virginia	Memphis	TN
Malmid	Wendy	Matawan	NJ
Maloney	Paul	Jackson	MS
Maloney	Traci	Jackson	MS
Martin	Betty	North Port	FL
Martincic	Paul	Chicago	IL
Mathews	Mary	Lake Forest	IL
Maynard	Nancy	Whitefish Bay	WI
Maynard	Richard	Costa Mesa	CA
Mazik	Kim	Hailey	ID
McBride	Michael	Charleston	SC
McCarthy	Bob	Green Lane	PA
McCormick	Kenneth	Hot Springs	AR
McCormick	Linda	Hot Springs	AR
McCreary	Jan	Fairview	NM
McDonald	Colin	Suquamish	WV
McDow	Allen	Cambria Heights	NY
McElhill	Elizabeth	Pismo Beach	CA
McFarland	Michael	Fresno	CA
McGuire	Susan	Minneapolis	MN
McKeown	Joan	Plant City	FL
McLam	George	Orangevale	CA
McLaughlin	Charlotte	Sag Harbor	NY
McMillen	Mimi	Kerryville	TX
McNeil	Maureen	Ridgeway	MO
McPartlin	Ann	Freeport	NY
Perkins	Mark	Monee	IL
Perpich	Tina	Maple Grove	MN
Perricelli	Claire	Napa	CA
Persson	Richard	Lindenwold	NJ
Petel	Amanda	Los Angeles	CA
Peterson	Elizabeth	Ridgewood	NJ
Peterson	Karen	New York	NY
Peterson	Linda	Arlington	VA
Philip	Stanton	Binghamton	NY
Piperata	J.	Cathedral City	CA
Planchon	Brenda	Strafford	MO
Pontz	Ari	Philadelphia	PA
Pope	Alice	Brooklyn	NY
Porter	Wendy	Staunton	IL

Last Name	First Name	City	State
Morris	Arvia	Seattle	WA
Morris	Sharon	Hayward	CA
Moss	SeEtta	Canon City	CO
Mosser	Jim	Pembroke Pines	FL
Moy	George	Philadelphia	PA
Moyers	Richard	Cave Creek	AZ
Mulvihill	Shawn	Racine	WI
Murphy	Robin	Mantua	NJ
Murray	Jim	Denver	CO
Napier	Brian	Knoxville	TN
Nelson	Mark	Basking Ridge	NJ
Neuhauser	Alice	Manhattan Beach	CA
Newburg	Bonnie	Cape Coral	FL
Newman	Merrill	Beaverton	OR
Newman	Rae	Miami	FL
Newman	Vivian	South Thomaston	ME
Newton	Lindsay	Miami	FL
Nicholas	Ed, Lynn	Baton Rouge	LA
Nicholoff	Kyle	Riverton	WY
Nicol	Deborah	Bluffton	SC
Niemi	K	Arlington	VA
O'Connell	Dorothy	Fairplay	CO
Oglesbee	Elaine	Knoxville	TN
Olbricht	Suzanne	Newton	MA
Olbricht	Suzanne	Newton	MA
Olsen	Arne E.	Ridgewood	NJ
O'Neil	Ashley	Ossineke	MI
Orcholski	Gerald	Pasadena	CA
Orlemann	Nikki G.	Covington	KY
Osteraas	David	Gualala	CA
Page	Jefferson	Somerville	MA
Palsic	Cheryl	Norwood	MA
Paquette	Kristin	Newburyport	MA
Parlova	Lex	Henderson	NV
Patch	Frances, Sumner	Tacoma Park	MD
Paulish	Teresa	Yardley	PA
Payne	Penny	Ashburn	VA
Peabody	Megan	Columbia	SC
Pearson	Sarah	Nashville	TN
Pease	Mary	Seattle	WA
Pericelli	Claire	Napa	CA
Perkins	Dorene	Monee	IL
Scarborough	James	Binbridge Island	WA
Scarborough	Marilyn	Anchorage	AK
Scher	Judith	Windham	ME
Schlittler	Bill	Oklahoma City	OK
Schmidt	Willa	Madison	WI
Schmitt	Traci	Dubuque	IA
Schriner	Nicol	Austin	TX
Scoles	Sara	Springfield	IL
Schroeder	Patricia	Naples	FL
Schueler Jr.	Harry	Aurora	IL
Schutt	Nancy	River Grove	IL
Scott	Vicki	Nineveh	IN
Sealing	Terri	Palm Harbor	FL
Seay	Stephany	Alexandria	VA
Seegert	Alan	Denali Park	AK
Seeman	Julianne	Seattle	WA
Seese	Sherry	Las Vegas	NV
Seltzer	Rob	Malibu	CA
Severson	Christine	Rochester	MN

Last Name	First Name	City	S
Potrepka	Kathleen	South Portland	
Potthoff	Alvin	Lyon Station	
Powelka	Aimee	Jamaica Plain	
Pratt	Mary	Castro Valley	
Preising	Jeannie	Phoenix	
Preston	Stacie	Scottsdale	
Price	Lisa	Jamaica Plain	
Price	Sonya	Hendersonvill e	
Puder	Susan	Union	
Puhek	Glenda	Milwaukee	
Raab	Sabina	Fair Oaks	
Radau	Christine	Plainview	
Radke	Tim	Two Harbors	
Rainey	Dorli	Federal Way	
Reeve	Gary	Encinitas	
Reid	Cheryl	Huntington Woods	
Reinhardt	Joan	Lombard	
Remmers	Clyde	Houston	
Revere	Lee	Snohomish	
Rhoades	Robert	West Los Angeles	
Rhodes	Louis	Bluffton	
Richter	David	Seattle	
Rieck	Alyce & Michael	Cincinnati	
Riley	(none)	El Cajon	
Rizzolo	James	Stuart	
RJG	(none)	(none)	(r
Robertson	Mark	Gainesville	
Robey	Frank	Eclectic	
Roche	James	Death Valley	
Rocks	Brent	Portland	
Romine	Janet Holly	Tulsa	
Ross	Kristina	Oakland	
Rossi	Tina	Tinley Park	
Rothschiller	Linda A.	Phoenix	
Royer	Carol	Prospect Heights	
Ruscoe	Dean	Port St Lucie	
Russ	Jason	Bexley	
Rutkowski, Esq.	Robert	Topeka	
Salgado	Liane	Chapel Hill	
Sanford	Whitney	Ames	
Sara	Hayes	Long Beach	
Sawchuk	Larry	Big Rapids	
Strom	Carmi	San Diego	
Strout	Tori	Longwood	
Styles	Rhonda	Salina	
Sullivan	John D.	Claremont	
Swallow	Bryan	Frisco	
Swanson	Fredric	Chicago	
Symington	Cindy	Austin	
Szymanowski	Paul	Curtice	
Taggart	Valissa	Clovis	
Tague	Julia	Columbus	
Tausch	Jeremy	New York	
Taylor	Steve	White Plains	
Tennenbaum	Gary	Cheraw	
Thompson	David	Tulsa	
Thompson	James	Silver Spring	
Thompson	Robert	Monroeville	
Thomsen	Christ	Spring Creek	
Thoumi	Gabriel Andres	Minneapolis	
Thrash	Ronald	Bayside	

Last Name	First Name	City	State
Sexton	Sean	Bowdoinham	ME
Shah	Raj	Silver Spring	MD
Shambayati	Niloofar	Champaign	IL
Sharpe	David	Gt Barrington	MA
Shaw	Jeanne	Atlanta	GA
Sheikh	Mikael	New York	NY
Sheumaker	Gary	Grandview	MO
Shober	Elizabeth J	Blue Bell	PA
Shrout	Mona	Mooresville	IN
Shuman	Todd	Glendale	CA
Siddique	Omar	Ellicott City	MD
Siler	Nelson	Pueblo	CO
Silva	Carola	Manheim	Germany
Simpson	Mike	San Francisco	CA
Sjolin	Sue	Spring	TX
Skaggs	Mark	Mapleton	IL
Slaton	Michele	Gunnison	CO
Slepetski	Lisa	Novi	MI
Smith	Mark	Seattle	WA
Snyder	Anne E	Bar Harbor	ME
Snyder	Kevin	Macungie	PA
Sohn	Jeremy	Hanover Park	IL
Solomon	Lois	Howell	NJ
Solomon	Robert	Howell	NJ
Sone	Peter	Rochester	NY
Sonneville	David & Diane	Moline	IL
Spencer	Elaine	Georgetown	TX
Spotts	Donna	Ashland	WI
Spotts	Richard	Ashland	WI
Springer	Leigh	Milwaukee	OR
Stach	Gordon	Bellingham	WA
Stambaugh	Ruth	Swannanoa	NC
Stewart	Glenn	Pomona	CA
Stokes	Dianne	Sarasota	FL
Stoner	Scott	Loudonville	NY
Strand	Susan	Phoenix	AZ
Strawder	Jill	Indianapolis	IN
Warner	Kathryn	Groveland	CA
Waugh	Lynn	Ann Arbor	MI
Weeks	Kathy	Citrus Heights	CA
Weisman	Eila	Evanston	IL
Welch	Mark	Phoenix	AZ
West	Edwin	Martinez	CA
Whipple	Carrie	Green Lane	PA
White	Tracey	Scarborough	ME
Whitman	Aimee	Mount Kisco	NY
Whitten	Sharon	Lafayette	CA
Wilcox	David	Speonk	NY
Wiley	Carol	Victorville	CA
Wilkerson	Dennis	Durham	NC
Willett	Monica	Harrisburg	PA
Williams	Kenny	Memphis	TN
Wimer	Trevis	New York	NY
Witney	Katherine	Eau Claire	WI

Last Name	First Name	City	State
Ticknor	Brenda	Chicago	IL
Tidball	Barbara	Long Beach	CA
Tochor	Julie	Zion	IL
Tomlinson	Khristi	Cary	NC
Towery	Carla	Cottage Grove	OR
Townsend	Elizabeth	Belfast	ME
Tratchenberg	Natalie	Archer	FL
Trick	Walter	Haymarket	VA
Tsal	David	Fountain Valley	CA
Tsukernik	Alex	Brooklyn	NY
Tuck	Gene	Fresno	CA
Turbiville	Connie	De Pere	WI
Tyburczy	Joseph	Greeley	CO
Uchtman	Vernon	Covington	KY
Underwood	Jason	Hermitage	TN
Urbasek	Frederick	Montgomery	IL
Valentin	Jerry	Saint Augustine	FL
Van Deleur	Nina	Bordentown	NJ
Van Every	Marsha	Oak Forest	IL
Van Kavage	Ledy	Collinsville	IL
Van Nort	James	Phoenix	AZ
Vaughn	David	Northville	MI
Vaughn	Donald	San Marcos	CA
Vaughn	Jonathon	Philadelphia	PA
Verbos	Barbara	Elm Grove	WI
Vietorisz	Cati	Nashville	TN
Vincent	Shirley	Montclair	NJ
Voorhies	Marilyn	West Tremont	ME
Voorhies	William	West Tremont	ME
Vukic	Nina	San Francisco	CA
Wade	Paul	Southaven	MS
Wagner	Ernst	Chicago	IL
Walker	Mark	Frankfort	KY
Wall	Douglas	Loveland	CO
Wallace	Gerakd	Merritt Island	FL
Walter	Sunny	Issaquah	WA
Warfield	Robert	West Lafayette	IN
Wittman	Charley	Allentown	PA
Wood	Mr. And Mrs. Donald	Naperville	IL
Woodry	Laura	Azusa	CA
Yale-Peaboby	Diane	Amherst	OH
Yarnall	Bob	East Stroudsburg	PA
Yarrow	H. Mona	Seattle	WA
Yarrow	H. Mona	Seattle	WA
Yingling	David	Timoniun	MD
Young	Betty	Miami	FL
Young	Jo Ellen	Culver City	CA
Zeller	Sydney	Landover	MD
Zenisek	Katie	Boulder	CO
Zinn	Robert	Mullica Hill	NJ
Ziomek	Karen	Easthampton	MA
Zweig	Dianne	Springfield	MO
Zylich	Michael	Worchester	MA

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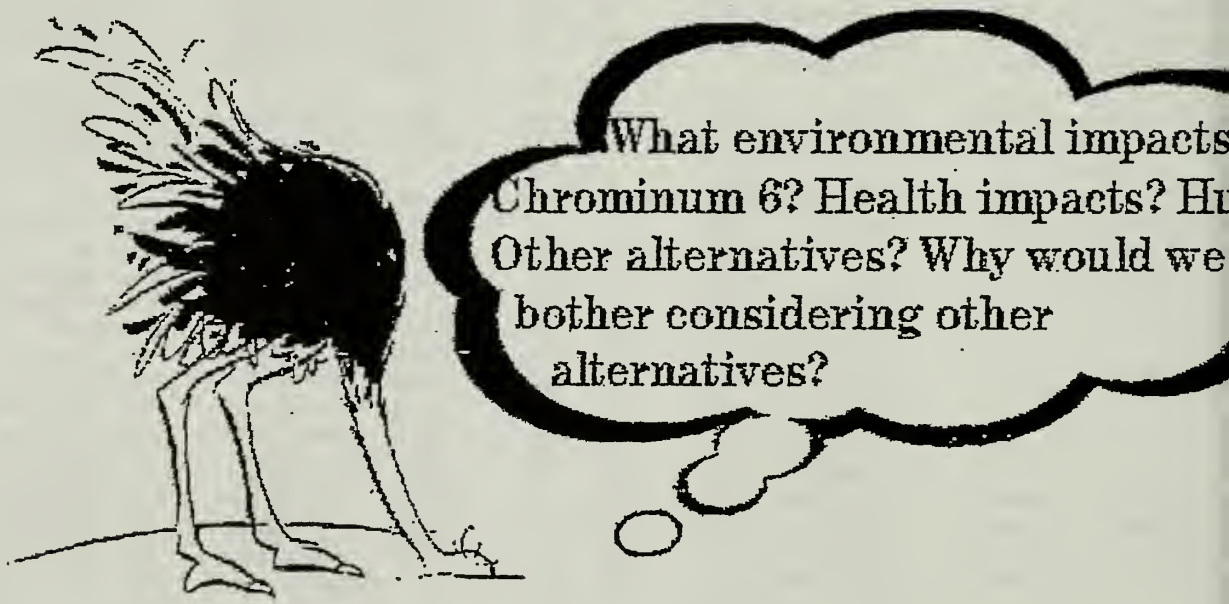
Richard Knox
<rhknox@gte.net>
12/29/00 02:05 PM

To: mwest@ca0062.caso.ca.blm.gov, capubrm@ca0062.caso.ca.blm.gov
cc:
Subject: Cadiz

The attached sums up your efforts so far.

Richard H. Knox
P.O. Box 447
Bishop, CA 93515
760-872-4239

The BLM gears up for the Cadiz Water Project



P1

COPY

T1

METROPOLITAN WATER DISTRICT PUBLIC MEETING

REPORTER'S TRANSCRIPT OF PROCEEDINGS

TAKEN ON WEDNESDAY, NOVEMBER 29, 2000

AT 7:00 P.M.

CITY HALL
6132 ADOBE ROAD
TWENTYNINE PALMS, CALIFORNIA

REPORTED BY: KELLY AUGUST, COURT REPORTER

APPEARANCES:

JACK SAFELY, P.E.
METROPOLITAN WATER DISTRICT
PROJECT MANAGER

MOLLY BRADY
U.S. DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
FIELD MANAGER

SYLVIA SALENIUS, A.I.C.P.
P & D ENVIRONMENTAL
VICE PRESIDENT

MS. BRADY: LET'S GET STARTED. HOPEFULLY WE CAN GET STARTED ON TIME. GOOD EVENING. I'M MOLLY BRADY. I'M THE FIELD OFFICER AND I NEVER COME WITHOUT A FEW PROPS, AND I JUST WANTED TO START -- OR GIMMICKS YOU MIGHT SAY.

I JUST WANTED EVERYBODY TO KNOW THAT CONTRARY TO THE RUMOR GOING AROUND, THIS IS NOT A BOX OF BALLOTS THAT BELONGS TO -- STILL TO BE DELIVERED. I WAS GETTING THIS DELIVERED TO ME BY AL STEIN FROM MY RIVERSIDE OFFICE AND I WANTED TO SHARE IT WITH ALL OF YOU TONIGHT.

YOU KNOW, CHRISTMAS IS COMING UP AND WE PARTICIPATE IN A LOT OF EVENTS OUT IN NEEDLES, AND ONE OF THOSE EVENTS IS A COMMUNITY PARADE AND SORT OF A HOLIDAY-CHEER THING AND WE COME AND WE OFTEN COME AS, YOU GUESSED IT, SMOKY THE BEAR. SO ANYHOW, I JUST THOUGHT THIS WAS SUCH A NEAT THING, SO IF AFTERWARDS YOU WANT TO COME UP AND LOOK AT OUR SMOKY THE BEAR OUTFIT -- I DID THREATEN TO WEAR IT TONIGHT TO RUN AND GET SOMETHING ACROSS THE STREET THERE.

IN ANY CASE, I'D LIKE TO WELCOME YOU TONIGHT TO OUR PUBLIC MEETING ON BEHALF OF THE B.L.M. AS WELL AS THE METROPOLITAN WATER DISTRICT, WHO IS SORT OF OUR COLLEAGUE ON THE CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM.

TONIGHT'S PURPOSE IS TO TAKE PUBLIC COMMENT ON THE SUPPLEMENTAL E.I.S./E.I.R. THIS IS A SUPPLEMENT TO THE

DRAFT E.I.S./E.I.R; AND FOR THOSE OF YOU WHO DON'T KNOW WHAT ALL OF THE ACRONYMS STAND FOR, THAT'S THE ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT.

THE AGENDA FOR TONIGHT IS I'M GOING TO GIVE A LITTLE BIT OF BACKGROUND JUST ON THE PROCESS AND WHERE WE ARE IN THE PROCESS TO DATE; AND THEN JACK SAFELY, WHO IS WITH METROPOLITAN WATER DISTRICT, IS GOING TO DO A SHORT PRESENTATION OVERVIEW OF THE PROJECT ITSELF AND THEN FOCU ON THE GROUNDWATER MONITORING AND MANAGEMENT PLAN, WHICH THE PRIMARY EMPHASIS OF THE SUPPLEMENT.

IN ANY CASE, AFTER THAT, THEN IT WILL BE YOUR TURN AND SYLVIA SALENIUS WILL BE MANAGING -- FACILITATING THE PUBLIC COMMENT PERIOD AND ALL OF YOUR COMMENTS WILL BE CAPTURED AND RECORDED.

WE HAVE A COURT REPORTER HERE TONIGHT AND, BELIEVE ME, SHE'S IN CHARGE TONIGHT. IF THERE'S ANY PROBLEMS, IF SHE DOESN'T HEAR SOMETHING OR SHE NEEDS FOR TO REPEAT OURSELVES OR ONE OF YOU IS MUMBLING OR TALKING THE SAME TIME, SHE HAS AUTHORITY TO STOP US AND ASK US TO PLEASE REPEAT THAT OR COULD YOU CLARIFY THAT. SO JUST REMEMBER THAT SHE'S KIND OF IN CHARGE SO THAT WE CAN BE SURE TO GET EVERYBODY'S COMMENTS.

ANYHOW, LIKE I SAID, I'M GOING TO DO A VERY, VE BRIEF OVERVIEW AND BACKGROUND OF WHAT WE'VE DONE SO FAR I

THIS PUBLIC PROCESS.

FIRST OF ALL, I SHOULD GO BACK A WAYS. IN FEBRUARY OF `99 THE BUREAU OF LAND MANAGEMENT ISSUED A NOTICE OF INTENT TO DO AN E.I.S. AND A PLAN AMENDMENT FOR THIS PROJECT, THE CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM, OR PROPOSED PROJECT.

THE METROPOLITAN WATER DISTRICT ALSO ISSUED A NOTICE OF PREPARATION THAT IS REQUIRED UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT TO -- NOTICE OF PREPARATION AND ENVIRONMENTAL IMPACT REPORT.`

WE ENTERED INTO AN M.O.U. WITH THE M.W.D. TO DO A JOINT DOCUMENT, SO WE THEN THUS HELD SOME JOINT PUBLIC SCOPING MEETINGS ON THAT DOCUMENT, AND THEN SUBSEQUENTLY -- AND BY THE WAY, I SHOULD MENTION THAT WE HAD A 45-DAY PUBLIC REVIEW PERIOD -- SCOPING PERIOD THAT WAS EXTENDED INITIALLY, SO IT CAME OUT IN FEBRUARY AND THEN WE EXTENDED IT TO MAY 30TH, THAT SCOPING PERIOD.

NOVEMBER OF `99 WE CAME OUT WITH THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND REPORT FOR A 90-DAY PUBLIC REVIEW. THAT WAS, AGAIN, ALSO EXTENDED TO MARCH 8TH OF 2000. THAT WAS A COUPLE WEEKS' EXTRA TIME.

IN APRIL 2000 WE DETERMINED, BASED ON A LOT OF THE COMMENTS WE HAD AND THE FACT THAT WE HAD A REVIEW DONE BY U.S.G.S., THAT WE WERE GOING TO DO A SUPPLEMENT TO THE E.I.S. AND E.I.R.

THIS SUPPLEMENT WAS GOING TO FOCUS ON DIVIDING DETAILS ON A GROUNDWATER MONITORING AND MANAGEMENT PLAN WHICH HAD BEEN THE PRIMARY CONCERN THAT HAD BEEN EXPRESS TO US IN ALL THE PUBLIC MEETINGS AND PUBLIC COMMENTS -- WERE CONCERNS ABOUT THE GROUNDWATERS.

BASICALLY, THE GROUNDWATER MONITORING AND MANAGEMENT PLAN WAS DEVELOPED AS A COLLABORATIVE EFFORT AMONG A NUMBER OF PARTIES, INCLUDING: THE U.S. GEOLOGIC SURVEY; THE BUREAU OF LAND MANAGEMENT; THE NATIONAL PARK SERVICE; THE COUNTY OF SAN BERNARDINO; AND, OF COURSE, T CADIZ AND METROPOLITAN WATER DISTRICT SPECIALISTS.

AT THIS TIME, THE U.S.G.S. AND THE NATIONAL PA SERVICE BECAME COOPERATING AGENCIES ON THE EFFORT, WHICH MEANS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT, WHICH THE FEDERAL ACT UNDER WHICH WE DO THE ENVIRONMENTAL IMPA STATEMENT, GIVES THEM A MORE -- VERY FORMAL ROLE IN THE PREPARATION OF THE ENVIRONMENTAL DOCUMENTATION AND MUCH MORE INTANGIBLE THAN THEY WOULD HAVE HAD THEY JUST STAYE AS COMMENTING AGENCIES.

IN OCTOBER, AS I GUESS MANY OF YOU KNOW, IN OCTOBER -- I THINK IT WAS 20TH -- WE ISSUED THE SUPPLEME FOR PUBLIC REVIEW. WE THEN, SUBSEQUENTLY, HAD ON THE 21 OF OCTOBER A DISTRICT ADVISORY COUNCIL MEETING FOR THE CALIFORNIA DESERT DISTRICT OF THE BUREAU OF LAND MANAGEMENT.

AT THAT MEETING THE MEMBERS OF THE PUBLIC, SEVERAL MEMBERS OF THE PUBLIC, AS WELL AS THE MEMBERS OF THE COUNCIL VOTED UNANIMOUSLY TO HAVE AN EXTENSION OF TIME FOR CONSIDERATION AND REVIEW BY THE PUBLIC OF THE SUPPLEMENTAL E.I.S.

WE, SUBSEQUENTLY, RECEIVED OVER 300 LETTERS OR E-MAILS REQUESTING THAT WE EXTEND THE COMMENT PERIOD, SO WE DID EXTEND THE COMMENT PERIOD; AND I SHOULD SAY INITIALLY, THE EXTENSION WAS GOING TO BE FOR 30 DAYS.

THEN IT WAS REALIZED THAT IF WE EXTENDED IT FOR 30 DAYS, I THINK THAT THE COMMENT PERIOD WAS GOING TO END ON SOMETHING LIKE JANUARY 2ND, WHICH WE FELT WAS REALLY UNFAIR TO THE PUBLIC. SO WE UPPED IT TO THE NEXT WEEK AFTER THAT AND EXTENDED IT TO JANUARY 8TH, SO IF ANYONE WAS WONDERING WHY WE PICKED THAT PARTICULAR DATE, IT'S A 35-DAY EXTENSION, IN FACT.

THIS THEN IS THE SECOND PUBLIC MEETING THAT WE'RE HAVING ON THE SUPPLEMENTAL AND WE'LL BE HAVING A THIRD MEETING DECEMBER 18TH, AND THAT WILL BE AT THE METROPOLITAN WATER DISTRICT OFFICES DOWNTOWN. AND I'LL PROBABLY BE ABLE TO POST THE ADDRESS -- THAT'S THE BEST WAY TO DO IT FOR THOSE OF YOU WHO ARE NOT FAMILIAR WITH THAT -- WHERE THAT'S LOCATED.

ALTOGETHER WE'VE HAD -- THIS, I THINK, IS OUR EIGHTH PUBLIC MEETING THAT WE HAD ON THIS PROJECT. I'VE

BEEN VERY PLEASED THAT WE HAVE HAD AS MUCH PUBLIC INTERE
AND ALTHOUGH I KNOW A LOT OF FOLKS THINK THAT WE'RE TRYI
TO GET THE PUBLIC INTERESTED, IT IS DIFFICULT FOR US TO
DEAL WITH THINGS AND IT MAKES IT DIFFICULT FOR US TO MOV
FORWARD. I THINK IT'S REALLY HELPFUL, I REALLY DO. AND
WANT TO THANK ALL OF YOU FOR COMING HERE AND THANK YOU A
FOR ALSO SUBMITTING YOUR WRITTEN COMMENTS.

IF THERE ARE NO QUESTIONS ABOUT THE PROCESS AT
THIS POINT, I'M GOING TO TURN IT OVER TO JACK SAFELY SO
CAN GIVE YOU AN OVERVIEW OF THE PROJECT AS WELL AS THE
GROUNDWATER SUPPLY AND MANAGEMENT.

BY THE WAY, I FORGOT MY OTHER PROPS: THIS IS
SUPPLEMENT; THIS IS THE DRAFT. FOR THOSE OF YOU WHO DON
HAVE A COPY, THERE'S ALSO A COPY AVAILABLE ON THE INTERN
AND WE'LL ALSO POST THAT ADDRESS OVER HERE SO YOU CAN SE
THAT.

MR. SAFELY: THANK YOU, MOLLY. GOOD EVEN
EVERYONE. ONCE AGAIN, MY NAME IS JACK SAFELY. I'M WITH
THE METROPOLITAN WATER DISTRICT AND I'M THE PROJECT MANA
FOR THE CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY
PROGRAM.

TONIGHT WE'RE GOING TO DO A PRESENTATION AND
OVERVIEW OF CALIFORNIA'S COLORADO RIVER WATER USE PLAN.
THIS LEADS INTO THE NEED FOR THE CADIZ PROJECT AND OTHER
PROGRAMS THAT METROPOLITAN IS PURSUING ALONG THE COLORAD

RIVER AQUEDUCT. AND THEN WE'RE GOING TO GO THROUGH AN OVERVIEW OF THE GROUNDWATER MONITORING AND MANAGEMENT PLAN.

THIS MAP SHOWS COLORADO RIVER BASIN. THERE ARE SEVEN STATES THAT RECEIVE WATER FROM THE COLORADO RIVER. THERE IS AN UPPER AND A LOWER BASIN THAT RECEIVES WATER. EACH BASIN GETS SEVEN AND A HALF MILLION ACRE FEET OF WATER.

IN CALIFORNIA THERE ARE A NUMBER OF WATER AGENCIES THAT IMPORT WATER FROM THE COLORADO RIVER. THEY'RE SHOWN HERE. THEY'RE THE PALO VERDE IRRIGATION DISTRICT, THE IMPERIAL IRRIGATION DISTRICT, THE COACHELLA VALLEY WATER DISTRICT, AND THE METROPOLITAN WATER DISTRICT.

METROPOLITAN PROVIDES WATER TO ABOUT 17 MILLION PEOPLE IN OUR SERVICE AREA. WE OWN AND OPERATE THE COLORADO RIVER AQUEDUCT. IT'S A 242-MILE SYSTEM OF PIPES AND CANALS. IT BEGINS AT LAKE HAVASU, IT ENDS AT LAKE MATHEWS IN RIVERSIDE COUNTY. THE COLORADO RIVER SUPPLIES ABOUT 60 PERCENT OF THE WATER WE USE IN OUR SERVICE AREA, SO THIS IS A VERY IMPORTANT SUPPLY FOR US.

THREE STATES IN THE LOWER BASIN RECEIVE SEVEN AND A HALF MILLION ACRE FEET OF WATER FROM THE COLORADO RIVER. CALIFORNIA IS ENTITLED TO RECEIVE 4.4 MILLION ACRE FEET FROM THE RIVER. OVER ABOUT THE LAST TEN YEARS CALIFORNIA HAS BEEN EXCEEDING THAT AMOUNT; THIS YEAR WILL USE ABOUT 5.2 MILLION ACRE FEET OF WATER.

THE OTHER BASIN STATES AND THE FEDERAL GOVERNM HAVE REQUESTED CALIFORNIA TO REDUCE ITS USE OF COLORADO RIVER WATER TO ITS ENTITLED APPORTIONMENT OF 4.4 MILLION ACRE FEET.

THE WAY THAT WE'RE DOING THIS IS THROUGH WHAT' CALLED THE CALIFORNIA PLAN. THIS GRAPH SHOWS HOW CALIFORNIA SUPPLIES FROM THE COLORADO RIVER WILL BE REDU OVER TIME. THERE'S A 15-YEAR TIME PERIOD THAT'S CALLED INTERIM PERIOD WHERE THE CALIFORNIA PLAN WILL BE IMPLEMENTED.

THERE IS AN INTERIM SURPLUS CRITERIA THAT WILL ALLOW CALIFORNIA TO HAVE A FULL AQUEDUCT, WHICH IS 1.2 MILLION ACRE FEET OF WATER FOR THE NEXT FIVE YEARS UNTIL ABOUT 2005.

AFTER THAT TIME WHEN THE RELIABILITY OF COLORA RIVER IN OUR AQUEDUCT IS REDUCED, AND BY 2016, WE'LL HAV FULL AQUEDUCT ROUGHLY 65 PERCENT OF THE TIME.

THIS SHORTFALL IN SUPPLY WILL BE UP THROUGH A NUMBER OF PROGRAMS THAT WE ARE PURSUING ALONG THE COLORA RIVER AQUEDUCT. THESE PROGRAMS ARE DESIGNED TO MEET THE EXISTING DEMANDS THAT WE HAVE IN OUR SERVICE AREA.

THE CALIFORNIA PLAN HAS A NUMBER OF COMPONENTS PROBABLY THE THREE MOST IMPORTANT ONES ARE DEMAND, MANAGEMENT, AND DEVELOPMENT OF LOCAL SUPPLIES.

METROPOLITAN HAS INVESTED QUITE A LARGE AMOUNT

MONEY IN WATER RECYCLING AND CONSERVATION PROGRAMS IN OUR SERVICE AREA AND WE USE ABOUT THE SAME AMOUNT OF WATER NOW THAN WE DID TEN YEARS AGO EVEN WITH THE FACT THAT WE HAVE ABOUT TWO AND A HALF BILLION MORE PEOPLE IN OUR SERVICE AREA.

ANOTHER MAJOR COMPONENT OF THE PLAN IS AGRICULTURE TO URBAN WATER TRANSFERS. THOSE WILL BE USED TO MEET DEMANDS, GROWING URBAN DEMANDS, AS MORE PEOPLE COME TO CALIFORNIA. AND THERE'S ALSO A RESERVOIR MANAGEMENT COMPONENT FOR STORAGE ON THE COLORADO RIVER WHERE RESERVOIRS WILL BE OPERATED TO OPTIMIZE STORAGE IN THE RIVER SYSTEM.

THIS CHART SHOWS HOW METROPOLITAN SUPPLIES ARE USED BOTH NOW AND HOW THEY'LL BE MET THROUGH THE CALIFORNIA PLAN. ON THE LEFT-HAND SIDE IS OUR CURRENT SUPPLY SITUATION. OUR BASIC ENTITLEMENT IS 550,000 ACRE FEET OF WATER. THAT WILL STAY CONSTANT OVER TIME THROUGH THE CALIFORNIA PLAN.

WE ALSO RECEIVE ABOUT A HUNDRED AND TEN THOUSAND ACRE FEET OF WATER THROUGH CONSERVATION AGREEMENTS WITH THE IMPERIAL IRRIGATION DISTRICT. THESE ARE UNFARMED CONSERVATION PROJECTS TO CONSERVE WATERS AND PROJECTS ARE PAID FOR BY METROPOLITAN AND CONSERVED WATERS, THEN ARE GIVEN TO US. THAT AMOUNT WILL STAY RELATIVELY CONSTANT OVER TIME AS WELL.

CURRENTLY, ARIZONA IS NOT USING ITS FULL ENTITLEMENT OF COLORADO RIVER WATER. THE DEPARTMENT OF INTERIOR ALLOWS METROPOLITAN TO USE THAT WATER NOW. ARIZONA IS NEARLY TAKING ITS FULL APPORTIONMENT OF WATER WHEN THAT GOES AWAY, THERE ARE OTHER PROGRAMS THAT WILL TAKE ITS PLACE. THE SAN DIEGO WATER AUTHORITY IS PURSUI A TRANSFER THAT WILL PROVIDE ABOUT 200,000 ACRE FEET OF WATER THAT WILL BE DELIVERED THROUGH METROPOLITAN'S COLORADO AQUEDUCT. IT'S AN AGREEMENT WITH THE IMPERIAL IRRIGATION DISTRICT WHERE PROJECTS WILL BE IMPLEMENTED T CONSERVE WATER, AND THAT WATER WILL BE THEN TRANSFERRED THE WATER AUTHORITY.

THE LAST ELEMENT OF OUR COLORADO SUPPLY ARE SURPLUS DECLARATIONS THAT ALLOW US TO TAKE WATER DURING YEARS WHEN THERE'S A LOT OF WATER IN THE RIVER. THOSE SURPLUS DECLARATIONS WILL BECOME LESS AND LESS FREQUENT THE FUTURE, AND WE'RE LOOKING TO DO A NUMBER OF PROGRAMS MAKE UP FOR THAT SHORTFALL.

THE OUTLYING PROGRAMS FOR THE ALL-AMERICAN AND COACHELLA CANALS ARE PROPOSED. THAT WOULD BE LINING EAR CANALS WITH CONCRETE LINING AND SAVING WATER THAT NORMAL JUST SEEPS INTO THE GROUND AND TRANSFERRING THAT TO THE URBAN AREAS. AND THEN THERE ARE STORAGE AND TRANSFER PROJECTS ALONG THE COLORADO RIVER THAT ARE PROPOSED TO REMAIN 300,000 ACRE FOOT SHORTFALL IN SUPPLY.

IN 1997 METROPOLITAN STARTED A PROCESS TO EVALUATE A NUMBER OF PROGRAMS ALONG THE COLORADO RIVER THAT COULD PROVIDE US STORAGE AND TRANSFER OPPORTUNITIES. FOURTEEN PROGRAMS WERE EVALUATED AND THREE WERE DETERMINED FEASIBLE TO CARRY FORWARD.

THE THREE PROGRAMS THAT WERE FEASIBLE WERE THE COACHELLA VALLEY STORAGE PROGRAM, CHUCKWALLA VALLEY PROGRAM, AND THE CADIZ VALLEY PROGRAM. WE'VE DETERMINED THAT WE NEED ABOUT TWO TO THREE MILLION ACRE FEET OF STORAGE ALONG THE COLORADO RIVER TO MEET DRY-YEAR NEEDS, AND WE NEED THE ABILITY TO WITHDRAW ABOUT 300,000 ACRE FEET OF WATER IN A DRY YEAR TO FILL A LOST SUPPLY IN THE AQUEDUCT.

THE CADIZ PROGRAM WOULD HAVE THE ABILITY TO STORE A HUNDRED AND FIFTY THOUSAND ACRE FEET OF COLORADO RIVER WATER IN A WET YEAR, STORE IN AN UNDERGROUND BASIN AND WITHDRAW IT IN A DRY YEAR. A HUNDRED AND FIFTY THOUSAND FEET WOULD BE DELIVERED BACK TO THE AQUEDUCT.

IN ADDITION TO THE STORED WATER, THERE IS A PROPOSED TRANSFER THAT WOULD TRANSFER GROUNDWATER FROM THE BASIN TO METROPOLITAN.

WE COULD STORE ABOUT A MILLION ACRE FEET IN THE CADIZ VALLEY AT ANY ONE TIME. AND TO GIVE YOU AN IDEA OF THE SCALE OF THE BASIN, D.W.R. HAS ESTIMATED THAT THIS AREA CONTAINS ABOUT 17 MILLION ACRE FEET OF WATER AND

METROPOLITAN WOULD ADD A MILLION ACRE FEET TO THAT FOR STORAGE AND WITHDRAWAL.

THIS FIGURE SHOWS THE FACILITIES THAT ARE REQUIRED OF THE CADIZ PROJECT. THIS IS THE COLORADO RIVER AQUEDUCT HERE. OUR METROPOLITAN'S IRON MOUNTAIN PUMPING PLANT IS LOCATED AT THIS POINT OF THE AQUEDUCT. HERE IN TWENTYNINE PALMS, I THINK WE'RE OFF THE MAP HERE TO THE LEFT.

TO DO THIS PROGRAM, A 35-MILE PIPELINE WOULD BE BUILT FROM THE AQUEDUCT UP TO THE FENNER GAP AREA IN CADIZ VALLEY AND FENNER VALLEY. WATER WOULD BE PUMPED FROM THE AQUEDUCT THROUGH A PIPELINE AND INTO ABOUT 390 ACRES OF SPREADING BASINS LOCATED IN THE CENTER GAP.

THIS WATER WOULD PERCOLATE INTO THE GROUNDWATER BASIN AND BE STORED FOR LATER EXTRACTION DURING THE DRY YEARS. WHEN THE WATER IS NEEDED IN A DRY YEAR, ABOUT 30 WELLS CONSTRUCTED IN THE CENTER GAP AREA WOULD PUMP WATER FROM THE BASIN BACK TO THE COLORADO RIVER AQUEDUCT.

JUST SOME BACKGROUND IN THE VALLEY RIGHT NOW. THIS IS A PROJECT OF THE PARTNERSHIP OF THE METROPOLITAN AND CADIZ INCORPORATED. CADIZ OWNS ABOUT 27,000 ACRES IN THE BASIN SHOWN HERE. THEY CURRENTLY FARM ABOUT 1600 ACRE OF THAT LAND.

IN 1993 THE COUNTY OF SAN BERNARDINO APPROVED AN E.I.R. THAT ALLOWED AGRICULTURAL DEVELOPMENT UP TO ABOUT

9600 ACRES. THAT DOCUMENT ANTICIPATED THAT APPROXIMATELY A MILLION ACRE FEET OF WATER WOULD BE USED OVER THE LIFE OF THE PROGRAM FOR THIS AGRICULTURAL OPERATION.

ONE IMPORTANT NOTE HERE IS THAT CADIZ CURRENTLY PERFORMS A GROUNDWATER MANAGEMENT PLAN AND SUBMITS IT TO THE COUNTY. UNDER THE PROPOSED PROJECT, THAT GROUNDWATER MANAGEMENT WOULD BE ROLLED ONTO THE PROGRAM -- MANAGEMENT PLAN THAT WE ARE PROPOSING.

NOW, THERE'S BEEN A LOT OF PRESS COVERAGE RECENTLY ABOUT CHROMIUM IN CALIFORNIA. METROPOLITAN, THROUGHOUT THE COURSE OF THE ENVIRONMENTAL PROCESS, HAS BEEN SAMPLING FOR TOTAL CHROMIUM IN OUR PROGRAMS.

THE LEVELS THAT WE HAVE FOUND IN THE CADIZ BASIN ARE ABOUT 13 TO 23 PARTS PER BILLION; THAT MEETS THE TOTAL CHROME STANDARDS FOR DRINKING WATER. THE FEDERAL STANDARD IS A HUNDRED PARTS PER BILLION. STATE STANDARD IS 50 PARTS PER BILLION. SO THE WATER DOES MEET DRINKING WATER STANDARDS.

RECENTLY CHROMIUM 6 HAS BEEN IN THE NEWS, AND YOU CAN SEE HERE THAT CONCENTRATIONS IN THE CADIZ BASIN RANGE FROM ABOUT 15 TO 26 PARTS PER BILLION. THAT'S CONSISTENT WITH LEVELS THAT WE FIND THROUGHOUT THE STATE AND OTHER GROUNDWATER BASINS.

NOW WE'LL GO THROUGH AN OVERVIEW OF THE MANAGEMENT PLAN. IT'S THE MAIN FOCUS FOR THE DRAFT

E.I.R./E.I.S. THE MANAGEMENT PLAN WAS DEVELOPED BY TECHNICAL STAFF FROM THE BUREAU OF LAND MANAGEMENT, THE NATIONAL PARK SERVICE, THE U.S. GEOLOGICAL SURVEY, METROPOLITAN, COUNTY OF SAN BERNARDINO, AND CADIZ.

OVER THE COURSE OF ABOUT SIX MONTHS, FROM APRI TO OCTOBER, A NUMBER OF MEETINGS WERE HELD AND THE STAFF DEVELOPED THE PLAN THAT'S INCLUDED IN THE SUPPLEMENT. I THINK THERE IS A GENERAL AGREEMENT THAT THE PLAN IS PROTECTIVE OF WATER RESOURCES IN THE PROJECT AREA.

THE MANAGEMENT PLAN HAS A DETAILED AND COMPREHENSIVE PLAN THAT COVERS AN AREA OF OVER 2,000 SQU MILES. THAT'S LARGER THAN THE STATE OF RHODE ISLAND FOR SCALE.

THERE WILL BE MONITORING OF THE GROUNDWATER PROGRAM THAT WILL BE CONDUCTED IN THREE PHASES: THE PRE-OPERATIONAL PHASE PRIOR TO STORAGE OF ANY WATER IN T BASIN; THE OPERATIONAL PHASE OF THE PROGRAM, WHICH IS 50 YEARS; AND WE'LL ALSO MONITOR ONCE THE PROGRAM IS OVER T ENSURE THAT WE DO NOT HAVE RESIDUAL EFFECTS ON CRITICAL RESOURCES.

THE KEY ELEMENTS OF THE PLAN INCLUDE THE ADVAN MONITORING NETWORK, IDENTIFIED TRIGGER LEVELS FOR ACTION AND SPECIFIED MEASURES THAT WOULD BE UNDERTAKEN. THIS P WOULD GOVERN ALL WATER MANAGEMENT IN THE PROJECT AREA, INCLUDING THE CADIZ AGRICULTURAL DEVELOPMENT.

IT HAS OVERSIGHT BY A TECHNICAL REVIEW TEAM AND BASIN MANAGEMENT GROUP MADE UP OF TECHNICAL STAFF AND MANAGERS, REGULATORY AGENCIES, AND ALL DATA AND REPORTS PREPARED UNDER THE PLAN WILL BE READILY AVAILABLE TO THE PUBLIC FOR YOUR REVIEW.

THE TECHNICAL TEAM IDENTIFIED FOUR GENERAL CRITICAL RESOURCES THAT SHOULD BE PROTECTED BY THIS PLAN. THEY ARE SPRINGS WITHIN THE AFFECTED WATERSHED. THESE INCLUDE THE SPRINGS IN THE MOJAVE NATIONAL PRESERVE AND B.L.M.-MANAGED LAND, THE AQUIFER SYSTEM IN THE PROJECT AREA, BRINE RESOURCES AT THE BRISTOL AND CADIZ DRY LAKES; AND AIR QUALITY IN JOSHUA TREE NATIONAL PARK PRESERVE AND B.L.M. LANDS.

THE PLAN INCLUDES 24 DIFFERENT MONITORING FEATURES. A FEATURE IS ANY OBJECT FROM WHICH DATA CAN BE COLLECTED, AND FEATURES WOULD INCORPORATE THE LATEST TECHNOLOGY AVAILABLE AT THE TIME. THESE MONITORING FEATURES WILL SERVE AS AN EARLY WARNING SYSTEM TO MONITOR AND PREVENT POTENTIAL AND ADVERSE IMPACTS TO CRITICAL RESOURCES IN THE PROJECT AREA.

ONE OF THE RESOURCES THAT WE'RE PROTECTING ARE SPRINGS. THE NATIONAL PARK SERVICE IN 1999 ISSUED A WATER RESOURCES REPORT THAT IDENTIFIED 28 SPRINGS WITHIN THE FENNER VALLEY AREA.

WE WILL INVENTORY THOSE 28 SPRINGS PRIOR TO THE

PROJECT BEGINNING OPERATION; AND THE TECHNICAL TEAM, INCLUDING THE PARK SERVICE, HAS AGREED THAT EIGHT SPRING WOULD BE MONITORED THROUGHOUT THE PROJECT LIFE.

A NUMBER OF FEATURES WOULD BE INCLUDED TO MONI THE AQUIFER SYSTEM IN THE PROJECT AREA. WE'D MONITOR GROUNDWATER LEVELS AND COLLECT WATER-QUALITY DATA IN A NUMBER OF OBSERVATION WELLS.

THE DATA FROM PRODUCTION WELLS WOULD BE SUMMARIZED MONTHLY DURING THE OPERATIONAL PHASE OF THE PROGRAM. WATER QUALITY ANALYSIS WOULD OCCUR WHEN WE'RE SPREADING COLORADO RIVER WATER. WE'D SAMPLE THE WATER W PUT INTO THE BASIN WEEKLY. AND METROPOLITAN IS REQUIRED SAMPLE, AT LEAST ANNUALLY, WHAT'S OVER 200 CONSTITUENTS WATER. THIS ANALYSIS IS CALLED A TITLE 22 ANALYSIS AND DO THAT TO MEET DRINKING WATER STANDARDS.

SUBSIDENCE IS A CONCERN IN THE BASIN FROM PUMP OF GROUNDWATER. TWENTY SURVEY BENCH MARKS WOULD BE INSTALLED IN THE AREA AND WE WOULD CONDUCT ANNUAL SURVEY TO DETECT ANY CHANGES IN LAND ELEVATION DO TO THE PROGRA OPERATIONS. WE'D ALSO GATHER DATA DONE FROM WELL DRILLI IN THE AREA IN WHAT ARE CALLED DOWNHOLE FLOWMETER SURVEY THESE GATHER DATA FOR MODELS THAT THE TECHNICAL STAFF WO USE TO EVALUATE THE PROGRAM.

THE THIRD RESOURCE THAT WE ARE LOOKING AT ARE BRINE RESOURCES AT THE DRY LAKE BEDS. THESE ARE IMPORTA

BECAUSE B.L.M. HAS MINING LEASES TO SALT MINING OPERATIONS AT CADIZ AND BRISTOL DRY LAKE.

WE'LL INSTALL WELLS NEAR THE MARGINS OF THESE DRY LAKES AND MONITOR BRINE LEVELS AND WATER CHEMISTRY BENEATH THE LAKES, AND WE WOULD ALSO GATHER DATA FOR MODELS THAT THE TECHNICAL STAFF WOULD USE TO ANALYZE THE PROGRAM.

AIR QUALITY IN THE AREA IS A CONCERN. WE ARE INSTALLING A COMPREHENSIVE AIR QUALITY MONITORING SYSTEM FOR THE AREA. THIS IS THE FIRST SYSTEM IN PLACE IN THE AREA. IT WOULD ENSURE COMPDIANCE WITH THE APPLICABLE AIR QUALITY REGULATIONS. INSTRUMENTS CALLED OPEN-AIRED NEPHELOMETERS WOULD BE INSTALLED IN THE DRY LAKE BEDS TO COLLECT DATA ON THE AMBIENT DUST CONDITIONS IN THE AREA.

WE'D ALSO INSTALL METEOROLOGICAL TOWERS TO GATHER DATA ON WIND SPEED AND DIRECTION, AND ALL THIS DATA WOULD BE EVALUATED BY THE TECHNICAL REVIEW TEAM TO DETERMINE IF THE PROJECT IS HAVING ADVERSE IMPACTS.

THERE ARE A NUMBER OF OTHER MONITORING FEATURES INCORPORATED IN THE PLAN THAT WILL GATHER DATA FOR TECHNICAL MODELS THAT STAFF WOULD USE TO EVALUATE THE PROGRAM. THEY INCLUDE EVAPOTRANSPIRATION STATIONS ON THE DRY LAKES.

THESE MEASURE HOW MUCH WATER EVAPORATES FROM THE LAKE AND IT HELPS ESTIMATE HOW MUCH RECHARGE THERE IS TO THE BASIN. THERE ARE SURFACE WATER MONITORING STATIONS ON

THE DRY LAKE BEDS THAT HAVE BEEN USED IN THE RAINFALL RUNOFF MODELS WHICH ARE INCORPORATED INTO THE GROUNDWATE SYSTEM. WEATHER STATIONS, STREAM GAUGES AND MOISTURE CENSORS WOULD ALSO GATHER DATA THAT THE TECHNICAL TEAM WOULD USE TO EVALUATE THE PROGRAM.

THE MANAGEMENT PLAN CALLS FOR A NUMBER OF REPO TO BE PREPARED. ALL REPORTS ARE AVAILABLE TO THE PUBLIC AN ANNUAL REPORT AND A FIVE-YEAR REPORT WOULD BE PREPARE

THESE REPORTS WOULD SUMMARIZE GROUNDWATER LEVE AND WATER QUALITY DATA, SUMMARIZE PROJECT OPERATIONS, MUCH WATER IS STORED, EXTRACTED, AND EVAPORATION IN THE AREA FROM THE SPREADING BASINS.

THEY WOULD DOCUMENT ANY ADVERSE IMPACTS TO CRITICAL RESOURCES AND RECOMMEND MODIFICATIONS TO PROGRA OPERATIONS TO PROTECT THE CRITICAL RESOURCES IN THE AREA

ANOTHER FEATURE OF THE MANAGEMENT PLAN IS A CLOSURE PLAN. IT WOULD BE DESIGNED TO ENSURE THAT PROJE OPERATIONS DO NOT ADVERSELY IMPACT CRITICAL RESOURCES BEYOND THE LIFE OF THE PROJECT. WE DON'T WANT THE PROJE TO END AND THEN HAVE IMPACTS TO CRITICAL RESOURCES. IT WOULD RECOMMEND REQUIRED MODIFICATIONS TO PROJECT OPERATIONS TO MAKE SURE THAT THIS DOESN'T HAPPEN.

ALL THE DATA AND OPERATIONS OF THE PROGRAM WOU BE REVIEWED BY THE TECHNICAL REVIEW TEAM AND A BASIN MANAGEMENT GROUP. THIS GROUP WOULD BE MADE UP OF

REPRESENTATIVES FROM THE BUREAU OF LAND MANAGEMENT, THE NATIONAL PARK SERVICE, THE GEOLOGICAL SURVEY, METROPOLITAN, COUNTY OF SAN BERNARDINO, AND CADIZ.

THEY WOULD BE RESPONSIBLE TO REVIEW DATA, PREPARE MODELS OF THE PROGRAM, SUMMARIZE AND REVIEW POTENTIAL ADVERSE IMPACTS TO CRITICAL RESOURCES; AND THE TECHNICAL REVIEW TEAM WOULD DEVELOP RECOMMENDATIONS TO THE BASIN MANAGEMENT GROUP REGARDING OPERATION OF THE PROGRAM.

THE BASIN MANAGEMENT GROUP IS MADE UP OF MANAGERS, AND THEIR JOB IS TO ENSURE THAT A CONSENSUS AGREEMENT IS REACHED REGARDING PROJECT OPERATIONS.

IF THE BASIN MANAGEMENT GROUP COULD NOT REACH A CONSENSUS, THE B.L.M. WOULD RETAIN FINAL AUTHORITY TO GIVE SURE COMPLIANCE WITH THE MANAGEMENT PLAN THROUGH ENFORCEMENT OF ITS RIGHT-OF-WAY GRANTS TO GIVE IT TO METROPOLITAN.

NOW, THAT'S A BRIEF OVERVIEW OF THE PROGRAM. WE'RE GOING TO GO INTO THE PUBLIC COMMENT PHASE AND SYLVIA SALENIUS FROM P & D ENVIRONMENTAL WILL RUN THAT PORTION OF THE MEETING.

MS. SALENIUS: GOOD EVENING. WE HAVE SUPPLIED SOME COMMENT CARDS AT THE TABLE AND I'VE RECEIVED SOME FROM SOME PEOPLE. I'VE BEEN TRYING TO KEEP THEM IN REASONABLY CLOSE ORDER OF WHEN I RECEIVED THEM; AND IF YOU WOULD LIKE TO SPEAK THIS EVENING, WE'D APPRECIATE IT IF YOU

WOULD GET ONE OF THOSE AND FILL IT OUT.

WHAT WE PLAN ON DOING TO GIVE YOU THE OPPORTU
TO FILL THEM OUT, WE'RE GOING TO BREAK FOR A COUPLE
MINUTES, LET YOU GET A CARD IF YOU NEED ONE, FILL IT OU
AND IN ABOUT FIVE MINUTES WE'LL COME BACK HERE AND WE'L
ALLOW YOU TO GIVE YOUR ORAL COMMENTS.

WHEN WE DO THAT, DEPENDING UPON HOW MANY SPEA
WE HAVE, WE'LL DECIDE IF WE NEED TO PUT A TIME LIMIT ON
THOSE SPEAKERS. IF WE ONLY HAVE TEN OR SO SPEAKERS, WE
SHOULD NOT HAVE A PROBLEM WITH ANY KIND OF TIME LIMITS.

SO WITH THAT, I'M GOING TO LET YOU BREAK UP F
FEW MINUTES. IF YOU HAVE A NEED FOR A CARD, THERE IN T
BACK OF THE ROOM ARE SOME CARDS. WE'RE GOING TO GET BA
TOGETHER AND WE'LL BE USING THE MICROPHONE HERE. WE'D
TO FOCUS THE COMMENTS THIS EVENING ON THE SUPPLEMENT AN
THE GROUNDWATER MANAGEMENT PLAN.

SOME OF YOU HAVE ALREADY SUBMITTED COMMENTS O
THE DRAFT E.I.R./E.I.S. WE'VE RECORDED ALL OF THOSE
COMMENTS AND WE HAVE THOSE COMMENTS TO BE INCORPORATED
THE FINAL E.I.R./E.I.S. WHEN WE PRODUCE THAT.

THAT DOCUMENT WILL ALSO INCLUDE THE COMMENTS
COME FROM THE KINDS OF MEETINGS THAT WE'RE HAVING RIGHT
NOW. THE MEETING AT MET LATER ON THIS MONTH AND THIS
MEETING ON THE GROUNDWATER MANAGEMENT PLAN, THOSE COMME
WILL ALSO BE RESPONDED TO IN THAT FINAL DOCUMENT.

MS. REILLY: AND THE COMMENTS ON THE SUPPLEMENT?

MS. SALENIUS: YES. COMMENTS ON THE SUPPLEMENT AND COMMENTS ON THE ORIGINAL DRAFT E.I.R. WILL ALL BE RESPONDED TO IN THE SAME FINAL E.I.R./E.I.S. AND THAT WILL BE RELEASED SOMETIME IN THE SPRING. WHAT I WANT TO DO IS BREAK UP THE MEETING FOR FIVE MINUTES.

MR. DUBE: YEAH. WELL, I HAVE A VERY PERTINENT COMMENT OVER HERE AND THAT IS, THAT SOME QUESTIONS ARE OBVIOUSLY GOING TO BE GENERATED BY THE PRESENTATION.

MS. SALENIUS: CORRECT.

MR. DUBE: I.E., HIS PRESENTATION RIGHT NOW HAS GENERATED A COUPLE OF QUESTIONS IN MY MIND.

MS. SALENIUS: CORRECT. YOU SHOULD ASK THOSE QUESTIONS WHEN YOU MAKE YOUR PRESENTATION. OKAY. SO WE'LL GATHER BACK HERE IN ABOUT FIVE MINUTES AND WE'LL TURN THE LIGHTS BACK ON.

(THERE WAS A SHORT BREAK TAKEN AT 7:32 P.M. UNTIL 7:40 P.M.)

MS. SALENIUS: I DON'T HAVE THAT MANY CARDS, SO BASICALLY, WE'RE JUST GOING TO ALLOW PEOPLE TO SPEAK THEIR MINDS. I WOULD HOPE THAT YOU COULD BE CONSIDERATE OF THE FACT THAT WE ALL WANT TO GET OUT OF HERE AT A REASONABLE TIME, SO TRY TO BE CONCISE; AND IF YOU AGREE

WITH SOMEONE WHO SPOKE BEFORE YOU, IT WOULD BE JUST GREAT IF YOU COULD JUST SAY I AGREE WITH WHATEVER THAT PERSON SAID.

AND WHAT I'M GOING TO DO IS -- AND SOME OF YOU WERE HERE AT THE PREVIOUS MEETING -- I'M GOING TO BE WRITING DOWN THE KEY POINTS THAT PEOPLE MAKE WHEN THEY SPEAK JUST SO THAT YOU CAN MAKE SURE THAT WE'RE RECORDING YOUR IDEAS. WE'RE ALSO -- AS MOLLY SAID, WE'RE HAVING A COURT REPORTER HERE SO WE'LL DEFINITELY MAKE SURE WE HAVE ALL OF YOUR COMMENTS ON RECORD.

WITH THAT, I'D LIKE TO ASK ELDEN HUGHES TO SPEAK. WE WILL TRY, IF POSSIBLE, TO ANSWER QUESTIONS THAT WE CAN ANSWER TONIGHT. IF THERE ARE QUESTIONS THAT WE CAN'T ANSWER, WE HAVE TO GO BACK TO SOME OF THE TECHNICAL PEOPLE TO GET THE ANSWERS. THOSE ANSWERS WILL BE IN THE FINAL ENVIRONMENTAL DOCKET. OKAY.

MR. HUGHES: YOU ASKED US TO RESTRICT OURSELVES -- BY THE WAY, I'M ELDEN HUGHES, CHAIR OF THE SIERRA CLUB'S CALIFORNIA/NEVADA DESERT COMMITTEE. AND YOU ASKED US TO RESTRICT OURSELVES TO THE SUPPLEMENT. WELL, MY MAIN COMMENT ON THE E.I.S. WAS ON ITS INADEQUACY AND THE REQUEST FOR A SUPPLEMENT.

SO I WANT TO MAKE ONE COMMENT ON E.I.R./E.I.S. THIS IS THE CALIFORNIA DESERT CONSERVATION AREA OF THE BUREAU OF LAND MANAGEMENT; AND THE FEDERAL LAND POLICY

MANAGEMENT ACT, F.L.P.M.A., HAD SENT UP TO B.L.M. ITS GENERIC ACT AND PROVIDED FOR SPECIAL CONSIDERATION OF THE CALIFORNIA DESERT CONSERVATION AREA; PARTICULARLY THE ESTABLISHMENT OF LIMITED USE AREAS.

THIS PROJECT GOES RIGHT ACROSS A LIMITED USE AREA, RIGHT NEXT TO TWO WILDERNESS AREAS. I DON'T THINK ADEQUATE CONSIDERATION HAS BEEN GIVEN TO THE FACT THAT IT IS IN A CONSERVATION AREA ESTABLISHED BY CONGRESS. T1-1

THE COMMENT MADE EARLIER BY MR. SAFELY SAID THAT THE TECHNICAL TEAMS AND THE BASIN MANAGEMENT TEAMS WOULD BE THE REGULATORY AGENCIES. THERE'S A REAL QUESTION IN THE DOCUMENT ITSELF: WHETHER B.L.M. WILL BE ABLE TO TAKE PART AT ALL, AND THERE SEEMS TO BE NO WORD THAT THE NATIONAL PARK SERVICE OR THE U.S.G.S. WOULD TAKE PART. THAT WOULD LEAVE TWO OUT OF THREE OF THE VOTES BEING CADIZ, OR CADES (PHONETIC) AS THEY PRONOUNCE ON WEDNESDAYS THROUGH FRIDAYS, THE CONTROLLING VOTES. THAT'S NOT REGULATORY. T1-2

WHAT ARE THEY THEN REQUIRED TO DO? WE ASKED FOR A MONITORING AND MANAGEMENT PLAN. I THINK WE'VE GOT A MONITORING PLAN. WE CERTAINLY DIDN'T GET A MANAGEMENT PLAN. IF THE WATER DROPS OR GOES UP, WHAT ARE THESE TECHNICAL TEAMS OR BASIN MANAGEMENT TEAMS REQUIRED TO DO? BECAUSE AS NEAR AS I READ IT, THEY'RE REQUIRED TO MEET. T1-3

THEY HAVE A MEETING AND THEY HAVE MET THEIR FULL OBLIGATION. CERTAINLY, THERE IS NOTHING THAT THE PUBLIC

CAN HANG ITS HAT ON TO SAY HEY, YOU'VE GOT TO DO SOMETHING.

WE WANT MANAGEMENT SPECIFIED; NOT JUST MONITORING. IF THE WATER DROPS TEN FEET, DO YOU DO SOMETHING OR DO YOU WAIT FOR THE SPRING TO GO DRY? IT'S UNSAID. IT SAYS YOU WILL MEET.

IF THE WATER DROPS A HUNDRED FEET, DO YOU DO SOMETHING? IN THE E.I.S. IT SEEMS TO SPECIFY THAT AT THE END OF THE PROJECT, THAT'S WHERE THE WATER LEVEL IS GOING TO BE AND IN THE INTERIM IT COULD BE MUCH MORE. I THINK WE NEED A MANAGEMENT PLAN AND WE DON'T HAVE IT. THANK YOU.

MS. SALENIUS: THANK YOU, MR. HUGHES. THE NEXT PERSON I HAVE IS RAMON MENDORA.

MR. MENDORA: MY NAME IS RAMON MENDORA. I'M A RESIDENT OF THE MORONGO BASIN. I'M A MEMBER OF THE DESERT ENVIRONMENTAL RESPONSE TEAM. I'M A MEMBER OF THE MORONGO BASIN REGIONAL ECONOMIC DEVELOPMENT CONSORTIUM; AND I'M ALSO AN APPOINTEE TO THE COMMISSION OF THE JOSHUA TREE NATIONAL PARKS.

I HAVE LOOKED AT THE ORIGINAL E.I.R./E.I.S. I RAISED SOME QUESTIONS AT THE FIRST SCOPING MEETING. I HAVE BEEN TO THE SITE. I HAVE TALKED WITH MARK LIGGETT, A GEOLOGIST THERE AT CADIZ. I HAVE PROVIDED CADIZ WITH A LETTER STATING THAT IF MY ORIGINAL COMMENTS WERE RESOLVED IN THE SUPPLEMENTAL DRAFT, THAT I WAS IN FAVOR OF THIS PROJECT. MY ORIGINAL COMMENTS WERE RESOLVED.

THIS AREA HAS A LOT TO GAIN FROM A WHOLE LOT OF KNOWLEDGE THAT WE DO NOT KNOW ABOUT AREAS SPECIFIC -- THIS AREA, AND THE RECHARGE. I FOUND MYSELF FINDING AN ALLY THAT HAS DONE SOME STUDY ON THE CADIZ PROJECT BECAUSE I HAVE GRAVE QUESTIONS WITH REGARDS TO THE ISSUES, RECHARGE AND OVERDRAFT, AS PRESENTED BY THE U.S.G.S.

T1-5

BASED ON THEIR OWN DOCUMENTATION, WE HAVE CONSIDERABLY MORE WATER HERE IN THE DESERT THAN THEY HAVE REPORTED. WITH THIS PROJECT WE WILL FIND OUT WHAT WE DO HAVE AND WE'LL HAVE A CONSTANT MANAGEMENT PROGRAM MONITORING; AND I FEEL THAT WHAT WE WILL GAIN HERE IS KNOWLEDGE, BETTER CONSERVATION, AND BETTER USE OF WATER AND BETTER UNDERSTANDING OF HOW THE WATER FLOWS AND WHERE IT COMES FROM, ITS CHARACTERISTICS.

SO I WANT TO SAY AT THIS TIME ALL OF MY QUESTIONS HAVE BEEN ANSWERED; AND I WOULD ASK ONE THING: THAT YOU HAVE ON YOUR TECHNICAL TEAM, YOUR MANAGEMENT TEAM, THAT FOR THE PUBLIC'S INTEREST, THAT YOU ALSO APPOINT THREE MEMBERS AT LARGE FROM THE PUBLIC, FROM THOSE AREAS WHO HAVE CONCERN; FROM SAN FRANCISCO, FROM LOS ANGELES, AND FROM THIS AREA. THANK YOU.

T1-6

MS. SALENIUS: THANK YOU. THE NEXT PERSON I HAVE TO SPEAK IS KRISTA CLARK.

MS. CLARK: HI. MY NAME IS KRISTA CLARK. I'M WITH THE ASSOCIATION OF CALIFORNIA WATER AGENCIES. WE

T1-7

ARE A NONPROFIT TRADE ORGANIZATION REPRESENTING 440 PUBLIC WATER AGENCIES IN CALIFORNIA. OUR MEMBERS DELIVER 90 PERCENT OF THE WATER SERVED FOR AG AND INDUSTRIAL AND RESIDENTIAL USES.

I'M NOT HERE TODAY TO SPEAK ON WHETHER WE FAVOR THE PROJECT OR OPPOSE THE PROJECT. I'M MERELY HERE TO COMMENT ON THE MONITORING PLAN THAT'S IN THE SUPPLEMENTAL AND ALSO TO HOPEFULLY PROVIDE SOME ACCURATE FACTUAL STATEMENTS ABOUT THIS CHROMIUM 6 ISSUE THAT WE KEEP READING A LOT ABOUT IN THE PAPERS. IF NOTHING ELSE, MAYBE I CAN ENLIGHTEN A FEW OF YOUR COMMENTS ABOUT WHAT'S REALLY GOING ON WITH CHROMIUM THESE DAYS.

FIRST, ON THE MONITORING PROGRAM, THIS IS ONE OF THE MOST, IF NOT THE MOST, COMPREHENSIVE MONITORING PROGRAMS WE'VE SEEN FOR A GROUNDWATER STORAGE PROJECT. THE PROJECT PROPONENTS HAVE GONE THROUGH A LOT OF DETAIL AND A LOT OF WORK TO SEE THAT THESE GROUNDWATER RESOURCES -- SURFACE WATER RESOURCES -- THE AIR ISSUES ALL BEING ADDRESSED, AND RIGHTFULLY SO. I MEAN THIS IS A SENSITIVE PRIZED AREA AND WE THINK THEY'VE DONE AN EXCELLENT JOB OF THAT.

IF WE'RE HERE TO EXPRESS ANY RESERVATIONS AT ALL, IT'S POSSIBLY WHAT WE SEE AS MAY BE A PRECEDENT THAT'S BEING SET FOR FUTURE GROUNDWATER MONITORING PROJECTS. AS THE PROPONENTS OF THE PROJECT KNOW, THERE'S A LOT OF

PROJECTS THAT HAVE BEEN PROPOSED BY CALFED FOR GROUNDWATER BANKING AND STORAGE THROUGHOUT THE STATE. WE'RE EXCITED TO SEE THESE PROJECTS GO. WE THINK IT'S THE WAVE OF THE FUTURE, AND CALIFORNIA SURE NEEDS A LOT OF THEM TO KEEP UP WITH THE GROWTH.

IF THIS TYPE OF MONITORING PROJECT -- WHICH IN OUR OPINION HAS GONE TO THE LIMITS TO PROTECT THIS ENVIRONMENT -- IF THIS BECOMES THE NEW STANDARD THAT IS SET FOR FUTURE MONITORING PROGRAMS, WE MAY END UP REALLY PRICING OURSELVES OUT OF FUTURE PROJECTS. T1-8

THIS IS GOING TO BE EXTREMELY EXPENSIVE TO IMPLEMENT AND I GUESS ALL WE ARE HERE TO SAY IS THAT THIS IS PRECEDENT SETTING, WHAT'S GOING ON HERE. THE REST OF THE STATE IS WATCHING WHAT'S GOING ON OUT HERE. AND AGAIN, WE APPLAUD WHAT YOU'VE DONE. BUT WE ARE CONCERNED ABOUT WHETHER OR NOT THIS IS GOING TO TRICKLE OUT TO OTHER PROJECTS THROUGHOUT THE STATE, AND WE JUST WANT TO EXPRESS A LITTLE CAUTION ON THAT END.

AS FOR CHROMIUM, THERE'S BEEN AN AWFUL LOT OF MEDIA ATTENTION ON THIS ISSUE. WE CAME HERE TO SAY THAT A LOT OF WHAT'S BEEN REPORTED IN THE MEDIA IS TRUE. IT'S GETTING BETTER, BUT IT'S STILL NOT GREAT. CHROMIUM 6 HAS BEEN DISCOVERED IN THE CADIZ VALLEY, BUT CHROMIUM 6 HAS ALSO BEEN DISCOVERED IN SOUTHERN CALIFORNIA, CENTRAL CALIFORNIA, NORTHERN CALIFORNIA. IT'S A T1-9

NATURALLY-OCCURRING ELEMENT. IT'S THE ELEVENTH MOST COMMON ELEMENT IN THE EARTH'S CRUST. ALMOST EVERYWHERE YOU LOOK, YOU'RE GOING TO FIND THIS STUFF. WE HAVE NO DOUBT ABOUT IT.

IT'S A VALID CONCERN TO HAVE. CHROMIUM 6 IS A CARCINOGEN WHEN INHALED. THIS IS A PROVEN FACT. WHAT STILL HAS YET TO BE PROVEN IS WHETHER OR NOT IT'S A CARCINOGEN WHEN WE DRINK IT.

THERE'S A CERTAIN STATE AGENCY IN SACRAMENTO THAT HAS DECLARED CHROMIUM 6 A CARCINOGEN IN WATER, BUT THERE ARE OTHER AGENCIES SUCH AS THE U.S. ENVIRONMENTAL PROTECTION AND THE WORLD HEALTH ORGANIZATION, ALL OF WHOM HAVE NOT FOUND CHROMIUM 6 TO BE A CARCINOGEN.

WE ARE NOT HERE TO SAY WHO'S RIGHT AND WHO IS WRONG. WE'RE JUST HERE TO SAY THERE NEEDS TO BE SOME AGREEMENT AMONG EXPERTS BEFORE WE START JUMPING TO CONCLUSIONS ABOUT WHAT CHROME 6 IS AND WHAT IT DOES; AND WE'RE A LITTLE FRUSTRATED THAT CHROME 6 SEEMS TO BE RAISED TO THIS HEIGHT WHERE IT COULD BE A MAKE OR BREAK DEAL FOR THIS PROJECT.

THAT, IN FACT, IS NOT THE CASE. THIS PROJECT NEEDS TO BE EVALUATED AND YOU CAN DECIDE WHETHER THIS PROJECT SHOULD GO FORWARD OR NOT. JUST DON'T DO IT ON THE BASIS OF THE PRESENCE OF CHROME 6.

THIS STUFF IS EVERYWHERE. THE STATE DEPARTMENT

OF HEALTH SERVICES IS DETERMINING AT THIS MOMENT WHETHER OR NOT THEY SHOULD REGULATE CHROME 6. THEY ARE SAMPLING ALL OVER THE STATE.

THE HEALTH EXPERTS ARE DEBATING WHETHER OR NOT IT'S CARCINOGENIC. TREATMENT OPTIONS ARE BEING LOOKED AT. THE COST FOR TREATMENT IS BEING LOOKED AT. THERE ARE SO MANY THINGS THAT NEED TO GO THROUGH THIS PROCESS THAT WE REALLY NEED TO MAKE SURE THAT PROCESS WORKS. THE LEGISLATURE ESTABLISHED THE PROCESS. IT'S A PROCESS THAT'S BEEN PROVEN EFFECTIVE AND WE JUST WANT IT TO WORK. T1-9

I'M HERE TO ANSWER ANY QUESTIONS ABOUT CHROMIUM 6. IF ANYBODY HAS ANY QUESTIONS ABOUT CHROMIUM 6 -- KIND OF A BORING TOPIC, BUT IF YOU HAVE ANY QUESTIONS. WE PUT TOGETHER ACTUALLY A PRETTY GOOD FACTS SHEET ON CHROMIUM THAT WE THINK IS REALLY HELPFUL; AND THAT'S ALL FOR THE COMMENTING. THANK YOU.

MS. SALENIUS: THE NEXT PERSON I HAVE TO SPEAK IS PATRICIA CARPENTERHUGHES.

MS. CARPENTERHUGHES: MY NAME IS PATRICIA CARPENTERHUGHES AND I LIVE IN WHITTIER, CALIFORNIA. I COME HERE TO SPEAK ON BEHALF OF THE SECOND LARGEST HERD OF BIGHORN SHEEP IN THE MOJAVE DESERT. THIS HERD OF BIGHORN SHEEP RESIDE IN THE TRILOBITE WILDERNESS AREA AND THEIR SURVIVAL DEPENDS ON THE FEW SPRINGS FOUND IN THAT WILDERNESS AREA. WITHOUT THE SPRINGS THE HERD WILL DIE. T1-10

THE CADIZ WATER PROJECT PUTS THE SPRINGS AT RISK. THE ENVIRONMENTAL IMPACT STATEMENT SAYS THE CADIZ PROJECT COULD DRAW DOWN THE WATER AS MUCH AS 180 FEET. NO ONE KNOWNS IF DRAWING DOWN THAT MUCH WATER WOULD DESTROY THE SPRINGS, BUT IF IT DOES, THE BIGHORN SHEEP DIE.

IN OUR HOMES WE HAVE LOW-FLOW TOILETS AS A MEANS OF CONSERVING WATER. IF HALF THE HOMES IN THE METROPOLITAN WATER DISTRICT USED LOW-FLOW TOILETS, THERE WOULD BE NO REASON TO DRAIN THIS AQUIFER AND THERE WOULD BE NO NEED FOR THE BIGHORN SHEEP TO DIE. THANK YOU.

MS. SALENIUS: BILL GARVIN?

MR. GARVIN: HI. MY NAME IS BILL GARVIN AND I LIVE IN YUCCA VALLEY. I'M IN FAVOR OF THE PROJECT. I'M A LOCAL BUSINESSMAN, A PLUMBER, AND I ALSO SAT ON THE WATER BOARD FOR FOUR YEARS IN TWENTYNINE PALMS. AND WE ACTUALLY LOOKED AT ONE TIME ABOUT IMPORTING WATER INTO OUR AREA.

AT THAT TIME, WE DIDN'T HAVE ENOUGH INFORMATION ABOUT OUR LOCAL DISTRICT, BUT WE THOUGHT THE IDEA WAS GOOD. THE FACT THAT IT'S BEING PROPOSED OUT THERE, LOOKING AT IT FROM WHAT I'VE READ, IT APPEARS TO BE A REAL GOOD IDEA AND I'M PERSONALLY IN FAVOR OF IT.

I THINK IT'S A LOT BETTER TO PLAN A PROJECT LIKE THIS AND START DOING IT NOW THAN BE IN A POSITION LIKE SAN DIEGO IS RIGHT NOW WITHOUT ELECTRICITY. SOMEBODY FAILED TO PLAN TEN YEARS AGO AND THEY HAVE A POWER PROBLEM.

THIS SAME THING COULD HAPPEN IN THE L.A. AREA SO THAT'S WHY I'M IN FAVOR OF IT. I THINK IT'S JUST A GOOD PLACE TO STORE WATER WITH VERY LITTLE IMPACT TO ANYTHING. THANK YOU. T1-12

MS. SALENIUS: SUSAN REILLY?

MS. REILLY: MY NAME IS SUSAN REILLY. I LIVE IN TWENTYNINE PALMS. I'M SPEAKING TONIGHT FOR THE DESERT PROTECTIVE COUNCIL, BUT I'M ALSO A MEMBER OF THE MORONGO BASIN CONSERVATION ASSOCIATION.

THE DESERT PROTECTIVE COUNCIL IS OPPOSED TO THIS PROJECT, NOT BECAUSE OF ITS STORING WATER FROM THE COLORADO RIVER -- THAT IS A COMMENDABLE GOAL FROM MOST ANYONE'S POINT OF VIEW -- BUT IT'S UNHAPPY WITH THE IDEA OF EXTRACTION OF WATER, INDIGENOUS WATER, FROM A BIG, PRECIOUS DESERT RESOURCE. T1-13

THE DESERT IS A GROWING AREA AND IT WILL PROBABLY CONTINUE TO BE AND WE'LL SOME DAY, PERHAPS, NEED THAT WATER. THE METROPOLITAN AREA IS A CONGESTED OVERPOPULATED GIANT WITH A CONSTANT INSATIABLE THIRST THAT'S GROWING ALL THE TIME. WHEN A PIPELINE IS OPENED GIVING ACCESS TO DESERT WATER TO THAT AREA, WHO KNOWS WHEN THEY WILL FINALLY STOP TAKING IT. THAT'S THE PROBLEM WITH THE MANAGEMENT PLAN.

I HAVE LOOKED CAREFULLY THROUGH THE SUPPLEMENT TO SEE IF I COULD FIND ANY NUMERICAL FIGURES ABOUT LIMITS ON

WHAT WATER COULD BE TAKEN FROM THERE, AND THE ONLY FIGURE I FOUND WAS THAT THEY WOULD ALLOW THE AQUIFER TO BE REDUCED BY A LEVEL OF A HUNDRED FEET BETWEEN THE BEGINNING OF THE PROJECT AND THE END OF IT IN 50 YEARS.

WELL, A HUNDRED FEET LOWER AQUIFER SEEMS LIKE QUITE A BIT OF WATER TO ME. AND THE BIG QUESTION IS: WOULD THE WITHDRAWAL OF THE WATER BE MORE OR LESS THAN THE RECHARGE THAT'S GOING IN THE AREA BY NATURE AND HAS BEEN ALL THESE YEARS?

IT SEEMS TO ME THAT A FIGURE SHOULD BE ESTABLISHED FROM THE HISTORICAL DATA GATHERED BY THE AGRICULTURAL FARM IN CADIZ OVER THE YEARS. FROM STUDYING THAT, A FIGURE COULD BE ASCERTAINED AT THE BEGINNING OF THE PROJECT'S OPERATIONS TO LIMIT THE WITHDRAWAL OF THE INDIGENOUS WATER SO THAT IT WOULDN'T BE TOO SEVERE BEFORE ALL THIS MONITORING EQUIPMENT HAS ACCUMULATED A RECORD OF TRENDS AND WHAT HAPPENS AS IT MOVES ALONG BECAUSE IT WILL TAKE SOME TIME FOR HISTORICAL DATA TO BE COLLECTED BY ALL MONITORS.

I DO ADMIRE THE NUMBER OF MONITORING THINGS YOU HAVE PLANNED. I THINK THAT'S TERRIFIC, BUT I'M LOOKING FOR FIGURES ON POSITIVE LIMITS. I DON'T SEE EXACTLY WHAT THE MANAGEMENT GROUP PLANS TO DO. IT SAYS THEY WILL PUT OUT REPORTS ON ALL OF THIS, BUT WHAT THEY WILL DEFINITELY DO ABOUT IT DOESN'T SEEM TOO STRONG IN THERE.

I'D LIKE TO SEE SOME FIGURES ON HOW MUCH WATER, FOR INSTANCE, IS TAKEN IN FROM THE COLORADO RIVER AND THEN STOP MEASURING IT AND SEE THEN FROM THERE HOW MUCH INDIGENOUS WATER IS PUMPED OUT AT THE SAME TIME PERHAPS. OR WILL THERE BE PUMPING OF THE INDIGENOUS WATER CONTINUOUSLY DURING DRY PERIODS BETWEEN STORAGE OF COLORADO RIVER WATER? T1-15

I THINK THERE SHOULD BE A GRAPH IN THE SUPPLEMENT SHOWING THE DIFFERENCE BETWEEN THE NUMBER OF TIMES THAT THE COLORADO RIVER HAS EXCESS WATER THAT CAN BE STORED THERE AND THE DRY PERIODS DURING THE SAME HISTORICAL TIME. I THINK YOU MIGHT FIND THAT THE DRY PERIODS FAR EXCEED THE EXCESS FLOWS ON THE COLORADO RIVER AS FAR AS HISTORICAL DATA IS CONCERNED. T1-16

AND I DO BELIEVE THAT ON THE TECHNICAL TEAM, THERE SHOULD BE MORE MEMBERS THAN JUST THE FOUR MENTIONED. I WOULD LIKE TO SEE, LIKE MR. MENDORA SAID, A COUPLE OF PUBLIC MEMBERS; AND I DO BELIEVE THERE SHOULD BE A MEMBER FROM THE STATE WATER RESOURCES CONTROL BOARD BECAUSE A PROJECT OF THIS SIZE IS OF SIGNIFICANCE TO ALL THE STATE WATER MANAGEMENTS. T1-17

LOOKING BACK OVER THE HISTORY OF THE TRACK RECORDS OF L.A.'S WATER AGENCIES IS WHAT MAKES PEOPLE IN THE DESERT APPREHENSIVE ABOUT THIS PROJECT BECAUSE OF THINGS LIKE OWENS VALLEY AND MONO LAKE. OF COURSE, A LOT

IS BEING DONE TO PROTECT THAT NOW AND SEE THAT THAT DOESN'T HAPPEN; BUT IT NEEDS TO BE CARRIED OUT CAREFULLY AND WHO'S GOING TO SEE THAT IT IS CARRIED OUT?

THE SUPPLEMENT SHOWS A VERY EXTENSIVE MONITORING SYSTEM AND THAT'S GOOD. HOWEVER, IT'S DIFFICULT TO TELL FROM READING THIS SUPPLEMENT JUST HOW THEY WOULD CONTROL THINGS IF THEY FIND THEY ARE GOING AMISS. THANK YOU VERY MUCH.

MS. SALENIUS: THANK YOU. I HAVE A COMMENT CARD FROM JANE SMITH WHO INDICATED THAT SHE DID NOT WANT TO SPEAK BUT SHE HAD A QUESTION AND ASKED: WHY IS THE LIFE OF TO PROJECT SO SHORT-TERM AND WHAT SOURCE WILL REPLACE IT WHEN THERE WILL BE A LIKELIHOOD OF AN EVEN GREATER NEED FOR WATER FOR M.W.D.? SO THAT'S HER LONG-TERM QUESTION AND I WON'T WRITE THAT DOWN BECAUSE I'VE GOT IT DOWN HERE.

THEN I ALSO HAVE A CARD FROM A ROBERT BARDSLEY. HE INDICATES THAT HE DOES WANT TO SPEAK BUT INDICATED THE FOLLOWING: WHAT ARE THE SHUTDOWN PROCEDURES IN THE EVENT OF EXCESS GROUNDWATER DRAWN AND CHROMIUM 6?

SO AGAIN, WE'LL MAKE SURE THAT WE HAVE SOME RESPONSE TO THOSE QUESTIONS.

NICOLAS ULLMANN?

MR. ULLMANN: GOOD EVENING. I'M NICOLAS ULLMANN. I'M HERE AS A PRIVATE INDIVIDUAL. I WOULD JUST LIKE TO COMMENT FOR THE SMALL NUMBER OF INDIVIDUAL WELLS IN

THE OUTLYING AREAS AROUND THE CADIZ PROJECT. I AM A HOMEOWNER IN THE AREA AND I'M SATISFIED THAT ENOUGH SAFEGUARDS HAVE BEEN TAKEN TO PREVENT ANY OF THE WELLS IN ANY AREA RUNNING DRY DUE TO EXCESS WITHDRAWAL DURING THE DRY PERIODS BY THIS PROJECT, SO I HAVE NO FEAR OF WATER LEVELS DROPPING TO THE POINT WHERE THE PROPERTIES IN THE CADIZ VALLEY WOULD GO WITHOUT WATER. THANK YOU. T1-21

MS. SALENIUS: THANK YOU. MAC, IT'S YOUR TURN.

MR. DUBE: I'VE GOT ABOUT A THREE-PART QUESTION. BEFORE I START, MY NAME'S M.J., "MAC," DUBE. I STAND HERE TONIGHT AS A PRIVATE CITIZEN, ALTHOUGH I AM THE MAYOR OF PRO-TEM OF THE CITY AND, GOD WILLING, I SHOULD BE THE MAYOR HERE IN A COUPLE OF WEEKS UNLESS THEY KICK ME OUT. T1-22

I'VE ATTENDED ALL THE MEETINGS. I'VE READ THAT TWO FEET OF DOCUMENTS, THE E.I.R./E.I.S., AND I'VE READ EVERY WORD OF THE SUPPLEMENT. AND ALL OF YOU OUGHT TO BE COMMENDED ON THE WORK YOU'VE DONE WITH THOSE DOCUMENTS. I THINK THERE ARE STILL SOME UNANSWERED QUESTIONS, BUT THEY'RE MINOR COMPARED TO WHAT YOU HAD ORIGINALLY.

YOUR STATEMENTS TONIGHT OPENED UP THE DOOR ON A COUPLE QUESTIONS -- OR A COUPLE COMMENTS THAT I HAVE. FIRST OF ALL, A LITTLE BACKGROUND. I'VE BEEN CHAIRING THE ENVIRONMENTAL QUALITY COMMITTEE FOR THE STATE FOR THE T1-23

LEAGUE OF CALIFORNIA CITIES FOR THE LAST TWO YEARS. I HAVE IT FOR ANOTHER YEAR. THIS IS ABOUT 60 PEOPLE REPRESENTING DIFFERENT COMMUNITIES THROUGHOUT THE STATE ON ENVIRONMENTAL MATTERS, SO I'M NOT EXACTLY BLIND TO ENVIRONMENTAL ISSUES AND I RESPECT WHAT THIS FIRST GENTLEMAN HERE -- I FORGET YOUR NAME, SIR -- I RESPECT WHAT HE AND THE LADY WITH THE BIGHORN SHEEP AND SOME OF THE OTHER PEOPLE WHO SPOKE UP ON THE ENVIRONMENTAL PROBLEMS AND SOME OF THE ANIMALS AND EVERYTHING ELSE. I HEAR THAT IN MY COMMITTEE MEETINGS SEVERAL TIMES A YEAR.

WE ARE TASKED WITH MAKING SURE THAT WE TAKE CARE, NOT ONLY OF PEOPLE, BUT OF ANIMAL AND PLANT LIFE; AND IF WE DON'T TAKE CARE OF THEM, THEN IT'S OUR RESPONSIBILITY TO MAKE SURE THAT THOSE WHO ARE ON THESE COMMITTEES DO THEIR JOBS. AND I FOR ONE, DON'T TAKE IT LIGHTWEIGHT. I HAVE RESPONSIBILITIES IN THAT AREA AND I SEE TO IT THAT WE TAKE CARE OF THOSE TASKS.

I'M ALSO A MEMBER OF THE HOUSING AND REDEVELOPMENT COMMITTEE AND HAVE BEEN ON THAT PARTICULAR COMMITTEE FOR ABOUT THREE YEARS; SO YOU CAN SEE THE CLASH THERE. HOUSING ALWAYS WANTS TO SPREAD ITS WINGS, AND PART OF THE PROBLEM THAT WE HAVE HERE TONIGHT, THE NEED FOR WATER, GOES WITH HOUSING AND THE SPREAD, THE MEGAPOLIS THAT WE FIND, TO TIE IN ALL THESE COMMUNITIES ALONG THE COAST. AND THE PROBLEM THAT METROPOLITAN WATER DISTRICT HAS IS

PROVIDING WATER FOR THE SPREAD OF THESE COMMUNITIES.

SO ON THE ONE HAND, I'M A MEMBER OF THE COMMITTEE THAT LOOKS INTO THE HOUSING AND THE SPREAD OF PEOPLE ALONG THE COAST; AND ON THE OTHER HAND, I'M ON A COMMITTEE AND CHAIR A COMMITTEE THAT PROVIDES SAFEGUARDS FOR THE ENVIRONMENT. SO I FIND MYSELF SOMETIMES AT A LOSS FROM ONE COMMITTEE, MOVING FROM ONE CHAIR TO THE OTHER, BUT THAT'S THE WAY IT GOES.

I WOULD FEEL BETTER, I THINK, IN MY POSITION IF I COULD HEAR THE WORDS HERE TONIGHT, AS YOU SPOKE, AS A DESERT DWELLER ALONG WITH THESE CITIZENS, IF WE WERE MADE TO BE PARTICIPANTS RATHER THAN ONLOOKERS.

I NEVER HEARD THE WORD PARTICIPANT IN YOUR PRESENTATION. I GET THE FEELING THAT WE ARE SIMPLY A VEHICLE BY WHICH YOU WILL STORE YOUR WATER AND THEN DRAW IT OUT AND THEN SEND IT OUT TO THE COAST. T1-23

I SEE THIS PROJECT A LITTLE DIFFERENTLY THAN MOST PEOPLE. I SEE YUCCA VALLEY DOWN THE LINE HERE -- AND I THINK WE HAVE A COUPLE PEOPLE FROM YUCCA VALLEY IN HERE TONIGHT -- I SEE THEM PAYING GOOD MONEY RIGHT NOW BRINGING IN WATER TO YUCCA VALLEY FROM GREAT DISTANCES.

OUR COMMUNITY HERE ALLEGEDLY HAS WATER FOR A HUNDRED AND FIFTY YEARS; BUT WHAT ABOUT THE FRAILTY OF OUR AQUIFERS IN AN EARTHQUAKE? ONE 8.5 OR 8.0 EARTHQUAKE CAN FRACTURE THE WALLS OF THAT AQUIFER AND WE DON'T KNOW WHAT

OUR WATER WILL BE AFTER THAT EARTHQUAKE OR EARTHQUAKES. WE'VE HAD A COUPLE OF ROUGH ONES HERE IN THE LAST 15 YEARS. AND I SEE CADIZ AS A POSSIBLE SOLUTION TO THAT DILEMMA.

WHERE WE CAN GO 40 MILES AS A CROW FLIES OR 45 MILES AS A CROW FLIES AND GET WATER INTO OUR CITY AND OUR COMMUNITIES HERE RATHER THAN HAVE TO GO OVER THE MOUNTAINS TO WHERE YUCCA VALLEY IS GETTING THEIR WATER AND PAY A PREMIUM PRICE FOR IT.

I WOULD LIKE TO HEAR THE WORD PARTNERSHIP A LOT MORE OFTEN IN YOUR DEALINGS WITH DESERT COMMUNITIES OVER HERE WHERE WE COULD GET SOME OF THAT WATER OR HAVE IT AVAILABLE FOR THE DESERT COMMUNITY AS PART OF THIS OVERALL PLAN; AND I HAVE NOT HEARD THAT. I HAVEN'T SEEN IT IN THE E.I.R./E.I.S. I HAVEN'T SEEN IN THE SUPPLEMENT. I HAVEN'T SEEN THAT WORD PARTNERSHIP FOR ANY OF THE DESERT COMMUNITIES AND I'D LIKE TO SEE THAT.

AND I UNDERSTAND THAT POSSIBLY THE WATER BOARD SHOULD BE IN ON IT. MAYBE THERE HASN'T BEEN ANY DISCUSSIONS AT ALL ABOUT THE POTENTIAL FOR PROVIDING WATER TO US IN THE EVENT OF DISASTERS; BUT WHAT YOU HAVE ON THE COAST IS POTENTIAL FOR DISASTER TOO.

WITH THE SPREAD THAT YOU HAVE, THE MEGAPOLIS OUT THERE, AND WHAT YOU ARE PLANNING FOR IS TO PREVENT SHORTAGES AND POTENTIAL DISASTERS AND WATER SHORTAGES OUT THERE AND RATIONING OF WATER, SO WHY NOT PLAN AT THE SAME

TIME FOR US WHERE WE COULD TAP SOME OF THAT WATER ALSO AND HAVE IT AVAILABLE FOR OUR DESERT COMMUNITIES.

WHAT'S IN IT FOR US I GUESS IS THE OBVIOUS QUESTION. WE SHOULD BE ABLE TO PARTICIPATE DOWN RANGE IF WE NEED WATER TOO. WE'RE CLOSEST TO THE ACTION. WE NEED TO BE ABLE TO BENEFIT IF WE EVER NEED IT. T1-23

THE OTHER ITEM THAT I HAVE WAS A LITTLE NOTATION. I WAS TALKING TO LESLIE ABOUT IT THIS MORNING. I HEARD YOU MENTION THAT WE'RE WELL WITHIN THE CHROMIUM ACTION LEVEL. YOU MENTIONED 2.5 PARTS PER BILLION AND THE CURRENT STATE LEVELS ARE 50 PARTS PER BILLION. BUT I THINK YOU'RE AWARE THAT YOU'VE GOT FOUR STATE LAWMAKERS RIGHT NOW THAT ARE BEATING DOWN DOORS TRYING TO LOWER THE STANDARDS OF 2.5; AND IF THEY LOWER TO 2.5, YOU'RE IN A HEAP OF TROUBLE. T1-24

I GIVE YOU THIS FROM YESTERDAY'S NEWSPAPER. DO YOU KNOW THOSE LAWMAKERS? IF NOT, YOU'D BETTER GET FAMILIAR WITH THEM BECAUSE IF THEY SUCCEED IN LOWERING THAT TO 2.5, WE'RE ALL IN A HEAP OF TROUBLE.

WHAT WAS THE OTHER COMMENT THAT I HAD? I HAD THREE.

MS. SALENIUS: GUARANTEES OF AQUIFER STABILITY.

MR. DUBE: YEAH, THE FRAILTY OF THE AQUIFERS I'VE ALREADY MENTIONED. IN THE EVENT OF ANY EARTHQUAKE, WE DON'T KNOW WHAT WE HAVE. WE MAY HAVE A HUNDRED AND FIFTY T1-25

YEARS OF WATER UNDER OUR CITY RIGHT NOW. ONE BIG EARTHQUAKE AND WE DON'T KNOW WHAT WE HAVE. T

YOU OUGHT TO BE CONGRATULATED ON THE WORK YOU'VE DONE TODAY. I THINK THAT YOUR E.I.R. AND THE E.I.S. IS VERY THOROUGH AND I THINK THIS PLAN -- I UNDERSTAND THIS GENTLEMAN'S CONCERN OVER HERE FOR THE BIGHORN SHEEP AND THE DESECRATION OF THE LAND, BUT ANY TIME YOU PUT A PIPELINE IN, WHETHER IT'S ABOVE GROUND OR NOT -- IT MAY BE ABOVE GROUND IN SOME PLACES AND BELOW GROUND IN OTHERS -- IF IT'S T BELOW GROUND, YOU'RE GOING TO HAVE TO CUT THE DESERT IN SEVERAL SPOTS.

IT WILL CAUSE SOME DAMAGE, BUT WHEN YOU BALANCE THAT WITH WHAT THIS WILL DO AS FAR AS GETTING WATER AND FILLING UP THE AQUIFER AND HAVING IT AVAILABLE FOR PEOPLE AND HAVING IT AVAILABLE FOR US, I THINK YOU'VE GOT A GREAT PLAN AND IT'S HIGH TIME WE GIVE BIRTH TO THIS THING.

MS. SALENIUS: THANK YOU. PETER KIRIAKOS?

MR. KIRIAKOS: I'M PETE KIRIAKOS. I'M THE CONSERVATION CHAIR FOR THE SAN GORGONIO CHAPTER OF THE SIERRA CLUB. THE TERRITORY THAT WE COVER IS RIVERSIDE AND SAN BERNARDINO COUNTIES AND THIS IS FULLY WITHIN OUR AREA. T I WORK TOGETHER WITH ELDEN AND AGREE WITH HIS COMMENTS EXCEPT FOR I WOULD TAKE AN EVEN TOUGHER LINE.

I'M ALSO A MEMBER OF THE SIERRA CLUB'S CALIFORNIA WATER COMMITTEE, ANOTHER COMMITTEE OF WHICH EXISTS IN

ADDITION TO THE DESERT COMMITTEE WHICH ELDEN CHAIRS AND I'M A MEMBER OF.

I NEED TO START AT THE GENERAL LEVEL BECAUSE I'VE NOT HAD A CHANCE TO COMMENT ON THIS WITH ALL THE THINGS THAT I'VE DEALT WITH. CLEARLY, SO THERE BE NO MISTAKE, SINCE THE FIRST TIME, ROUGHLY THREE YEARS AGO, CADIZ TOOK US TO THE LAND AND ASKED WHAT WE THOUGHT ABOUT THE PROJECT. WE HAD TOLD THEM AT THAT TIME WE ARE OPPOSED. OUR POSITION HAS NOT CHANGED. WE ARE CLEARLY OPPOSED AT THIS TIME STILL.

LOOKING AT THE PICTURE FOR UNDERGROUND WATER THROUGHOUT THE COUNTRY -- LOOKING AT THE ARID WEST. WHEN YOU LOOK AT THE OGALALA AQUIFER, THIS HAS BEEN DRAWN DOWN BY MANKIND THROUGH THE HUMAN USE OVER THE LAST CENTURY. IT'S IN DIFFICULT STRAITS AT THIS TIME. T1-27

WHEN YOU LOOK AT THE MOJAVE DESERT. YOU LOOK AT THE MOJAVE DESERT, YOU LOOK AT THE MOJAVE RIVER, AND THE IMPACT OF URBANIZATION AND TAKING WATER OUT OF WELLS, IT'S IN MAJOR DECLINE.

LOOK AT THIS AREA. THE RAINFALL IS PROBABLY SOMETHING LIKE AN INCH A YEAR, PLUS OR MINUS. PROBABLY A LOT OF YEARS IT'S MORE MINUS. AND YOU LOOK AT THE CONDITION OF THE OVERALL WATER AVAILABILITY WITHIN THE STATE OF CALIFORNIA. WHEN YOU LOOK AT THE STATE WATER PLAN, IN FACT, WITH HUMAN USE THROUGH EITHER URBAN USE OR

AGRICULTURE, THE WATER IN THE STATE OF CALIFORNIA, MORE IS USED THAN BASICALLY IS PRODUCED, SO TO SPEAK.

SO WHERE DOES THAT COME FROM? IT COMES FROM THE UNDERGROUND AQUIFERS. GET DOWN TO THE BOTTOM LINE, IT'S TIME FOR THE PEOPLE OF CALIFORNIA, SOUTHERN CALIFORNIA AND THIS AREA AND THE METROPOLITAN WATER DISTRICT, TO LOOK AT THE BASIC FACTS. WE CANNOT SUSTAIN THROUGH THE STATE OF CALIFORNIA, NOR IN SOUTHERN CALIFORNIA, THE CONTINUED AMOUNT OF USE AND MAYBE EVEN POPULATION GROWTH THAT WE HAVE HAD IN THE PAST.

I HAVE TO SPEAK VERY CLEARLY. OTHER PEOPLE HAVE MENTIONED THE SITUATION WHICH HAS EXISTED OVER THIS LAST CENTURY, BRINGING WATER INTO SOUTHERN CALIFORNIA FROM THE OWENS VALLEY. GRANTED, IN RECENT YEARS THERE'S BEEN MAJOR ATTEMPTS TO RIGHT THE WRONGS. AT THIS POINT I HAVE TO CLEARLY SAY SHAME. BUT FOR THE GROWTH IN POPULATION IN SOUTHERN CALIFORNIA, WE'RE CONSIDERING COMING OUT HERE TO RAID THE MOJAVE WITH THIS LIMITED RAINFALL TO SUPPLY MORE GROWTH. THIS IS TOTALLY NOT ACCEPTABLE.

ELDEN HAS INDICATED, AS HAVE OTHERS, IT IS THE MONITORING SYSTEM. THE BOTTOM LINE, THIS IS NOT ACCEPTABLE. ELDEN HAS INDICATED THE DIFFICULTY, AS HAVE OTHERS, WITH THE MONITORING SYSTEM. THE BOTTOM LINE OF THIS IS IT'S AN OVERALL SITUATION WHERE WE'RE TOLD TRUST US.

WE'RE GOING TO AFFECT A LARGE NUMBER OF SQUARE MILES OF AQUIFER WHICH UNDERLIES SENSITIVE HABITAT. THE PROPOSAL IS TO EXPERIMENT EVEN THOUGH WE HAVE, HOPEFULLY, SCIENTIFIC MONITORING AND, HOPEFULLY, THERE WILL BE NO IMPACT.

TI-28

BUT THERE IS NO MECHANISM, AS ELDEN AND OTHERS HAVE DESCRIBED, TO, IN FACT, PULL THIS TO A HALT, TO HAVE REPRESENTATION ON THESE BOARDS FROM OTHER THAN THE STAKEHOLDERS WHO ARE PUTTING THE MONEY DOWN.

WELL, THE PEOPLE OF CALIFORNIA NEED TO HAVE THEIR INTERESTS REPRESENTED. THERE SHOULD BE OTHER REPRESENTATIVES IF, IN FACT, THIS HAPPENS, AND WE'RE FULLY OPPOSED TO IT. IN FACT, THERE SHOULD BE ENVIRONMENTAL REPRESENTATION, SPECIFICALLY, SHOULD IT HAPPEN. AND AGAIN, WE DON'T WANT IT TO HAPPEN.

SO I THINK I'VE CLEARLY STATED THAT WE ARE TOTALLY AGAINST THIS PROJECT. I FULLY AGREE WITH EVERYTHING THAT ELDEN HAS SAID, PATTY AND OTHERS. WE HAVE TO HAVE LIMITS TO THE GROWTH, AND IT'S NOT ACCEPTABLE FOR THE RESOURCES OF SAN BERNARDINO COUNTY AND THE MOJAVE DESERT, THE WATER RESOURCES SPECIFICALLY, AND THE HABITAT THAT'S SUPPORTED BY THOSE WATER RESOURCES BE PUT AT RISK THROUGH A MAJOR EXPERIMENT ON A MASSIVE SCALE TO FUEL POPULATION GROWTH IN SOUTHERN CALIFORNIA.

TI-29

AND ONE OTHER COMMENT AS FAR AS THE OVERALL WATER

TI-30

PICTURE IN SOUTHERN CALIFORNIA: CLEARLY, EVERYTHING THAT HAPPENS IS INTERLINKED. BECAUSE OF THE INTERCONNECTING WATER SUPPLY SYSTEM WITH THE MASSIVE PIPELINES THAT COME FROM SOUTHERN CALIFORNIA, WHAT WE DO DOWN HERE IS NOT ISOLATED, AND THE WATER USAGE DOWN HERE IMPACTS NORTHERN CALIFORNIA. WE HAVE A MAJOR PROGRAM TO RESTORE THE CALIFORNIA ESTUARY OF THE SAN FRANCISCO BAY THROUGH THE CALFED PROCESS.

IF THERE'S EXCESS WATER USE DOWN HERE, IF THERE'S NOT THE BREAK TO THE USAGE AND THE POPULATION GROWTH, THERE WILL BE FURTHER DECLINE IN THE SAN FRANCISCO BAY DELTA AND A FURTHER DECLINE TO THE WHOLE ECOSYSTEM THROUGH CALIFORNIA BECAUSE THERE'S NOT ENOUGH WATER TO GO AROUND. THAT WATER COMES OUT OF THE SIERRAS. IT'S NEEDED TO HOLD BACK THE WATERS OF THE SAN FRANCISCO BAY AND TO PRESERVE THE HABITAT IN THAT AREA AND ALSO TO PRESERVE THEIR AQUIFERS AND THEIR LANDS SO THEY DON'T GO SAILING.

INITIAL POINT AS FAR AS SALINITY. ANOTHER OVERALL PROSPECTIVE IS, IN FACT, WE'RE LOOKING AT THE PROPOSAL TO TAKE HIGHLY SALINE WATER OUT OF THE COLORADO RIVER AQUEDUCT. IF YOU HAVE EVER BEEN IN LONG BEACH, LOS ANGELES OR WHATEVER AND YOU TASTE THE WATER; IT IS VERY CLEAR THE DIFFERENCE BETWEEN THAT WATER AND WHAT YOU GET OUT OF THE OTHER PUREST SOURCES OUT OF THE MOUNTAIN. AND IT'S VERY PURE WATER ACCORDING TO THE HYROLOGISTS WHICH

WORK FOR CADIZ. AND WE'RE LOOKING AT MIXING THE SALINE WATER.

WELL, WHAT HAPPENS WHEN YOU CONTINUE PUMPING SALINE WATER INTO A CLEAN AREA AND THEN YOU TAKE IT OUT? WHAT ARE WE GOING TO HAVE; AN UNDERGROUND FILTER FOR SALTS? THIS IS NOT ENVIRONMENTALLY ACCEPTABLE. T1-31

I THINK THAT WRAPS IT UP. THANKS.

MS. SALENIUS: OKAY. D.J. MASKER?

MS. MASKER: WELL, I CONCUR WITH MANY, MANY OF THE STATEMENTS MADE HERE THIS EVENING. AND I DO COMMEND THOSE WHO HAVE WORKED SO DILIGENTLY ON THE E.I.R./E.I.S. AND THE SUPPLEMENTAL. T1-32

AND MY COMMENTS THAT I WANT TO TALK ABOUT NOW INCLUDES THE PUBLIC COMMENTS THAT WERE MADE AFTER THE E.I.R./E.I.S. I WONDER WHY THEY AREN'T IN THIS SUPPLEMENTAL AND I KNOW THEY ARE GOING TO COME OUT IN THE FINAL, BUT I THINK THEY SHOULD HAVE BEEN HERE. T1-33

WHEN WE GOT THE ORIGINAL E.I.R./E.I.S. THERE WERE PUBLIC COMMENTS IN THERE, AND WHY AREN'T THEY NOW IN THE SUPPLEMENTAL, THOSE THAT HAVE COME ON SINCE THEN? IT ALL GIVES US AN IDEA OF ARE WE ALL ON THE SAME TRACK HERE OF WHAT WE WANT YOU PEOPLE TO ADDRESS MORE IN DEPTH?

I MAY NOT HAVE THESE INITIALS CORRECT, BUT T.R.T. AND B.M.G. COMPOSITION -- I WANT TO TALK ABOUT THAT. IT APPEARS TO ME FROM WHAT I READ IN THE SUPPLEMENTAL, THERE T1-34

ARE FOUR PEOPLE ON BOTH COMMITTEES FROM THE SAME AREAS. B.L.M., M.W.D., CADIZ AND SOMEBODY ELSE. THE COUNTY OF SAN BERNARDINO AND SOMEBODY ELSE. I MAY HAVE THE NUMBERS WRONG, BUT NEVERTHELESS, THE COMPOSITION IS THE SAME AND I WONDER. ARE WE WORKING SUBORDINATE SUPERVISOR HERE? HOW ARE WE SELECTING THOSE PEOPLE? T

THERE WAS NO INDICATION IN THE SUPPLEMENTAL AND I WOULD STRONGLY URGE YOU, PLEASE, GET SOMEBODY FROM THE CALIFORNIA WATER DISTRICT, GET SOMEBODY THAT REPRESENTS THE CITIZENS. WE'VE ASKED -- I BELONG TO SEVERAL CONSERVATION GROUPS AND WE ASKED THAT IN OUR LETTER TO THE E.I.R./E.I.S. AND IT WAS NOT ADDRESSED. SO WE'LL COME BACK AND ADDRESS IT AGAIN.

MANAGEMENT PLAN, AS SOMEBODY SO ELOQUENTLY STATED, IT IS A MONITORING PLAN. IT IS A WONDERFUL MONITORING PLAN. IT IS REPORTED TO THE PUBLIC ANNUALLY. I WONDER WHAT CATASTROPHES WE'RE GOING TO HAVE IN THE FIRST 11 MONTHS BEFORE WE GET IN ON THE 14TH OR 15TH OR 16TH MONTH AFTER YOU HAVE DECIDED WHAT WENT RIGHT OR WHAT WENT WRONG. T

METROPOLITAN WATER HAS THREE PROJECTS GOING: COACHELLA, CADIZ, AND HAYFIELD. MY PERCEPTION IS THIS: YOU ARE NOW OVERDRAWN FROM THE COLORADO RIVER. YOU ARE GOING TO TAKE SO MUCH OF YOUR ALLOWANCE FROM THE COLORADO RIVER AND PUT IT INTO STORAGE AT CADIZ. YOU'RE GOING TO DO

THE SAME IN HAYFIELD AND THE SAME IN COACHELLA.

HOW IS THE LEFT AND THE RIGHT GOING TO KNOW WHAT THE MIDDLE IS DOING? AND HOW IS THE MIDDLE GOING TO KNOW WHAT THE LEFT AND RIGHT ARE DOING? YOU'RE NOT GOING TO REPORT TO US ON WHAT YOU ARE DOING IN THESE OTHER PROJECTS. SO I WOULD LIKE TO SEE SOME MENTION OF HOW WE'RE GOING TO BE SURE M.W.D. CONTAINS THEMSELVES WITHIN THEIR ALLOWANCE. THANK YOU. T1-35

MS. SALENIUS: AND THAT'S THE ENTIRE GROUP. IF THERE'S ANYONE ELSE WHO HAD WISHED TO SPEAK -- THIS IS MR. DAVID FICK.

MR. FICK: HELLO. MY NAME IS DAVID FICK. I'M EXECUTIVE DIRECTOR OF D.E.R.T., DESERT ENVIRONMENTAL RESPONSE TEAM. AND I HAVEN'T DONE ALL MY HOMEWORK ON THIS E.I.R./E.I.S. BECAUSE WE'RE PRETTY MUCH INVOLVED WITH THE EAGLE MOUNTAIN SITE TOO, WHICH INVOLVES B.L.M. AND, ON THE SIDELINE, METROPOLITAN WATER DISTRICT. T1-36

I HAVE SEVERAL QUESTIONS. I'M IN ALLIANCE PRETTY MUCH WITH MR. HUGHES AND D.J. IN OBSERVING THAT THERE'S A LOT OF MONITORING AND THERE'S VERY LITTLE MANAGEMENT OR AT LEAST THERE'S A LOT OF QUESTIONS ON THE T.R.T. AND THE BASIN MANAGEMENT GROUP.

I, AGAIN, WOULD ALSO WANT TO SEE A BIT MORE INTERACTION OF THE ACTUAL PUBLIC AND NOT THESE STATE AGENCIES ON THE GROUP. AND I WAS CURIOUS OF WHAT KIND OF A T1-37

TEAM THE T.R.T AND THE BASIN MANAGEMENT GROUP HAVE OR IF THEY ARE ADVISORY? AND AS IT WAS BRIEFLY STATED, B.L.M. HAS THE FINAL SAY ON THE DISPUTE, SO I'LL GET TO THAT LATER.

A TECHNICAL QUESTION I HAVE -- I PROBABLY COULD HAVE LOOKED IT UP IN THE E.I.R./E.I.S., BUT IT'S IN THIS SIMPLE DEMONSTRATION -- ILLUSTRATION OF THE EXTRACTION WELLS. IT SHOWS THAT THE WELLS THEMSELVES DO NOT GO INTO THE NATURAL AQUIFER.

AND IF I UNDERSTAND CORRECTLY, THAT'S 500,000 ACRE FEET WAS GOING TO BE DRAWN FROM THE NATURAL AQUIFER. DOES THAT MEAN THE EXTRACTION WELLS ACTUALLY GO INTO THE NATURAL AQUIFER OR IS THAT ARTISTIC LICENSE ON THE BASIS OF THE GRAPHIC ARTIST?

ANOTHER QUESTION I HAVE THAT MIGHT BE IN THE E.I.R./E.I.S. IS IN THE LAST 50 YEARS WHICH HAVE BEEN CONSIDERED DRY ACCORDING TO THIS PLAN -- IN OTHER WORDS, THEY SAY "DRY YEARS" AND "WET YEARS" -- WE WANT TO KNOW WHICH YEARS REALLY ARE DRY AND WET AND IF WE'RE GOING TO HAVE SOMETHING LIKE 15 WET YEARS OR DRY YEARS IN A ROW? PROBABLY DRY YEARS, I SUPPOSE.

AND ANOTHER OBSERVATION, AND THIS IS NOT AS EXPERT AS I WANT TO BE ABOUT IT, BUT ON THE HAYFIELD PROJECT, I UNDERSTAND THE HAYFIELD PROJECT IS ON A SIMILAR BASIS AS FAR AS THE AMOUNT OF WATER, BUT YET, WE DON'T KNOW

MUCH ABOUT IT BECAUSE METROPOLITAN WATER DISTRICT HAD A DECLARATION OF NEGATIVE IMPACT, ENVIRONMENTAL IMPACT ON IT. SO I WOULD BE CURIOUS AS TO INCLUDING A SHORT AND ACCURATE HISTORY OF THE HAYFIELD PROJECT AS IT IS RIGHT NOW.

BECAUSE I ALSO UNDERSTAND, ALTHOUGH IT'S INDIRECTLY, THEY DON'T KNOW WHERE THE WATER WENT WHEN THEY PUT ALL THAT WATER IN THERE. AND THE HAYFIELD PROJECT, FROM WHAT I KNOW ABOUT IT, DOES BRING LOTS OF SUSPICIONS ABOUT THE METROPOLITAN WATER DISTRICT. THAT'S IN COMPARISON TO THE CADIZ WATER PROJECT THAT WAS VERY QUICK AND DIRTY. AND IF LEFT TO THEIR OWN DEVICES, I DON'T THINK I CAN TRUST THE METROPOLITAN WATER DISTRICT. T1-40

AND ANOTHER ONE I DON'T TRUST IS B.L.M. I'VE HAD A LOT OF EXPERIENCE WITH B.L.M. AND I HAVE A LOT OF RESPECT FOR SOME OF THE MEMBERS OF B.L.M., BUT SOME OF THE ACTIONS OF B.L.M. HAVE BEEN DESCRIBED AS HAVING TO HAVE THEIR HANDS TIED AS FAR AS WHAT THEY DO, AND THEY DO THE WRONG THING. AND AS YOU MIGHT KNOW WITH EAGLE MOUNTAIN, IT TAKES THE FEDERAL COURT TO MAKE THE B.L.M. DO THE RIGHT THING, SO ARE WE GOING TO SEE FEDERAL COURTS IN THIS? T1-41

AND THE GIST OF MANY OF THE COMMENTS OF PEOPLE HERE FROM WHAT I'VE SEEN IS THERE'S A BIT MORE TRUST IN CADIZ. THERE'S NOT TOO MUCH TRUST IN THE METROPOLITAN WATER DISTRICT, AND WE WANT TO SEE SOME ACTUAL ENFORCEMENT OF ACTIONS ON THE POLICIES MADE BY A MORE REPRESENTATIONAL T1-42

GROUP. THANK YOU.

MS. SALENIUS: WELL, THAT CONCLUDES THE COMMENTS FOR THIS EVENING. WE'LL TAKE A SHORT BREAK AND MAYBE WE CAN RESPOND TO SOME OF THE QUESTIONS THAT YOU HAVE RAISED THIS EVENING.

(THERE WAS A SHORT BREAK TAKEN AT 8:40 P.M. UNTIL 8:52 P.M.)

MS. SALENIUS: I'M GOING TO START AND TRY TO GET A LITTLE QUIET SO WE CAN HEAR EVERYBODY. THANK YOU.

WE'VE LOOKED AT SOME OF THE QUESTIONS AND WE'RE GOING TO TRY AND ANSWER THOSE THAT WE CAN TONIGHT. THERE ARE SOME THAT ARE GOING TO BE A LITTLE BIT MORE COMPLICATED, SO WE'RE GOING TO HAVE TO ADDRESS THOSE IN THE FINAL E.I.R./E.I.S.

THERE WERE QUITE A FEW QUESTIONS ABOUT THE COMPOSITION OF THE TECHNICAL TEAMS FOR THE MANAGEMENT PLAN, AND I THINK MOLLY WAS GOING TO RESPOND TO THAT.

MS. BRADY: OKAY. LIKE SYLVIA SAID, THERE WERE QUITE A FEW QUESTIONS AND I'VE SEEN SOME VERY GOOD COMMENTS HERE TONIGHT ABOUT WHAT I WOULD CALL THE MANAGEMENT OF THIS SYSTEM. AND IT WAS CLEARLY A PROBLEM AREA FOR US WHEN WE WERE TRYING TO DEVELOP IT.

WE WERE TRYING TO DEVELOP A SYSTEM THAT CERTAINLY WOULD BE INSTITUTIONALIZED FOR THE LIFE OF THIS PROJECT. SO AGAIN, DEPENDING UPON PEOPLE LIKE MYSELF OR JACK--

WE'RE NOT GOING TO BE AROUND. SO IT IS INSTITUTIONALIZED IN SOME WAY.

THE INITIAL DISCUSSION -- AND WE'VE HAD DISCUSSIONS AMONG ALL OF THE PARTICIPATING MEMBERS THAT INCLUDES THE PARK SERVICE, THE U.S.G.S. AND COOPERATING AGENCIES AS WELL AS THE B.L.M., AND CADIZ AND THE M.W.D.; AND THE COUNTY, IN TALKING ABOUT THE TECHNICAL REVIEW TEAM AND DEVELOPING STRUCTURE. AND A COUPLE OF YOU THOUGHT ASTUTELY THAT IT'S NOT THAT CLEAR YET AND WE ARE WORKING ON SOME DETAILS.

SO LET ME TALK A LITTLE BIT ABOUT SOME OF THOSE AREAS OF CONCERN AND WHAT WE'D LIKE FROM YOU IN TERMS OF INPUT IN THE PUBLIC COMMENT PERIOD.

FIRST, THE TECHNICAL REVIEW TEAM. THAT IS INTENDED TO BE MUCH LIKE THE TECHNICAL REVIEW TEAM THAT DEVELOPED THE MONITORING MANAGEMENT PLAN, CONSISTING OF TECHNICAL EXPERTS; NOT MANAGERS BUT TECHNICAL EXPERTS. I APPRECIATE COMMENTS HERE ABOUT HAVING MEMBERS OF THE PUBLIC. THAT'S SOMETHING WE WILL SERIOUSLY CONSIDER; MEMBERS FROM OTHER AGENCIES TO BE A MEMBER OF THAT.

THE ISSUES, THOUGH, WERE ON THE TECHNICAL REVIEW TEAM AS THEY WERE ON THE BASIN MANAGEMENT GROUP, BUT THE TECHNICAL REVIEW TEAM MAY HAVE TO BE COMPRISED UNDER THE FEDERAL ADVISORY COMMITTEE ACT, WHICH REQUIRES IT BE CHARTERED BY THE SECRETARY OF THE INTERIOR.

IT HAS TO GO THROUGH A VERY FORMAL PROCESS THAT WILL REGISTER NOTICE FOR MEETINGS. ALL MEETINGS ARE OPEN TO THE PUBLIC AND SO IT'S A VERY FORMALIZED PROCESS. THAT'S NO PROBLEM, BUT WE ARE FIGURING OUT HOW WE WANT TO DO THAT AND WHAT THE COMPOSITION OF THAT TECHNICAL REVIEW TEAM WOULD BE.

THE OTHER PROBLEM WAS WE HAD INCLUDED AS A MEMBER OF THAT TECHNICAL REVIEW TEAM, IN CONCEPT, WAS THE BUREAU OF LAND MANAGEMENT. BUT IF, IN FACT, THE BUREAU OF LAND MANAGEMENT IS MAKING DECISIONS, THEY CAN'T PERHAPS BE A PART OF THIS GROUP. SO THERE IS A CONFLICT OF INTEREST HERE. THEY ARE THE REGULATOR. THEY HAVE TO MAKE THIS DECISION. HOW CAN THEY ALSO BE WORKING WITH THIS TEAM?

THE TECHNICAL TEAM HAS ALWAYS ENVISIONED THAT THE U.S.G.S. AND THE PARK SERVICE WOULD HAVE PARTICIPANTS, TECHNICAL MEMBERS ON THAT TECHNICAL REVIEW TEAM. MARK LIGGETT WAS ON THE TECHNICAL REVIEW TEAM AND KEN DOWNING FROM B.L.M. ON MY STAFF. THEY'RE BOTH SMARTER THAN I AM ABOUT THESE THINGS. BUT THEY HAD NUMEROUS DISCUSSIONS IN THAT TECHNICAL REVIEW TEAM.

THE BASIN MANAGEMENT GROUP, SO THAT YOU CAN SEE THE CONFLICT OF INTEREST HERE, THE TECHNICAL REVIEW TEAM EVALUATES THE DATA MONITORING AND THERE'S A TRIGGER; THE MONITORING RESULTS IN THE TRIGGERING OF SOMETHING. THEY HAVE A MEETING. NOW, A MEETING CAN BE CALLED -- I THINK

THE WAY IT IS NOW IS THAT TWO MEMBERS OF THE TECHNICAL REVIEW TEAM CAN REQUEST A MEETING. THE IDEA WITH THE MEETING IS THAT WE'VE GOT A TRIGGER; WE MEET.

THE TECHNICAL REVIEW TEAM MEETS. THEY EVALUATE THE DATA. THEY MAKE SOME DETERMINATION BECAUSE THIS IS NOT JUST BLACK AND WHITE. SO THERE IS A LOT OF INTERPRETATION TO BE DONE. THEY INTERPRET THE DATA. THEY MAKE A RECOMMENDATION ABOUT WHAT SHOULD BE DONE. WONDERFUL, IF IT'S A CONSENSUS. THEY MAKE A RECOMMENDATION -- LET'S JUST LEAVE ASIDE AS TO WHO MAKES THE DECISION HERE FOR A MOMENT. THEY MAKE A CONSENSUS RECOMMENDATION: CHANGES IN OPERATIONS, CEASE OPERATING, DOING SOMETHING TO CHANGE IT.

WE ALSO EXPECT THE TECHNICAL REVIEW TEAM TO MAKE A LOT OF WHAT I WOULD CALL INTERMEDIATE DECISIONS HAVING TO DO WITH THE MONITORING PLAN; MAYBE SOME CHANGES, NEW TECHNOLOGY. MAYBE WE WANT TO CHANGE HOW WE ARE DOING IT TO DO IT BETTER.

SO THEY WILL MAKE OTHER DECISIONS OTHER THAN JUST -- OR THEY'LL CONSIDER OTHER CHANGES OTHER THAN JUST OPERATION KINDS OF THINGS RELATIVE TO HOW MUCH WATER AND WHAT'S GOING ON WITH THE GROUNDWATER, BUT IT'S ALSO HOW THAT MONITORING THING WORKS. SO THEY'LL MAKE A RECOMMENDATION.

IF IT'S NOT A CONSENSUS, OUR VISION WAS THAT -- WELL, YOU'LL GET MULTIPLE MINORITY REPORTS --

RECOMMENDATIONS. AND THAT WOULD GO TO THE SECOND BODY, WHICH INITIALLY WE TALKED ABOUT, IF THE BASIN MANAGEMENT GROUP INITIALLY SAYS THAT WILL BE THE GROUP THAT MAKES THE DECISION. RAN INTO THE SAME PROBLEM THAT THERE WAS CONCERN THAT IN THAT GROUP, IF WE HAD CADIZ, M.W.D., THE TWO PROPONENTS, AND THEN B.L.M. AS BASICALLY A REGULATOR, BECAUSE WE'RE REGULATING THE RIGHT-OF-WAY WHICH WE'VE ISSUED TO THEM AND THE COUNTY, IF THEY'RE ON THAT GROUP, THERE WAS CONCERN THAT WE MAY ALSO NEED TO ESTABLISH THAT AS A FEDERAL ADVISORY COMMITTEE.

AND THEN THERE WAS ALSO THE PROBLEM THAT TECHNICALLY, THE B.L.M. COULD NOT BE A MEMBER. THEY COULD ONLY BE AN OBSERVER OR A FEDERAL PRESENCE BECAUSE THEY WOULDN'T WANT US MAKING THE FINAL DECISIONS. BUT IT WAS ASSUMED THAT THAT WOULD BE THE GROUP MANAGERS TAKING THE TECHNICAL RECOMMENDATIONS. THE MANAGERS WOULD MAKE A DECISION, HOPEFULLY -- WELL, THEY WOULD CONSIDER IT AND THEY HOPEFULLY COME TO A CONSENSUS. IF THEY DIDN'T COME TO A CONSENSUS, IT WAS UP TO THE B.L.M. TO JUST MAKE A DECISION. IT LOOKS LIKE THE B.L.M. WON'T BE BORN A MEMBER OF THAT GROUP IF WE HAVE IT SET UP IN THAT WAY.

SO ANYHOW, I REALLY DO, LIKE I SAID, APPRECIATE COMMENTS ON THE STRUCTURE AND HOW IT WORKS. THE CONCEPT OF HAVING MEMBERS AT LARGE, THAT WOULD MAKE IT DEFINITELY A FEDERAL ADVISORY COMMITTEE ACT OF REFORM.

MR. LIZALDE: ARE YOU OPEN TO QUESTIONS?

MS. BRADY: I DON'T HAVE A PROBLEM WITH QUESTIONS.

MR. LIZALDE: I'VE GOT A QUESTION. NOW, BEING A LANDOWNER IN THE VALLEY, I HAVE OWNED A WATER SYSTEM FOR THE LAST TEN YEARS AND I HAVE A CONCERN, AND I RESPECT YOUR VISION. I RESPECT THAT.

BUT I HAVE A CONCERN: THERE ARE A FEW LANDOWNERS IN THE AREA THAT HAVE BEEN PUMPING WATER -- I KNOW ONE GENTLEMAN FOR 50 YEARS NOW -- AND THE AVERAGE DEPTH OF THE WELLS IN THIS AREA, WHICH ARE APPROXIMATELY FOUR MILES, THE PROPOSED EXTRACTION ZONE, ARE ONLY ABOUT TWO HUNDRED FEET.

NOW, VISUALIZE THIS WITH ME: IF YOU'RE DOWN SOUTH FOUR MILES, YOU RUN INTO ZONES AND THEIR WELLS ARE 1,000 FEET DEEP. NOW, PICTURE THAT. AND I'M CONCERNED AS A LANDOWNER AND I'M SURE OTHER LANDOWNERS ARE CONCERNED, DEEPLY CONCERNED. IT'S OBVIOUS THAT WHEN YOU HAVE SOMETHING THAT IS A THOUSAND FEET DEEP VERSUS 200 FEET DEEP, THERE'S GOING TO BE AN IMPACT AND IT'S GOING TO BE SUBSTANTIAL. IT WON'T IMPACT THE THOUSAND-FOOT WELLS, BUT IT'LL IMPACT THESE RIGHT AWAY.

T1-43

AND MY QUESTION IS: WHY HAVEN'T THE LANDOWNERS BEEN CONTACTED AND ASKED? BECAUSE IT APPEARS THAT THE LANDOWNERS IN THE CHAMPUS AREA ARE BEING DISCRIMINATED AGAINST SIMPLY BECAUSE THEY OWN LESS LAND.

MS. BRADY: AND I'M GOING TO DEFER ON THIS. THAT'S NOT A QUESTION I CAN ANSWER. IN TERMS OF THE -- THE DIFFERENCE BETWEEN THE THOUSAND AND THE 200 AND THAT KIND OF THING, I CAN'T ANSWER THAT PART, GUS.

MR. SAFELY: DO YOU MEAN YOUR CONCERN IS WITH THE IMPACT TO YOUR WELLS AND WATER LEVELS?

MR. LIZALDE: WELL, YEAH. THAT'S PART OF THE QUESTION. BUT THE FIRST PART OF THE QUESTION IS: WELL, WHY HAVEN'T THE LANDOWNERS THAT HAVE BEEN PUMPING WATER FOR 80 YEARS, 40 YEARS HAVE TWO WELLS, THEN CONTACTED, AND THEN ASKED, WELL, HOW DO YOU FEEL ABOUT THIS IMPACT?

THEY HAVE BEEN COMPLETELY IGNORED AND THEIR RIGHTS ARE -- YOU KNOW, YOU'RE FAMILIAR WITH WATER RIGHTS -- AND THERE'S NO QUESTION. THEY ARE BEING IGNORED. THAT'S THE FIRST OF THE QUESTION. WHY ARE WE NOT BEING BROUGHT INTO THE PICTURE? WHY ARE WE BEING IGNORED?

MS. BRADY: I CAN ANSWER THAT. ACTUALLY, I WAS GOING TO SAY YOU'RE NOT BEING IGNORED. I MEAN, THIS IS THE OPPORTUNITY WHEN WE GO OUT AND WE GO AFTER THE PUBLIC. WE WANT YOUR INPUT NOW. WE DEFINITELY WANT IT AND APPRECIATE IT.

MR. LIZALDE: CAN I ADD A COMMENT?

MS. BRADY: GO AHEAD.

MR. LIZALDE: I THINK THAT THE PUBLIC WOULD

FEEL BETTER IF THEY GOT A GOOD SCOPE AS FAR AS THE TRUE PICTURE OF THIS WHOLE PROCESS, THIS EXTRACTION OF WATER; AND I THINK IT SHOULD BE ENTERED INTO THE RECORD THAT THE CADIZ LAND COMPANY SHOULD DISCLOSE THE DEPTH OF THEIR WELLS; AND IF MY MEMORY SERVES ME, I BELIEVE THEY PUMP UP 4,500 GALLONS A MINUTE; IS THAT RIGHT? T1-45

MR. SAFELY: YES.

MR. LIZALDE: AND THERE IS GOING TO BE A PROPOSED, HOW MANY WELLS, 30? T1-46

MR. SAFELY: 30.

MR. LIZALDE: SO YOU'RE TALKING BILLIONS OF GALLONS, POSSIBLY, A MINUTE; OR HUNDREDS OF THOUSANDS. I THINK THAT WE SHOULD EXPLAIN TO THE PUBLIC ON HOW FAST THE EXTRACTION IS GOING TO HAPPEN. IT'S INCREDIBLE. T1-47

MS. BRADY: AND THAT IS SOMETHING THAT CERTAINLY NEEDS TO BE DISCLOSED.

MR. LIZALDE: YES. YES. I'D LIKE TO ENTER THAT INTO THE RECORD. AND ONE MORE THING. I UNDERSTAND THAT -- T1-48

MS. BRADY: PROMISE?

MR. LIZALDE: PROMISE. I UNDERSTAND THAT IN THE LAST FOUR YEARS THE CADIZ LAND COMPANY HAS BEEN EXTRACTING WATER; RIGHT? BUT IN THE INTERIM AND BETWEEN 1994 AND 1999, I THINK THAT WE SHOULD BRING SOME OTHER DOCUMENTATION OUT; AND THAT IS, THE FACT THAT SOME OF THEIR T1-49

WELLS HAVE ALMOST RUN DRY OR THE WELLS, THEY BASICALLY RAN AT 50 PERCENT CAPACITY BECAUSE OF THE FACT THAT THE RECHARGE WASN'T THERE.

NOW MY QUESTION IS THIS: IS THIS PUBLIC INFORMATION? IS THERE A MONITORING SYSTEM THAT CADIZ HAS BEEN USING FOR THE FIVE OR SIX YEARS? IF SO, IS THAT AVAILABLE FOR THE PUBLIC?

IT'S MY UNDERSTANDING THAT THE WELLS HAVE HAD TO ADJUST SIMPLY BECAUSE OF THE FACT THAT THE RECHARGE WASN'T THERE ON THESE HUGE WELLS. AND I BELIEVE THERE'S A FEW WELLS THAT HAVE ACTUALLY HAD TO BE ADJUSTED DOWN BECAUSE OF THE FACT THAT IT WASN'T RECHARGING. THEY HAD TO TONE THE ENGINE, THE R.P.M.'S DOWN SIMPLY BECAUSE IT WASN'T RECHARGING FAST ENOUGH.

MS. SALENIUS: OKAY. THAT KIND OF FEEDS INTO THE SECOND GROUP OF QUESTIONS THAT WE HAD.

MR. LIZALDE: SURE.

MS. BRADY: YEAH. SHE WAS ASKING ONE LITTLE QUESTION ABOUT MANAGEMENT.

MS. MASKER: I MAY NOT HAVE THESE INITIALS CORRECT, BUT, T.N.T., T.R.T., B.M.G. THE COMPOSITION IS FOUR ENTITIES. IS THAT ALL THAT WAS EVER CONSIDERED?

MS. BRADY: WELL, ACTUALLY, THE WAY IT WAS STATED FOR THE TECHNICAL REVIEW TEAM IS THE DEPARTMENT OF INTERIOR, THAT WAS ONE OF THE ENTITIES. OUR CONCEPT THERE

-- WELL, WE DIDN'T SPELL IT OUT, I THINK, IN THAT SENSE.

MS. MASKER: P & D, TOO.

MS. BRADY: IT WOULD BE THE B.L.M., THE BUREAU OF LAND MANAGEMENT, THE U.S. GEOLOGICAL SURVEY, AND THE NATIONAL PARK SERVICE. YOUR RECOMMENDATIONS ON WHO SHOULD BE PARTICIPANTS ON THAT TECHNICAL REVIEW TEAM WOULD BE APPRECIATED.

MS. MASKER: DID THEY EVER TALK ABOUT ANYBODY ELSE EVER BEING THERE EXCEPT THOSE FOUR?

T1-51

MS. BRADY: BEYOND THAT, NO. WE TALKED ABOUT THAT GROUP. I THINK THERE WAS SOME CONSIDERATION ABOUT REGIONAL WATER QUALITY. I FORGET. I THINK THAT WE DECIDED THEY DIDN'T WANT TO OR THEY WERE SORT OF NOT INTERESTED, SO WE DIDN'T PURSUE IT AT THAT TIME.

MS. REILLY: WELL, THIS IS A WATER BOARD THAT WORKS WITH THE STATE. THAT'S NOT THE SAME AS THE STATE WATER BOARD. AND I'VE BEEN TALKING TO THE GENTLEMAN THAT GAVE ME THAT CARD, AND I THINK THAT HIS GROUP SHOULD BE REPRESENTED THERE BECAUSE THEY'VE STUDIED GROUNDWATER THINGS.

T1-52

MS. SALENIUS: THE SECOND QUESTION THAT WE GOT WAS RELATED TO WHETHER THIS WAS JUST A MONITORING PROGRAM AND NOT A REAL MANAGEMENT PROGRAM, SO JACK WAS GOING TO PROVIDE SOME INFORMATION ABOUT THAT.

MR. SAFELY: THERE ARE QUESTIONS ON WHAT

HAPPENS WHEN A TRIGGER LEVEL IS REACHED IN A MANAGEMENT PLAN. I BELIEVE WE SAID THAT T.R.T. WOULD MEET WITHIN 30 DAYS AND EVALUATE THE EFFECTS THAT THE PROJECT WAS HAVING AT THAT TIME, AND WE COULD ISSUE A RECOMMENDATION.

AND AS MOLLY ALLUDED TO, IT'S NOT JUST AN ANNUAL REPORT. THIS GROUP COULD MEET AT ANY TIME DURING THE PROJECT OPERATION AND EVALUATE IMPACTS THAT THE PROGRAM MIGHT BE HAVING, MAKE RECOMMENDATIONS TO MODIFY PROGRAM OPERATIONS. GENERALLY, WE'VE LOOKED AT ACTIONS THAT WOULD EITHER REDUCE PUMPING OR STOP PUMPING IF WE WERE HAVING IMPACTS TO CRITICAL RESOURCES IN THE AREA.

MS. MASKER: AND GET BACK WITH THE PUBLIC ON EACH ONE OF THOSE RECOMMENDATIONS OR ACTIONS?

MR. SAFELY: THE DATA THAT WE GATHER, THE REPORTS THAT WE GENERATE WOULD BE READILY AVAILABLE TO THE PUBLIC. WE WOULD MAKE THEM AVAILABLE TO ANYONE THAT'S INTERESTED.

MS. HERBERT: WILL YOU HAVE A WEB SITE, FOR EXAMPLE?

MR. SAFELY: WE HAVEN'T DECIDED ON THE ACTUAL FORMAT. IT'S POSSIBLE WE COULD DO IT ON THE WEB SITE. I KNOW ONE GENTLEMAN HAD A QUESTION ON THE HAYFIELD PROGRAM.

IF YOU LOOK ON OUR WEB SITE, WE PROVIDE INFORMATION ON HOW MUCH WATER WE HAVE BEEN STORING IN

THERE, AND YOU CAN GET THAT OFF OF METROPOLITAN'S WEB SITE RIGHT NOW.

MS. SALENIUS: THE NEXT QUESTION THAT WE CAN ANSWER TONIGHT WAS ABOUT THE PRECEDENT BEING SET FOR OTHER WATER MANAGEMENT AND MONITORING PROGRAMS IN THE STATE.

MR. SAFELY: I THINK THIS MONITORING PLAN IS SO COMPREHENSIVE, NOT BECAUSE IT'S JUST A CONJUNCTIVE USE IN THE STORAGE PROGRAM BUT BECAUSE OF THE WATER TRANSFER. A LOT OF INTEREST HAS BEEN GENERATED IN THIS PROGRAM. THAT MAY BE WHERE THE PRECEDENT IS SET AND IT'S PROBABLY WHY IT'S SO COMPREHENSIVE.

MS. SALENIUS: AND I THINK ONE OF THE POINTS THAT WAS ALSO MADE WAS THAT BECAUSE THE U.S.G.S. HAD DIFFERENT OPINIONS EARLY ON, IS THAT THERE WAS A NEED TO GET ENOUGH INFORMATION TO TRY AND RESOLVE THAT INFORMATION AND DISPARITY OF OPINIONS.

MR. SAFELY: RIGHT.

MS. BRADY: AND I THINK WHAT WE HAVE IS SENSITIVE RESOURCES; AND THERE IS A LOT OF PUBLIC CONCERN, ESPECIALLY ABOUT THE TRANSFERRING OF INDIGENOUS WATERS.

MS. SALENIUS: THERE WAS A CONCERN ABOUT THE BIGHORN SHEEP IN THE TRILOBITE WILDERNESS.

MR. SAFELY: THIS RELATES TO THE SPRINGS IN THE PROGRAM AREA. WE'VE TRIED TO DESIGN THE MONITORING PROGRAM WITH INTERMEDIATE POINTS THAT ALLOW US TO COLLECT

DATA FROM THE PROGRAM OPERATIONS AND JUDGE POTENTIAL IMPACTS BEFORE THEY OCCUR; SO THE MONITORING POINTS BETWEEN THE PROGRAM AND THE SPRINGS THAT PROVIDE WATER TO WILDLIFE AND PLANTS IN THE AREA ARE WELL PROTECTED.

MR. DUBOIS: HOW DO YOU DO THAT? DO YOU TAKE SOUNDINGS ON ADJACENT WELL POINTS? HOW DO YOU MONITOR THE SPRING BEFORE IT DRIES UP?

MR. SAFELY: ON THE SPRINGS WE WOULD -- INITIALLY BEFORE THE PROGRAM GOES INTO OPERATION, WE'LL DO A SURVEY ON THE SPRINGS, GAUGE THE FLOW THAT'S COMING THROUGH THE SPRINGS.

WE COULD PUT SOIL MOISTURE SENSORS IN THE SOIL NEAR SOME OF THE SPRINGS AND SEE HOW MUCH WATER IS THERE. AND WE'LL MONITOR EIGHT SPRINGS DURING THE PROJECT TO DO THAT.

IN ADDITION TO THAT, WE'RE PUTTING OBSERVATION WELLS BETWEEN THE PROGRAM AND THE SPRINGS LOCATION WHERE THE SPRINGS ARE. WE CAN MONITOR WATER LEVELS BETWEEN US AND THE SPRINGS.

MS. CARPENTERHUGHES: SO ARE YOU SAYING THAT IF YOU ARE MONITORING A SPRING AND IT INDICATES THAT IT'S LIABLE TO DRY UP, YOU'LL SCRATCH THE WHOLE PROJECT?

MR. SAFELY: IF THE PROJECT CAUSES IMPACTS TO THE SPRINGS, WE HAVE AN EARLY WARNING SYSTEM, WE BELIEVE, THAT WILL ADDRESS ANY IMPACTS BEFORE THEY HAPPEN.

CERTAINLY, WE WOULD ADJUST OUR OPERATIONS; WE WOULD REDUCE PUMPING OR STOP PUMPING FOR A NUMBER OF YEARS UNTIL THE IMPACTS GO AWAY.

MS. CARPENTERHUGHES: JUST TO FOLLOW UP ON THAT. IT DOESN'T TAKE LONG FOR ANY GROUP OF ANIMALS TO DIE. SO WHILE YOU'RE DECIDING, THAT SPRING IS DRYING UP. WHAT HAPPENS IN THE INTERIM UNTIL YOU TAKE ACTION? WITHOUT WATER, WITHIN A FEW DAYS, SOME ANIMALS WILL DIE. T1-57

MR. SAFELY: WE BELIEVE THE PLAN WILL TELL US WELL IN ADVANCE OF ANY IMPACTS LIKE THAT HAPPENING, AND WE'VE HAD THE EXPERTS FROM ALL THE -- HYDROLOGISTS AND EXPERTS FROM THE PARK SERVICE AND GEOLOGICAL SURVEY PREPARE THIS PLAN FOR US AND THEY AGREED THAT IT PROTECTS THE WATER RESOURCES IN THE AREA.

MR. DANSON: HOW FAR IS IT FROM THE PROJECT TO THE WELLS IN THE SPRINGS? T1-58

MR. SAFELY: THE CLOSEST SPRING, I BELIEVE, IS BONANZA SPRINGS. IT'S ABOUT TEN MILES NORTH OF THE PROJECT. WE HAVE A SERIES OF OBSERVATION WELLS BETWEEN THE PROGRAM AND THE SPRINGS AND THEY'RE ABOUT SIX MILES NORTH OF THE PROJECT, ABOUT HALFWAY BETWEEN.

MR. HUGHES: I WOULD BEG TO DIFFER. THERE ARE SPRINGS IN THE TRILOBITE WILDERNESS, CERTAINLY CLOSER THAN BONANZA, WHICH IS THE CLIFFORD WILDERNESS. T1-59

MR. SAFELY: WE'LL INVENTORY IF THERE'S ONE

OUT THERE AND WE'LL TAKE A LOOK AT IT.

MR. KIRIAKOS: SOME OF THE QUESTIONS AND COMMENTS THAT HAVE BEEN MADE, I'M GATHERING THAT THERE NEEDS TO BE SOMETHING TO THE GENERAL PUBLIC SO THAT THEY UNDERSTAND THAT THE AQUIFER IS NOT A BIG POND THAT IS WATER-SATURATED SAND AND THAT WHEN YOU DRAW DOWN ON WELLS, WELLS BEHAVE IN A CERTAIN WAY. IF YOU DRAW TOO FAST, YOU CAN CREATE PROBLEMS.

AND I THINK IT WOULD BE VERY HELPFUL IF YOU WOULD DO A SHORT SUMMARY ON WHAT WE KNOW ABOUT WELLS, AND THAT MIGHT HELP PEOPLE TO UNDERSTAND.

THIS IS NOT JUST A BIG POND DOWN THERE AND IT'S JUST NOT GOING TO GO "WHEESH" AND IT'S GONE. FROM WHAT I'VE SEEN, WHERE YOU HAVE YOUR MONITORING WELLS, I MEAN, YOU'RE GOING TO GO SIX MONTHS BEFORE YOU ARE EVEN GOING TO SEE IT DROP A HALF AN INCH.

SO I THINK IT WOULD BE HELPFUL IF YOU WOULD EXPLAIN HOW WELLS WORK, BECAUSE THESE PEOPLE ARE NOT GEOLOGISTS, THEY ARE NOT HYDROLOGISTS, AND THERE'S BEEN GREAT CONTROVERSY OVER THE MODELS THAT HAVE BEEN USED TO DETERMINE WHAT WE DO HAVE HERE BASED ON THE RESEARCH THAT'S BEEN DONE AT CADIZ. WE KNOW THAT THE MODELS SHOULD BE DIFFERENT. HOWEVER, WE'RE GOING TO PROVE IT WHEN THIS THING GETS MOVING.

MS. SALENIUS: THAT'S ONE OF THOSE TECHNICAL

QUESTIONS AND I THINK THAT IT DOES NEED TO BE EXPLAINED BETTER. THERE WAS A QUESTION ABOUT THE RELATIONSHIP OF THIS PROJECT TO GROWTH.

MR. SAFELY: WITH THIS PROJECT METROPOLITAN IS REPLACING WATER THAT WE ALREADY DELIVERED TO SOUTHERN CALIFORNIA. OUR AQUEDUCT HAS BEEN IMPORTING 1.2 MILLION ACRE FEET OF WATER FOR ABOUT THE PAST TEN YEARS.

IN THE FUTURE, THAT SUPPLY FROM THE COLORADO RIVER WILL BE REDUCED AT TIMES. THERE STILL WILL BE SURPLUS PERIODS BASED ON THE HYDROLOGIC CYCLE OF THE RIVER AND WE'LL BE ABLE TO STORE WATER WHEN THERE ARE SURPLUSES AND PULL IT OUT IN THE DRIER YEARS WHEN THERE IS LESS WATER AVAILABLE.

SO THIS IS REALLY A WATER-OPTIMIZATION PROGRAM FOR THE COLORADO RIVER, AND THAT TIES INTO THE CALIFORNIA PLAN. CALIFORNIA WILL BE LIVING WITHIN ITS 4.4-MILLION-ACRE-FOOT ENTITLEMENT FROM THE COLORADO RIVER.

MR. KIRIAKOS: WHAT'S THE FOOT OF THE DRAWDOWN THAT'S ALLOWED BY THIS PROCESS? T1-61

MR. SAFELY: THE SUPPLEMENT IDENTIFIES IN THOSE AREAS OF THE PROJECT, THE AVERAGE OF ALL OF THE WELLS IN THE PROGRAM WOULD BE ALLOWED TO DRAW DOWN THE WATER TABLE 100 FEET.

ONE POINT I NEED TO MAKE IS COMPARED TO THE ENTIRE BASIN, THIS IS A SMALL AREA. THE WHOLE BASIN IS

SOMETHING LIKE 1300 SQUARE MILES. WE'RE ONLY LOOKING AT ONE SMALL PIECE OF IT. SO IF YOU LOOK AT THE OVERALL PICTURE, THIS IS A LOCALIZED DRAWDOWN IN THE BASIN. IT IS NOT THE ENTIRE BASIN. MAYBE THERE'S CONFUSION ON THAT.

MS. REILLY: WELL, DOESN'T IT PULL IN WATER FROM OTHER AREAS OF THE BASIN WHEN YOU PUMP HARD?

MR. SAFELY: IN THE AREA THAT YOU PUMP, YOU GET A DEPRESSION IN THE WATER LEVEL AND IT SPREADS OUT AND IT GOES BACK TO THE NATURAL GRADIENT AT A CERTAIN POINT. SO THERE IS A CONE OF DEPRESSION IN ONE AREA, NOT LOWERING THE ENTIRE 1300 SQUARE MILES OF THE BASIN.

MR. KIRIAKOS: SO WHAT IS THE DRAWDOWN THAT'S ALLOWED OVERALL? IF YOU USE AN AVERAGE, OR WHATEVER THE CALCULATION IS.

MR. SAFELY: WELL, DURING THE LIFE OF THE PROGRAM, WATER LEVELS RECYCLE IN THE BASIN. WE SET A GOAL FOR THE END OF THE PROJECT OF A HUNDRED FEET IN THE WELL FIELD AREAS.

MR. KIRIAKOS: A HUNDRED FOOT FOR THE WHOLE PROJECT?

MR. SAFELY: YES.

MR. KIRIAKOS: SO IT'S NOT JUST A CONE FOR THE LIFE OF THE PROJECT. WE'RE LOOKING AT TAKING A HUNDRED FOOT OF DEPTH OF WATER TABLE OUT OF THE AQUIFER IN THE MOJAVE DESERT?

MR. SAFELY: NO. KEN, DO YOU WANT TO ANSWER THAT?

MR. DOWNING: THE PROJECT AREA IS ABOUT 30 SQUARE MILES. THAT'S THE TOTAL PROJECT AREA. WITHIN THAT THERE'S GOING TO BE A WELL HERE. THIS IS THE FENNER BASIN; 1300 SQUARE MILES.

THIS AREA IN HERE, WHICH IS ABOUT SIX SQUARE MILES IN THE PRODUCTION AREA, THIS IS WHERE THE 100 FEET DRAWDOWN WILL BE ALLOWED. THE MONITORING POINTS OUT HERE WILL NEVER ALLOW IT TO EXCEED ONE FOOT AT THAT POINT. THIS IS A HUNDRED FEET IN NO MORE THAN ONE FOOT. THE PRESERVE IS WAY UP HERE. IT IS NOT THE ENTIRE BASIN THAT IS DRAWN DOWN 100 FEET.

WHEN YOU PUMP A WELL -- HERE'S THE WATER TABLE, HERE IS THE WELL. WHEN YOU PUMP IT, THAT'S THE CONE OF DEPRESSION. THIS IS ACIDOTIC THROUGH TIME, SO THE CONE WOULD GRADUALLY GO FURTHER AND FURTHER OUT THE MORE WATER WE PUMP, DEPENDING UPON HOW MUCH RECHARGE THERE IS.

THE INTENT OF THE MONITORING PROGRAM IS TO MAKE SURE THAT THIS PUMPING DOES NOT EXCEED THIS RECHARGE. SO OUR CONE OF DEPRESSION STAYS RIGHT THERE. IT DOESN'T SPREAD OUT. THE CLOSURE PLAN IS DESIGNED TO MAKE SURE THAT THROUGH TIME, THIS CONE THAT WE'VE CREATED DOESN'T SPREAD OUT EVEN THOUGH WE'RE NOT PUMPING.

MR. KIRIAKOS: WHAT ABOUT THE SITUATION

T1-66

WHERE CADIZ IS, IS AT THE BOTTOM OF A CONE. AND YOU'VE GOT THIS HUGE AREA PROBABLY, WHATEVER YOU SAID, 1300 SQUARE MILES. THIS IS THE LOW POINT OF THE WHOLE BASIN.

SO YOU'VE GOT A GREAT DEPTH AT THE VERY BOTTOM OF THIS WHEN ALL THE WATER IS FLOWING DOWN THE SLOPES. I WOULD EXPECT IT'S GOING TO BE THINNER IN THOSE AREAS ANYWAY, AND SO THEY POTENTIALLY ARE PULLING A HUNDRED FOOT DEPTH OVER THE LIFETIME OF THIS BASIN, OUT OF THE VERY BOTTOM OF THE PIT. AND I STILL WONDER ABOUT THE DYNAMICS. IF YOU'RE ONLY ALLOWING MAYBE A FOOT AT THE TOP SPREAD OUT OVER MILE AFTER MILE--

MR. DOWNING: NO. NO. NO. NO. IT'S NOT A FOOT. THIS RIGHT HERE IS A HUNDRED FEET.

MR. KIRIAKOS: AT THE BOTTOM OF THE CONE?

MR. DOWNING: AT THE BOTTOM OF THE CONE. THAT'S VERY CENTRALIZED. THAT'S LIKE HAVING IT IN A GLASS OF WATER. THE MAXIMUM THEY CAN GET AT A TRIGGER POINT IS ONE FOOT.

IF THE WELL HAD -- BECAUSE IT'S ACIDOTIC, OKAY -- THAT MEANS ONE FOOT -- THIS CONE IS LIKE THIS. SEE THAT CURVE? YOU DRAW DOWN AT FIRST TO THE WELL, VERY STEEPLY. AS IT GOES UP, IT'S ACIDOTIC OUT TOWARDS WHATEVER THE GROUND LEVEL IS. SO ONE FOOT RIGHT HERE DEFINES WHAT THIS IS GOING TO BE. IN OTHER WORDS, YOU CAN'T DRAW DOWN THIS. YOU CAN'T CREATE A BIG HOLE WITHOUT SEEING IT HERE.

NOW, IF YOU TAKE THIS GLASS OF WATER THAT I GOT, WHICH IS THAT, AND YOU POUR IT ON THE FLOOR, IT SPREADS OUT. YOU MEASURE IT. NO IMPACT.

MR. KIRIAKOS: I DON'T THINK YOU'RE QUITE UNDERSTANDING THE POINT. T1-68

MR. DOWNING: NO. I DON'T THINK YOU'RE QUITE UNDERSTANDING.

MR. KIRIAKOS: WELL, I'M TRYING TO GET MY POINT ACROSS, OKAY? YOU'RE A TECHNICAL EXPERT, I'LL GRANT THAT. BUT I'D LIKE TO QUESTION THE ANSWER TO THE FACT THAT I FEEL COMFORTABLE WITH, AND MAYBE IT CAN OR WILL OR WON'T, WHATEVER, BUT LET'S USE THE ANALYSIS OF A DRAIN BOARD IN THE KITCHEN, BUT A HUGE ONE, AND THE SINK. IN FACT, THE SINK IS GOING TO HAVE A DENSE CAPACITY, BUT IF YOU HAVE A HUGE SPREAD AROUND, THE DEPTH OF THE WATER IS GOING TO BE FAIRLY SHALLOW. T1-69

AND THE QUESTION IS: WITH THIS VOLUME IN THE MIDDLE, WILL THERE NOT BE A MUCH GREATER IMPACT ON THE SHALLOW WATER ON THE OUTSIDE ON THIS DRAIN BOARD OVER IN THIS AREA? AND THAT'S THE CONCERN.

MR. DOWNING: THIS IS A BASIN AND I'M OUT ON THE EDGE OF THE BASIN AND IT'S ONLY TWO INCHES THICK. IF I DON'T HAVE A DRAWDOWN THAT GETS TO IT, IT'S STILL TWO INCHES THICK.

THERE'S RECHARGE THAT MAINTAINS THIS. IF IT WAS

NOT BEING MAINTAINED, WE WOULDN'T HAVE ANY WATER. IT WOULD BE DRY BASINS.

MS. REILLY: WELL, DO YOU HAVE AN EXACT FIGURE ON WHAT THE RECHARGE IS?

MR. DOWNING: NO.

MS. REILLY: I UNDERSTAND THAT CADIZ HAS FIGURES ON THAT AND THEN U.S.G.S. DISAGREED WITH THEM. WHAT WAS THE CONSENSUS? WHAT DID THEY DECIDE WAS THE RECHARGE?

MR. DOWNING: THERE'S BEEN NO DECISION MADE ON THAT. THAT WILL REQUIRE MORE STUDY, AND THAT'S WHAT WE INTEND TO DO DURING THE FIRST FEW PERIODS OF THE PROJECT, SO WE UNDERSTAND WHAT THE RECHARGE IS.

MS. REILLY: AND THEN YOU REGULATE TO SEE THAT IT DOESN'T TAKE OUT MORE THAN THE RECHARGE IS? BECAUSE THAT'S AN IMPORTANT THING I THINK.

MR. DOWNING: YES. THAT'S THE WHOLE BASIS OF IT.

MR. HUGHES: A COMMENT AND THEN A QUESTION. THE COMMENT IS: THIS IS THE FIRST TIME I'VE HEARD THE WATER WILL NOT BE ALLOWED TO DROP MORE THAN ONE FOOT AT THESE MONITORING WELLS, PERIOD. YOU SAID THAT EXACTLY, DIDN'T YOU? THAT WOULD -- ANYTHING MORE THAN THAT WOULD STOP THE PROJECT, WOULDN'T IT, EITHER PUMPING OR DOING SOMETHING -- IT WOULD CAUSE A CHANGE IN OPERATION?

MR. DOWNING: THERE IS MORE TO THIS PROJECT THAN JUST PUMPING. SO IT WOULD CAUSE A CHANGE IN OPERATIONS OR A CHANGE IN A TRIGGER.

IN OTHER WORDS, IF ONE FOOT WAS NOT GOING TO CREATE AN IMPACT AT ANY SPRING -- THEN THE ONE FOOT, AND IT'S GOT TO BE ATTRIBUTABLE TO THE PROJECT. THE ONE FOOT, IF IT'S NOT GOING TO BE AN IMPACT, THE TECHNICAL REVIEW TEAM MAY DETERMINE THAT, OKAY, ONE FOOT IS SAFE, OR ONE AND A HALF THEY MIGHT SAY. IF YOU'VE GOT LOTS OF RECHARGE, YOU MIGHT BE ABLE TO PULL THAT DOWN.

MR. HUGHES: WELL, IF YOU'VE GOT LOTS OF RECHARGE, YOU DON'T HAVE ANY DRAW. T1-74

MR. DOWNING: IT'S GOT TO BE ATTRIBUTABLE TO THE PROJECT. YOU HAVE TO UNDERSTAND THAT IF WE GET ONE QUICK MOVEMENT IN GROUNDWATER --

MR. HUGHES: I WAS QUOTING YOU. T1-75

MR. DOWNING: WELL, IT SAYS IT IN THE --

MS. BRADY: YEAH. IT SAYS IT IN HERE, THAT'S AT TRIGGER POINT.

MR. HUGHES: OH, YOU DIDN'T SAY THAT. MY QUESTION: WHAT IS THE MAXIMUM DRAWDOWN AT THE WELL FIELD THAT WOULD OCCUR OR BE ALLOWED? T1-76

MR. SAFELY: THE TECHNICAL REVIEW TEAM WOULD EVALUATE THAT. IF IT DID NOT IMPACT CRITICAL RESOURCES -- I DON'T HAVE A NUMBER I CAN GIVE YOU, THAT X-NUMBER OF FEET

IS ALLOWED. THE TECHNICAL REVIEW TEAM WOULD DETERMINE IF IT WOULD IMPACT CRITICAL RESOURCES OR TRIGGER -- IF ACTION LEVELS ARE TRIGGERED THEN WE NEED TO ADJUST PUMPING, EITHER REDUCE OR STOP PUMPING SO WE DON'T IMPACT RESOURCES.

MS. CARPENTERHUGHES: I GUESS THAT'S MY PROBLEM. I MEAN, IF THE REVIEW BOARD DECIDES THAT WELL, LOOK. WE ONLY HAVE A HUNDRED HEAD OF SHEEP AND WE REALLY NEED THIS WATER SO LET'S LET THE SHEEP GO IN THE FUTURE.

MR. DOWNING: THE PREMISE IS THERE WILL BE NO IMPACT IN THE SPRINGS.

MS. BRADY: RIGHT, NO IMPACT TO THE SPRINGS.

MS. CARPENTERHUGHES: NONE? ZERO?

MR. DOWNING: NONE.

MS. CARPENTERHUGHES: OKAY. THAT IS WHAT WE NEED TO GET IN THE RECORD BECAUSE WE'RE GOING TO HOLD YOU TO THIS.

MS. BRADY: THAT'S THE ATTEMPT, IS TO AVOID IMPACTS.

MR. DOWNING: IT DOES SAY THAT, I'M SURE, BECAUSE I HELPED WRITE THE WORDS.

MR. LIZALDE: I HAVE A QUESTION, IF I MAY. NOW, WOULD YOU MIND PUTTING IT BACK TO THE PAGE WHERE YOU ACTUALLY DREW OUT THE SIX SQUARE MILE ZONE WHERE THE WELLS ARE GOING TO BE SO I CAN BETTER EXPLAIN MY QUESTION?

MR. DOWNING: (COMPLYING.)

MR. LIZALDE: NOW, YOU JUST MADE A COMMENT AND YOU SAID THAT THE WELLS OR THE WATER WILL NOT DROP IN THAT SIX MILE -- IN THE EXTRACTION ZONE. YOU SAID THAT'S THE ONLY AREA THAT'S GOING TO BE IMPACTED.

ISN'T THAT WHAT YOU SAID?

MR. DOWNING: THAT'S FOR YOUR CONE OF DEPRESSION.

MR. LIZALDE: RIGHT. NOW, ON YOUR WEB SITE, ON THE CADIZ WEB SITE, AND THERE IS ACTUALLY A STATEMENT IN THE WEB SITE THAT SAYS THE WELLS THAT WOULD BE IMPACTED ARE ANYWHERE FROM SIX TO TEN MILES FROM THE WELL FIELD. IT CLEARLY STATES IT. YOU CAN LOOK IT UP. I THINK IT'S WWW.CADIZ.COM. IT CLEARLY STATES THAT WELLS THAT ARE WITHIN SIX TO TEN MILES OF THIS EXTRACTION ZONE WILL BE IMPACTED IMMEDIATELY.

MR. DOWNING: NO, I DON'T BELIEVE IT SAYS IMMEDIATELY. AND THERE IS IN THE DOCUMENT-- IT DOES SAY THAT WELLS, ESPECIALLY IN THE CHAMBERS, MAY BE IMPACTED.

MR. LIZALDE: CORRECT.

MR. DOWNING: AND IT IS MITIGATED. ALL YOU HAVE TO DO IS NOTIFY M.W.D. THAT YOU THINK THAT YOUR WELL IS BEING IMPACTED. THEN THEY WILL PROVIDE YOU WITH--

MR. LIZALDE: RIGHT. WHICH BRINGS ME TO ANOTHER QUESTION: WHAT'S GOING TO HAPPEN TO A PERSON LIKE MYSELF, A LANDOWNER OUT THERE, THAT GOES TO M.W.D. AND THEY

T1-81

T1-82

T1-83

T1-84

SAY YOU KNOW WHAT? THE T.R.T. DECIDED THAT WE WEREN'T THE CAUSE. SORRY. SEE YA. WHAT'S GOING TO HAPPEN TO A LANDOWNER, LIKE MYSELF, LIKE MR. MALONE ACROSS THE STREET AND A FEW OTHER LANDOWNERS THAT ARE VERY CONCERNED OVER THIS PROJECT? WHAT RECOURSE DO WE HAVE?

MR. DOWNING: THE T.R.T IS MADE UP OF VERY GOOD EXPERTS AND IT'S A REGULATORY AGENCY.

MR. LIZALDE: YEAH. SURE. THE T.R.T. IS MADE UP OF THE PEOPLE THAT ARE GOING TO MAKE MONEY ON THE PROJECT. MY CONCERN IS--

MR. DOWNING: I'M NOT GOING TO MAKE ANY MONEY.

MS. BRADY: LET ME -- IN A GENERIC WAY, LET ME RESPOND IN ONE WAY THAT YOU COULD, ASSUMING THE SCENARIO JUST AS YOU SAID, THAT THE T.R.T. EVALUATES AND SAYS WELL, THIS WASN'T CAUSED BY THE PROJECT. AND YOU'RE SAYING, HEY, WAIT A MINUTE. I THINK IT WAS CAUSED BY THE PROJECT. I DON'T BELIEVE YOU.

YOU CAN APPEAL THE DECISION AND IT GOES THROUGH AN APPEALS PROCESS, WHICH IS A FORMAL PROCESS, IF YOU THINK THAT THEY'RE WRONG.

MR. LIZALDE: THEN IT GOES TO THE SAME PEOPLE WITH A DIFFERENT BATCH.

MS. BRADY: WELL, IT DOESN'T--

MR. LIZALDE: IT DOES.

MS. BRADY: IT GOES TO THE INTERIOR BOARD OF LAND APPEALS.

MR. LIZALDE: BUT BEFORE THAT, IT GOES TO THE B.M.G. WHICH IS THE SAME GROUP; CORRECT? IT GOES TO THE SAME PEOPLE, AND I GUESS THEY'RE JUST GOING TO PUT A HEAD ON IT AND SAY OKAY. T1-88

MS. BRADY: IT WOULDN'T ACTUALLY APPEAL A RECOMMENDATION TO ANYBODY HERE. THEY'D BE APPEALING A DECISION.

MR. LIZALDE: AT WHOSE COST? T1-89

MS. BRADY: YOU KNOW, THERE'S SOME CHANGES BEING MADE--

MR. LIZALDE: AT WHOSE COST? T1-90

MS. SALENIUS: I THINK WHAT WE NEED TO DO IS WE UNDERSTAND WHAT YOUR CONCERNS ARE. I THINK WHAT'S GOING TO HAVE TO HAPPEN IS WE'RE GOING TO HAVE TO GO BACK AND LOOK AT ALL OF THE REGULATORY RESTRAINTS THAT EXIST.

MS. BRADY: YEAH. LOOK AT ALL THE REGULATORY RESTRAINTS THAT EXIST AND TRY TO GET YOU A MUCH MORE DETAILED ANSWER.

MR. LIZALDE: MY CONCERN IS THIS: LANDOWNERS IN THE VALLEY ARE DISCRIMINATED AGAINST. IT'S A FACT. T1-91

MS. SALENIUS: RIGHT. WE'VE BEEN WRITING THAT DOWN AND WE UNDERSTAND WHERE YOU'RE COMING FROM. WE

KNOW THAT. SO NOW, WE'RE GOING TO HAVE TO GO BACK AND WE'RE GOING TO HAVE TO TRY AND PROVIDE THE APPROPRIATE RESPONSE. WE DON'T KNOW WHAT THE APPROPRIATE RESPONSE IS RIGHT NOW. WE ALSO KNOW --

MR. LIZALDE: RIGHT. MY CONCERN IS YOU KNEW IT TWO YEARS AGO, THREE YEARS AGO AND IT WAS NEVER ADDRESSED IN THE FIRST ENVIRONMENTAL IMPACT. AND IT'S KIND OF BRUSHED UP ON --

MS. BRADY: WELL, I GUESS -- I THINK ALSO THAT, WHEN YOU ARE WRITING YOUR COMMENTS, YOU MAKE YOUR RECOMMENDATIONS ABOUT HOW YOU THINK IT OUGHT TO BE MANAGED EFFECTIVELY, IN A FAIR AND OBJECTIVE WAY.

MR. LIZALDE: THANK YOU VERY MUCH.

MR. DUBE: I THINK WE'RE PLAYING BASEBALL ON A FOOTBALL FIELD HERE -- LET ME MAKE SURE OF ONE THING AND I'M GOING BACK TWO MEETINGS AGO ON COMMENTS THAT WERE MADE IN THIS VERY ROOM.

POINT NUMBER ONE: NO WATER WILL BE EXTRACTED FROM THAT BASIN. USE THE EXAMPLE THAT WAS USED IN THE FIRST MEETING; I.E., 1,000 ACRE FEET IS PUT IN. THEREFORE, 1,000 ACRE FEET CAN BE WITHDRAWN AFTER A SPLIT END OF THE BASIN. NO WATER WILL BE EXTRACTED UNLESS IT'S PUT INTO THE BASIN.

MS. BRADY: THE PROJECT HAS ALWAYS INCLUDED A TRANSFER ACTION, WHERE THEY WOULD ACTUALLY ALSO TAKE

AND --

MR. DUBE: YEAH. BUT THAT WAS AN OVERDRAFT. IN OTHER WORDS, THERE WAS WATER PLACED IN THE BASIN AND THERE WAS AN EQUAL AMOUNT TO BE DRAWN FROM THAT BASIN. THERE WAS NO OVERDRAFT. THERE WAS NO NATIVE WATER TO BE DRAWN OUT OF THERE OVER AND ABOVE WHAT WOULD BE PLACED IN THE AQUIFER; RIGHT? TI-95

MS. BRADY: YOU'RE TALKING ABOUT NATURAL RECHARGES?

MR. DUBE: YEAH. NATURAL RECHARGE. TI-96

MS. BRADY: TECHNICALLY, THAT'S CORRECT. THAT WAS THE INTENT.

MR. DUBE: THAT WAS THE UNDERSTANDING THAT WE WERE GIVEN. IN OTHER WORDS, THE AQUIFER WOULD BE RECHARGED FROM THE AQUEDUCT; RIGHT? TI-97

MS. BRADY: NO. WE'RE GOING TO HAVE TO MOVE ON.

MR. DUBE: WELL, YOU BETTER CLARIFY THAT. YOU'VE GOT SOME CONCERNED PEOPLE OVER HERE AND THEREIN LIES HIS PROBLEM AND HIS QUESTION. BECAUSE WE WERE UNDER THE IMPRESSION THAT YOU WERE TAKING -- LOADING UP THE AQUIFER AT CADIZ FOR DRY YEARS AND THEN YOU WERE GOING TO PUMP THAT SAME WATER OR EQUAL AMOUNTS OF THAT WATER AND SEND THAT DOWN TO METROPOLITAN WATER IN THE DRY YEARS, BUT NOT TO EXCEED WHAT YOU PUT INTO THE AQUIFER. TI-98

MS. BRADY: YOU'RE ABSOLUTELY RIGHT. TAKE OFF THE LAST SENTENCE. THERE IS WHAT I'LL CALL THE UNNATURAL, WHICH IS, WE PUT THE WATER IN AND TAKE THAT SAME WATER OUT. SO WE PUT COLORADO RIVER WATER IN AND THEN TAKE THE COLORADO RIVER WATER OUT.

MR. DUBE: EXACTLY.

MS. BRADY: THAT'S ONE PART OF THE PROJECT. THE OTHER THING IS, IN ADDITION TO THE COLORADO RIVER WATER THAT WE PUT IN AND TAKE OUT, WE'RE ALSO GOING TO TAKE OUT INDIGENOUS WATER. BUT WE ARE NOT GOING TO EXCEED NATURAL RECHARGE.

MR. DUBE: OKAY. SO TECHNICALLY, YOU'RE NOT SUPPOSED TO LOWER THE LEVEL AQUIFER WHEN YOU'RE STARTING.

MS. BRADY: WELL, THE MOST IMPORTANT IS IT'S GOING TO BE GOING UP AND DOWN. KEEP IN MIND, THE PROPOSAL IS TO PUT WATER IN, AND SO THERE'S GOING TO BE A LOT OF TIMES THAT IT'S GOING TO BE REAL HIGH.

MR. LIZALDE: I HAVE ANOTHER QUESTION.

MS. BRADY: I'M SORRY, GUS. YOU HAVE HAD 20 QUESTIONS, AND WE'RE GOING TO BE KICKED OUT OF HERE.

MR. LIZALDE: BUT IT'S A REALLY GOOD QUESTION. IT'S VERY IMPORTANT.

MS. BRADY: CAN I SAY YES OR NO?

MR. LIZALDE: LET'S JUST SAY YOU CAN REFER ME TO JACK SAFELY.

MS. BRADY: GOOD.

MR. LIZALDE: BUT THE QUESTION IS THIS: IN THIS ENVIRONMENTAL IMPACT REPORT, THE SUPPLEMENTAL, IT DOESN'T INCLUDE THE EXTRACTION OF THE GALLON USE OF WATER THAT'S BEING EXTRACTED FOR THE FARMING RIGHT NOW. THERE'S NO MODEL THAT SHOWS BOTH OF THEM COMBINED TOGETHER, WHICH IS GOING TO CREATE A PROBLEM. T1-104

MS. BRADY: THERE'S A GOOD ANSWER FOR THAT.

MR. LIZALDE: YOU'RE GOING TO BE PULLING OUT TWICE THE AMOUNT THAT'S IN THE PROGRAM. T1-105

MR. SAFELY: CADIZ HAS AGREED TO FOLD THE AGRICULTURAL PUMPING INTO THIS MANAGEMENT PLAN. SO IT WILL BE COMBINED. THE WATER THAT THEY USE FOR THEIR AG, PLUS THE WATER THAT WE'RE PUMPING, IS ALL ACCOUNTED FOR UNDER THIS MANAGEMENT PLAN AND THEY WILL LIVE BY THAT TOO.

MS. BRADY: IN OTHER WORDS, IF THERE IS A ONE-FOOT DROP AND IT'S DUE NOT TO THE M.W.D. PROJECT; IT'S DUE TO THE AGRICULTURAL--

MR. LIZALDE: BUT WHO'S GOING TO MONITOR THIS STUFF? T1-106

MS. BRADY: THE SAME GROUP.

MR. LIZALDE: IT'S NOT GOING TO BE MONITORED THOUGH. THERE IS NO EXPLANATION OF HOW THAT'S GOING TO BE MONITORED. T1-107

MS. REILLY: DURING DRY YEARS -- WE'VE HAD T1-108

SIX YEARS OF DROUGHT BEFORE WE HAD SOME RAIN OUT HERE, YOU KNOW; AND DURING THOSE DRY YEARS, WILL YOU BE PUMPING INDIGENOUS WATER ALL THE TIME FROM UP THERE FOR THE L.A. AREA?

MS. BRADY: WELL, HOPEFULLY DURING DRY-- YOU KNOW, FOR THE FIRST EIGHT YEARS, I THINK IT IS, THE EXPECTATION OF THE M.W.D. IS, WE'RE GOING TO BE PUTTING WATER INTO THE BASIN, PUTTING WATER IN FROM THE COLORADO RIVER FROM THE SURPLUS, AND THEN THEY'RE GOING TO START--

MS. REILLY: DO YOU HAVE THAT MUCH SURPLUS; EIGHT YEARS' WORTH?

MR. SAFELY: YES. UNDER THE INTERIM SURPLUS CRITERIA OF THE CALIFORNIA PLAN, WE WOULD HAVE SURPLUS CONDITIONS FOR THE -- WELL, ACCORDING TO THE PRESENTATION TONIGHT, AT LEAST FIVE YEARS WHERE WE WOULD HAVE SURPLUS WATER AVAILABLE.

THEN THE LIKELIHOOD OF HAVING A FULL AQUEDUCT DROPS OFF AFTER 2005. THERE STILL WOULD BE PERIODS WHEN WE WOULD HAVE SURPLUS WATER STORED IN THE BASIN.

MS. BRADY: THEY'RE ACTUALLY GOING TO BE FILLING UP THE BASIN FOR THE FIRST PORTION.

MS. REILLY: AND THEN YOU DRAIN IT AND WE HAVE DRY YEARS. YOU'LL BE PUMPING THROUGH HERE WON'T YOU?

MS. BRADY: WELL, WE HAVE A MANAGEMENT PLAN THAT'S BASICALLY SEPARATING THAT ACTIVITY. THAT'S

DECIDING -- OR DETERMINING WHETHER YOU'RE HAVING DRAWDOWN THAT'S EXCESSIVE, AND THEN THE MASTER PLAN KICKS IN AND SAYS OKAY, CHANGE YOUR OPERATION.

MR. DUBE: IT SHOULD BE STABLE. T1-111

MS. SALENIUS: I WANT TO TAKE ONE MORE QUESTION BECAUSE THEY DO WANT US OUT OF THE BUILDING.

MR. KIRIAKOS: ANOTHER TECHNICAL QUESTION: BASICALLY LOOKING AT -- YOU'RE RECHARGING THE WHOLE, I GUESS IT'S FENNER BASIN THROUGH RAINFALL. AND BECAUSE THE EXTRACTION IS AT THE LOW POINT OF THE BASIN, YOU'VE GOT THAT. THE RECHARGE IS NOT GOING TO BE BY THE SAME NATURAL FUNCTION, WHICH IS WATER THROUGHOUT THE WHOLE AREA REPLENISHING THE OUTER PART OF THE BASIN. IT'S ONLY GOING TO BE REPLENISHING THE VERY BOTTOM OF THE BASIN. T1-112

SO THE FACT THAT THERE IS A DRAWDOWN FOR THE TECHNICAL EXPERTS, WHAT'S THE ASSURANCE THAT THE WATER THAT REALLY IS SUCKED OUT OF THE UPPER PORTION IN FACT WILL EVER BE RECHARGED? BECAUSE THE WATER IS ONLY GOING TO THE BOTTOM AND NOT SPREAD THROUGH THE WHOLE BASIN AS WITH THE NATURAL RAINFALL.

MS. SALENIUS: AGAIN, I THINK THAT IS GOING TO HAVE TO GO BACK TO PROBABLY A BETTER EXPLANATION OF HOW THE DRY WATER BASIN WORKS. AND I THINK THAT WILL HAVE TO BE IN THE RESPONSES TO COMMENTS IN THE FINAL E.I.R.

MR. KIRIAKOS: WE NEED A TECHNICAL ANSWER T1-113

WHETHER, IN FACT, THAT OUTER PART WILL BE RECHARGED; YES OR NO?

MS. SALENIUS: I CAN'T ANSWER THAT NOW.

MR. KIRIAKOS: I'M NOT SAYING YOU. I JUST WANT TO BE SURE THAT YOU ARE RECORDING THE QUESTION.

MS. SALENIUS: YEAH. AND I THINK THAT IT GOES BACK TO SOME OF THE QUESTIONS YOU ASKED EARLIER ABOUT HOW THE BASIN WORKS, HOW THE EDGES WORK, AS OPPOSED TO THE BOTTOM OF THE BASIN. SO WE'LL HAVE TO DO A BETTER JOB EXPLAINING THAT IN THE FINAL DOCUMENT.

I WANT TO THANK EVERYBODY FOR COMING HERE THIS EVENING. I THINK WE HAD A LOT OF GOOD INPUT AND A LOT OF VALID CONCERNS THAT HAVE TO BE LOOKED AT AND RESPONDED TO IN THE FINAL DOCUMENT.

AND THOSE COMMENT CARDS THAT WERE ON THE TABLE, THEY HAVE AN ADDRESS ON THEM. IF YOU WANT TO SEND ANY FURTHER WRITTEN COMMENTS, YOU CAN USE THAT.

IN ADDITION, THERE WILL BE THAT MEETING ON DECEMBER 18TH THAT IS AT THE METROPOLITAN FACILITIES.

DECEMBER 18TH THERE'S ANOTHER PUBLIC MEETING IN DOWNTOWN LOS ANGELES AT METROPOLITAN WATER DISTRICT'S FACILITY. THAT FACILITY IS RIGHT AT THE UNION STATION IN DOWNTOWN L.A. AT 700 NORTH ALAMEDA STREET.

THE REPORTS, THE SUPPLEMENTAL E.I.R./E.I.S., AND THE ORIGINAL DRAFT CAN BE FOUND ON THE B.L.M. WEB SITE.

I'LL LEAVE THIS UP HERE, SO IF ANY OF YOU WANT TO COPY IT DOWN BEFORE YOU LEAVE, YOU CAN DO THAT. AND REMEMBER THAT YOUR WRITTEN COMMENTS ARE DUE BY JANUARY 8TH, 2001. THANKS A LOT.

(THE PROCEEDINGS WERE CONCLUDED AT 9:47 P.M.)

CERTIFICATE OF REPORTER

STATE OF ARIZONA)
)
COUNTY OF MOHAVE)

I, KELLY AUGUST, DO HEREBY CERTIFY THAT I TOOK DOWN IN SHORTHAND (STENOTYPE) ALL OF THE PROCEEDINGS HAD IN THE ABOVE-ENTITLED MATTER AT THE TIME AND PLACE INDICATED, AND THAT THEREAFTER SAID SHORTHAND NOTES WERE TRANSCRIBED INTO TYPEWRITING AT AND UNDER MY DIRECTION AND SUPERVISION, AND THE FOREGOING TRANSCRIPT CONSTITUTES A FULL, TRUE AND ACCURATE RECORD OF THE PROCEEDINGS HAD, ALL DONE TO THE BEST OF MY SKILL AND ABILITY.

IN WITNESS WHEREOF, I HAVE HEREUNTO AFFIXED MY HAND THIS 18TH DAY OF DECEMBER, 2000.

COPY



KELLY AUGUST, COURT REPORTER

T2

PUBLIC HEARING

METROPOLITAN WATER DISTRICT

OF SOUTHERN CALIFORNIA

December 18, 2000

6:16 P.M.

700 North Alameda Street

Los Angeles, California 90012

LOS ANGELES, CALIFORNIA, MONDAY, DECEMBER 18, 2000

6:16 P.M.

MR. VANDERHORST: I'd like to welcome you all to th Metropolitan Water District of Southern California and tonight's public meeting with regards to the supplement to the draft EIR/EIS for the Cadiz Groundwater Storage and Dry Year Supply Program.

My name is Joe Vanderhorst. I work for the Metropolitan Water District. I'm going to give you a brief overview of the process followed -- the process that has been followed by Metropolitan and the Bureau o Land Management in reviewing the program. Then I'll be turning the program over to Jack Safely from Metropolitan. He will provide you with a description o the project and the reasons for Metropolitan's interes in pursuing the program.

After that we will turn to your comments and take -- you'll be able to take the microphone and give us the information that you would like to present to us.

The environmental review process for this program is being done by Metropolitan as the lead agen under California law and the Bureau of Land Management as the lead agency under federal law.

The process began in February of 1999 with the issuance of a notice of preparation. Scoping meetings were held on February 23rd and 25th in 1999 at the project site and at the Twenty Nine Palms City Hall. Another public meeting was held May 10th, 1999 at the Needles City Hall. And after consideration of the information provided, the draft EIR/EIS was issued in November of 1999. A public comment period followed the issuance of the Draft EIR/EIS and that comment period was extended and closed on March 8th of the year 2000.

There have been three public meetings on the Draft EIR/EIS itself. One was held at the project site, one was held in Twenty Nine Palms, and the third one was held in the city of Needles.

After reviewing those comments, Metropolitan and the Bureau of Land Management decided that they should prepare a supplement to the Draft EIR/EIS focusing on groundwater issues.

The National Park Service and the U.S. Geological Survey were added as cooperating agencies for this process. Their scientists and hydrologists were an integral part of the team that prepared the supplement to the Draft EIR/EIS.

The County of San Bernardino was also a part of that process in developing a groundwater management

plan.

The supplement to the Draft EIR/EIS was issu October 20th, 2000, and we're in the middle of the comment period now. It was extended so that comments are now due on January 8th of 2001. Public meetings have been held on the supplement, the first one on October 21st in Barstow, a second one on November 29t in Twenty Nine Palms, and tonight is the ninth public meeting regarding this program.

In addition to the public meetings, Metropolitan and the Bureau of Land Management have a given briefings to over 100 interested parties that h expressed a desire to learn more about the program.

So that gives you a history of the public process that we've gone through in inviting your comments and your participation in the environmental review of this program.

I'd like to turn it over now to Jack Safely to describe the program itself. After that brief presentation, we will go to receiving your comments tonight. And for that process we've asked Sylvia Salenius to coordinate receiving your comments.

You should have filled out a card, if you wo like to make some comments. And if anyone has not do so, we will get you -- you can get a card at the back

the room and get that to us up here at the front and we will add you to the list of speakers who wish to provide comments tonight.

Also, I would like to point out that the comments are being taken down by shorthand reporters. That's so that we will have a transcript, so we will have a complete and accurate record of what it is that's said here tonight so we can consider that and respond to it in the final documentation for the program.

In order for that record to be clear, the shorthand reporters can only take down one person speaking at a time. We'd ask you to keep that in mind as you are giving your presentation and please follow Ms. Salenius' lead in beginning to speak when she -- when she gives you the cue.

Thank you very much.

Jack.

MR. SAFELY: Thank you, Joe.

Again, my name is Jack Safely. I work in the Water Resources Management Group here at Metropolitan. I'm going to go through a brief overview of the need for this project, California's Colorado River water use plan, the other programs that we're doing along the Colorado River Aqueduct, and give you a description of the Cadiz project. And then we'll take your comments on

the supplement to the Draft EIR.

Just one housekeeping note before I get started. After the meeting, we'll validate your parki at the security desk in the front lobby. Please stop there on your way out.

The Colorado River supplies water to seven states in the Southwest, from Wyoming to California. There are a number of agencies in California that receive water from the Colorado River. They are shown here through the Palos Verdes Irrigation District, Imperial Irrigation District, the Coachella Valley Wat District, and Metropolitan Water District.

Metropolitan imports water through the Colorado River Aqueduct. It begins at Lake Havasu and ends at Lake Matthews in Riverside County. We provide water for about 17 million people within our six-count service area. And depending on hydrology, the Colorad River supplies up to about 65 percent of the water tha we use in our service area.

We also import water through the California Aqueduct from Northern California.

California is entitled to 4.4 million acre-fe of water from the Colorado River. For about the past ten years we've been taking a little bit more than that. This year we're projected to take about 5.3

million acre-feet of water to the four agencies in California. The other basin states along the Colorado River and the Federal Government have asked California to reduce our use of Colorado River water to our legal apportionment of 4.4 million acre-feet. That's the basis for development of the California Colorado River Water Use Plan.

Under this plan there will be issued interim surplus criteria so that California has -- can begin a 15 -- about a 15-year period to reduce our reliance on Colorado River water and live within our 4.4 million acre-feet.

In the early years of this criteria, Metropolitan would have surpluses granted that would allow us to import 1.2 million acre-feet or what we call a full aqueduct into our system. After the first five years, the likelihood that we'll have equal aqueduct declines over time. So until 2016 we have about a 65 percent chance of having a full aqueduct.

We're pursuing a number of programs along the Colorado River Aqueduct to make up this shortage, and they are storage water-transfer-type programs.

The California plan was developed to meet these needs, and it's comprised of a number of interdependent areas. Probably the three most important areas are:

demand management; conservation in our service area, developing recycled water and local supplies; reservoi management along the Colorado River that will allow fo better water management of Colorado supplies and add t urban transfers of water.

There are a number of components to our supply on the river. We currently have a basic apportionment of 550,000 acre-feet that will stay the same between n and 2017.

We have conservation agreements with the Imperial Irrigation District that yield us about 110,0 acre-feet per year. In 2017, at the conclusion of the interim surplus criteria, we'll still have that.

Right now we're taking unused water from Arizona, about 200,000 acre-feet. Arizona is now beginning to use more and more of its entitlement of 2.8 million acre-feet, so that supply will not be available to California.

To make up that supply there's an add to urba transfer between the San Diego County Water Authority and the Imperial Irrigation District that will yield about 200,000 acre-feet.

The balance of our supply comes from surplus criteria. When there is wet hydrology on the Colorado system, the Secretary of the Interior grants

Metropolitan surplus water that is unused by other states. That supply will become less reliable, and we will make that up with canal linings on the All American and Coachella Canal and storage and transfer programs along the Colorado River Aqueduct.

There will also be times when we will have surplus criteria, but they'll become less and less frequent.

In 1997 Metropolitan began a process to investigate programs along the Colorado River that would help us reduce our needs. We looked at 14 programs and nine groundwater basins adjacent to the Colorado River Aqueduct and did a feasibility study to determine programs that could be carried forward for implementation.

We developed -- found that three programs were feasible: the Cadiz program in the Cadiz Valley, the Coachella program in the Coachella Valley, and the Heyfield and Chuckwalla programs in the Heyfield Valley.

We determined that we needed about 2 to 3 million acre-feet of storage capacity to store Colorado River water when it's available and the ability to withdraw 300,000 acre-feet in dry years when we cannot import that water from the Colorado River.

The Cadiz program would be able to store up a million acre-feet of Colorado River water in a groundwater basin underlying the Cadiz and Fenner Valleys. That water could be put into the basin at a rate of 150,000 acre-feet per year during wet years, and withdrawn during dry years at the same rate of 150,000 acre-feet.

In order to do this program a number of facilities would be constructed. This is the Colorad River Aqueduct here (indicating). The Cadiz and Fenn Valleys are in this area (indicating). A pipeline ab 35 miles long would need to be constructed between th aqueduct and the Cadiz and Fenner Valleys.

We'd also construct pumping stations to boos water and pump it through this pipeline up to the Valley. In the Valley we would store water in about acres of spraying basins. It would just percolate in the groundwater basin where it would be stored for la use. About 30 wells would be constructed to recover that water and pump it back to the aqueduct in dry years.

There's one other issue that you've probably read a lot about recently in the press. It's the chromium issue in groundwater basins throughout California. We wanted to give you a little bit of

background on what's been found.

A statewide survey for chromium and chromium VI has been done over the last year or two. We found throughout the state that chromium has ranged from non-detectable to about 50 parts per billion. In Metropolitan's programs we found similar results of chromium from non-detect to about 25 parts per billion.

Currently total chromium in the water supply is regulated. There are maximum contaminant levels of a hundred parts per billion as a federal standard. In California, there's a 50-part-per-billion standard. We've been testing for total chromium throughout the environmental process that's been conducted for our programs, and we recently tested for chromium VI. We are able to meet all of the drinking water standards for chromium.

At this time we're going to take public comments on the supplement. And the supplement focuses on groundwater resources and a groundwater monitoring and management plan. And I'm going to turn it over to Sylvia Salenius from P&D Environmental. She'll moderate the comment period.

MS. SALENIUS: Good evening.

I have right now about 27 cards. So that means even at a three-minute limit, which we're trying to work

with tonight, we'll be here for well over an hour.

So with that, I'd like to have each speaker when I call your name come up to the microphone right here (indicating). That way we'll be able to get a recording as well as have the transcribers be able to hear what you're saying.

I will read off a name and ask you to come up.

And what we'll do is when you have approximately one minute left, I'll give you a one-minute signal. And then at the end of your three minutes, I'll notify you that the next person is scheduled to speak.

I know that there are some groups here that have designated their time to be yielded to others. At the point of the three minutes I will read the next name, and if I have an indication on the card, I will let you know that someone else has yielded that time.

The meeting is being videotaped, by the way. The videotape is for the purposes of the Metropolitan board members and staff who may be interested in find out what was said this evening at this particular pub meeting.

The first speaker that I have is Melinda Rho

MS. RHO: Thank you.

I am here representing the Association of California Water Agencies for Christa Clark. She's ill today, so I will be reading her testimony, and then I will submit it afterwards. Okay.

The Association of California Water Agencies appreciates the opportunity to submit comments on the supplement to the Draft Environmental Impact Report/Environmental Impact Statement for the proposed Cadiz Groundwater Storage and Dry Year Supply Program.

"ACWA consists of over 440 public water agencies in California. Our members serve nearly 90 percent of the delivered water in California for residential, industrial, and agricultural uses.

"Two of ACWA's goals are to promote the use of good science in water management decisions and to provide the public and policy leaders with the most accurate information about the quality of California's drinking water. It is in this

TZ-1

capacity that I present these comments today.

"ACWA would like to take this opportunity to provide the lead agencies with current information on the subject of chromium VI and also to briefly comment on the groundwater monitoring and management plan proposed for this project.

"There has been a significant amount of media attention shown to the discovery of chromium VI in the proposed project area and in Southern California drinking water supplies. Although this media attention has been limited mostly to Southern California, testing of groundwater wells has discovered chromium VI in Northern and Central California supplies, as well. These findings are not altogether surprising considering that chromium is the 11th most common element in the earth's crust. In fact, chromium is more commonly found in soils than mercury, zinc, or uranium.

"That said, the concern that has been expressed by the public, media, and policy makers over chromium VI is valid. Chromium VI is a known carcinogen when inhaled, and the perception of any potentially cancer-causing element in our water supplies is naturally disturbing.

"It is this perception of risk, coupled with some misleading assumptions and reporting, that we would like to address today.

"We do not appear here today as opponents or proponents of this project. The future of this project is a decision appropriately made by the lead agencies, qualified engineers, and local stakeholders.

T2-1

"However, we are here today to reinforce that this project should not be decided based on the presence or absence of chromium VI. Despite the implications in recent media reports that chromium VI may be a deciding factor for this project, the truth is

that chromium VI is a statewide issue, not a local issue, and its potential impacts will be felt by water suppliers everywhere.

"The California Department of Health Services and California's water suppliers concern themselves first and foremost with the protection of public health and are deliberately working to understand the full impact of this contaminant. Active sampling of water supplies throughout the state" --

MS. SALENIUS: Three minutes.

MS. RHO: (Reading)

-- "is under way, and the results of this sampling will assist all involved parties in taking appropriate and immediate action."

Thank you.

I will go ahead and submit this.

MS. SALENIUS: Yes. Give it to Jack at the front table.

The next person -- there's some young people here that were going to speak, and I wanted to see if we could get them in the order early because I would bet

that they would probably like to get home and get some shuteye.

So I have Lauren Haas.

MS. HAAS: Can the other people (indicating) stay with me?

MS. SALENIUS: I'm going to call you in order.

MS. HAAS: Can't we speak together?

MS. SALENIUS: Oh, okay.

MS. HAAS: I'm from the Archers School for Girls in Brentwood because I care about the future and the health of California. I'm also here because I think there are many different things that cause cancer and why would any public panel, such as you, want to be responsible for another cancer-causing element. T2-3

I also have a few questions of the panel.

First, umm . . . is chromium VI naturally caused or manmade, and how do you know?

MS. SALENIUS: Okay. We're not taking questions -- we're not going to be able to answer questions tonight. What we will do is we're taking your questions, and then the questions will appear in the final Environmental Impact Report and Environmental Impact Statement, and then the answers will be provided at that point.

MS. HAAS: So should I read all of our questions?

MS. SALENIUS: So, yes. Read your questions into

the record.

And then when the next person talks, could you please identify yourself.

MS. HAAS: All right.

MS. SALENIUS: Thank you.

MS. HAAS: My other question is: If you propose to remove the chromium VI from the aquifer, and it is a natural element, won't it come back?

And my other question is: How many wells under the MWD's authority are currently contaminated with this unsafe -- with unsafe levels of chromium VI?

Aren't there wells in Burbank and Glendale, too?

Do you think you should create technology in current wells before you take on such an expensive new project without any proven solution?

What type of cancer can chromium VI cause?

Is it a national problem or only one here in California?

If it is national, then why isn't the federal government and EPA getting involved?

How much did Cadiz pay for water per acre-feet?

They want to change -- charge the MWD $230 per acre-feet, or will it cost more now that the chromium VI

has been discovered?

Who will bear cost overruns? Will public taxpayers or company shareholders? TZ-12

MS. STERN: Hello. My name is Ashley Stern, and I'm also from the Archers School for Girls, and I have a few questions for you guys tonight. TZ-13

My first question is: Has the state used natural aquifer storages -- storage facilities before?

Second, if not, why not? TZ-14

If yes, have they been tested for chromium VI or any other chemical that causes illness? TZ-15

My third question: When did Cadiz get their aquifer idea, and what independent sources have you gone to to check out their plan? TZ-16

And my fourth question, my last question: Are you aware of the huge amount of money that the company's executives have donated to politicians? TZ-17

MS. CARMICHAEL: Hello. My name is Catherine Carmichael, and I, too, go to Archers School for Girls in Brentwood.

I live in Beverly Hills, and I'm here tonight because I care about California's environment and its future. TZ-18

My first question is: What will be the impact on the desert environment and its inhabitants as you

tamper with the natural water table levels?

Aren't you worried that this environmental manipulation will exaggerate in wet and dry years?

Would this cause potential flooding in wet years and dust storms in dry years similar to those that occurred in Owens Valley?

MS. SALENIUS: Is that --

MS. CARMICHAEL: No. I have more.

I have read that the MWD is going to install monitoring devices to measure the chromium VI levels in the aquifers.

Do these devices exist, and will their report be read by independent third parties?

How many large aquifers, such as this one, exist in California?

Are they all contaminated?

Why don't you try this -- why don't you try this proposal somewhere where the aquifer is not contaminated?

That is all.

MS. SALENIUS: Thank you.

MS. CARMICHAEL: Thank you.

(Applause)

MS. SALENIUS: Mr. Jim Palecek.

Please hold your applause. It just takes away

from the time we have for the meeting.

Mr. Jim Palecek.

MR. PALECEK: Yes. We would prefer to defer comments until after the group speaks, please.

MS. SALENIUS: Okay. Mr. Frank Arundel.

MR. ARUNDEL: I'm curious as to --

Let me get to this up to where I can speak.

-- why the --

MS. SALENIUS: Mr. --

MR. ARUNDEL: Yes?

MS. SALENIUS: The camera is over there (indicating).

MR. ARUNDEL: Okay.

I'm curious as to why the Metropolitan Water District wants to go to bed with Cadiz.

I was looking at their 10-K, and in analyzing it, this company in debt to ratio -- debt to equity ratio is 84 percent in debt and 16 percent in equity. Now, an average company in the United States is like 50/50, maybe 60/40. So you're talking about a company here that's got some real financial problems.

T2-26

Now, it's stated in their 10-K -- now, I don't know if you're familiar with 10-Ks. 10-Ks come out quarterly. It's a government thing.

And so Cadiz has stated that in June of last

year they were losing 9 million and June of this year they're losing 15.

Now, in their 10-K, again it says:

"The company's net income or loss in future fiscal periods will be largely reflective of the operations of the company's water development activities including the Cadiz Groundwater Storage and Dry Year Supply Program."

Further, it goes into details about the -- what they're setting up for this activity.

Well, I won't go into those, but I'll discuss this.

What happens when the beepers go off in the desert? I'll tell you what happens. The water gets turned off.

Now, all this money that Cadiz is proposing to help them through their financial crisis, they're going to be in big trouble. So is Cadiz going to get paid for water that they aren't pumping because the thing's been turned off? So does the board end up having --

MS. SALENIUS: One minute remaining.

MR. ARUNDEL: Does the board end up having to pay Cadiz, which means the rate payers, then, would have to

pay?

This happened in the nuclear industry up north. There are people paying for power they aren't getting because they closed plants down.

What I would like to say is that there's also a lot of investment involved in this. 7 percent -- seven major groups own half the stock. They're bettin' on the come here. Now, if they buy it at eight and it goes to five, wow, they lose a little. But if this goes up to 30, they're making big bucks. And guess what? This whole thing rides on the signature of the Metropolitan Water District. The whole deal is in that one signature. So what they're doing is basically financing a company into profits. T2-27

MS. SALENIUS: Thank you.

Mr. Scott Schmidt.

MR. SCHMIDT: Good evening.

My name is Scott Schmidt. I'm here to testify on behalf of VICA, the Valley Industry and Commerce Association. We're a non-profit, non-partisan business advocacy group representing over 350 small, medium, and large businesses in the San Fernando Valley. T2-28

VICA supports the 4.4 plan which requires agricultural and urban water users within California to reduce their dependence on Colorado River supplies.

As MWD reduces its use of Colorado River water over the next 15 years, it's important that Met look to innovative and responsible water management programs to help to accomplish this goal. This reduction will call for a greater reliance on investments in water exchange programs, local conservation, and conjunctive use.

In that vein, VICA supports the Metropolitan Water District's partnership with Cadiz in a precedent-setting effort to better manage Colorado River resources and reduce the dependence on the Colorado River and Northern California supplies.

The program's principal purpose is to store Colorado River water underground as a wet year conservation effort. During droughts, that stored water, plus additional limited indigenous groundwater, would be provided to Met's customers. Conjunctive use programs like this are one of the best opportunities California has to responsibly manage limited water resources.

In comparison to building dams, they are more environmentally favorable and far less expensive. Furthermore, Southern California should be credited for creating its own regional solutions. For 18 months the program has been undergoing an exhaustive environmental review to insure compliance with all state and federal

regulations and to seek public involvement. To ensure the safe operation of the groundwater basin and to protect surrounding environmental resources, one of the most comprehensive groundwater monitoring and management plans in California's history will be implemented.

T2-30

So in closing, VICA wanted to thank all those involved for the opportunity to participate in these hearings and to commend MWD and Cadiz on their innovative approach towards meeting Southern California's growing water needs.

Thank you.

MS. SALENIUS: Thank you, Mr. Schmidt.

Ramon Mendoza.

MR. MENDOZA: My name is Ramon Mendoza, and I am pleased to be here this evening.

I'm going to face this way (indicating) because I'm not running for political office, and I haven't done anything but studied EIR/EIS.

This is a supplement document. The original documents, if I were standing on them, would put me out at about seven foot nine, which means I could've played basketball.

T2-31

Very interesting documents. The first document produced a number of questions. The second document, in my opinion, answered all the questions that I had

originally.

Now, for the record, I am a Native American by birth, a traditionalist by choice, and I work in many, many, environmental programs, including an appointee to the National Park Services on the advisory board.

I can say that, as an environmentalist, I have studied these documents, and I am aware of the things that have been written there. I am in full support of this program.

It is a program that will bring knowledge with regards to water, the conditions under which water flows, and it will protect the environment from the standpoint of having better knowledge and understanding of how water flows. We're also going to get some air quality control standards as a result of this project. Never in the history of California has an extensive program such as this ever been undertaken. And I would love to see the environmentalists come up here and, having read the documents, ask some intelligent questions.

Thank you.

MS. SALENIUS: Thank you.

Richard Hazlett or Haze-let.

MR. HAZLETT: Hazlett.

Thank you for making this opportunity this

evening to speak.

I am the chair of the geology department at Pomona College. I'm a former employee of the National Park Service and have worked for USGS. I've published nature guides for the National Park Service about Hawaii volcanos and Joshua Tree. And I'm running the environmental studies program at Pomona, where, in fact, I'm pretty much in charge of the environmental activism that's going on. T2-33

Never mind the propriety of Cadiz, Inc., which in fact should be commended for spearheading some major environmental victories in the desert, getting rid of the Rail Cycle and Ward Valley projects, which in no small part was due to their efforts.

This project makes sense. Los Angeles is coming up against the limits of its growth. We see that in terms of energy. That will worsen eventually. And certainly -- and I share sentiments with the folks at Caltech about this, too, in terms of water. T2-34

Building a dam with a reservoir is a very inefficient way to store water. It reduces water quality. We've seen tremendous environmental impact in the lower Colorado River from projects initiated during the Great Depression. Putting it underground prevents evaporation.

If one's worried about chromium VI or arsenic and the like, I can tell you that, from countless environmental cases, there's no such thing as zero risk. You're always going to find some elemental contamination. What constitutes a reasonable level can be argued until your face is blue, but we have to live with that fact. We have to have reasonable levels.

T2

And this project will serve as insurance for Los Angeles against droughts in a very sensible way. Those people that fear like a new freeway, this will promote growth, have to realize that the diameter of the Colorado River Aqueduct is not going to get any larger despite this water storage, so that's a faulty argument.

And I think that the park service has picked the wrong

MS. SALENIUS: One minute remaining.

MR. HAZLETT: The park service has picked the wrong environmental issue to fight here in terms of this project.

Now, they should be more concerned about smog from L.A., about dust from roads in the mid-hills country on park service land alone, and dust from chloride works on the pile links.

T

They're good environmental issues. They're

bad ones to pick for a fight. And I think the opponents of this project have misjudged it on a basic geological principle. T2-36

Thank you.

MS. SALENIUS: Thank you, Mr. Hazlett.

Grove Burcn.

MS. SALENIUS: Burnett.

MS. SALENIUS: Burnett. I'm sorry.

MR. BURNETT: I'm Grove Burnett. I'm director of the Western Environmental Law Center, a public interest and environmental law firm. We represent national and regional and grass roots organizations in 11 states across the West. We're here tonight representing a coalition of environmental and citizen groups including the Sierra Club, Defenders of Wildlife, and the National Parks Conservation Association. T2-37

The Sierra Club, as you know, is the nation's largest environmental organization, with a membership of over 600,000, 50,000 of whom live right here in the Los Angeles area. The National Parks Conservation Association has a membership of over 450,000 members, 65,000 of whom are residing in California. Defenders of Wildlife, the national organization, has a membership of over 200,000 with about 30,000 that reside in Southern California.

So it's fair to say that this coalition represents over a million citizens of our country who are appearing here tonight, if you will, in opposition to this project.

Now, as I have spoken to Madam Moderator in advance, we intend to present and would like to present three witnesses to testify tonight. And to consolidate that testimony, we have ten speakers who are going to yield their time so that they can speak.

John Bredehoeft is going to be our first witness. He's a hydrologist and a geologist with 32 years of experience with the United States Geologic Survey.

Our second witness will be Jack Gillies. He works with the Desert Research Institute of the University of Nevada. He's an air quality specialist.

And finally Simeon Herskovits, who's a senior staff attorney with the Western Environmental Law Center, will address the legal infirmities regarding the Nipa process here.

I would just like to provide a summary of our position here --

MS. SALENIUS: One minute remaining.

MR. BURNETT: -- in connection with this project.

And that is that there are fundamental

procedural and substantive problems with the Cadiz project.

It is our opinion, it is our conclusion that this project is environmentally unsound. That it's adverse to the public interest, that it is ill-conceived and should be terminated. Neither the Environmental Impact Statement nor the supplement have addressed adequately these deficiencies. The EIS process, we contend, is flawed as is the project itself. TZ-38

Our objects and concerns -- or our objections and concerns fall into basically five areas.

The first is that the Cadiz project is a water mining project. It is not a water storage project. It's central --

MS. SALENIUS: Five seconds.

MR. BURNETT: And then can we just go right now and have someone yield?

MS. SALENIUS: Go to Mr. Bredehoeft. He's the next one on the list.

MR. BURNETT: Okay. If we could, as I have explained, he is going to testify. We've got ten people who have agreed to yield their time. One of whom is not Mr. Bredehoeft.

MS. SALENIUS: That's right.

MR. BURNETT: Okay.

MALE VOICE: I would like to yield my time.

MS. SALENIUS: Sure.

You're the next person -- are you Mr. Bredehoeft? No. You're not Mr. Bredehoeft. Okay.

MR. BURNETT: We've got ten people, so could we have someone other than Mr. Bredehoeft?

MS. SALENIUS: Sure.

MR. BURNETT: So our first objection is that the Cadiz project is a water mining project. It is not a water storage project.

Secondly, the proponents of this plan have maintained that there will be no impact on groundwater recharge, when, in fact, there is going to be -- they have grossly -- or rather they have grossly exaggerated the groundwater recharge. And various federal agencies, including the USGS and the National Park Service, have all agreed that there's been a gross exaggeration of the recharge.

Thirdly, the Cadiz project will have large-scale impacts on air quality. Just like the draining of Owens Lake and the drying out of the lake bed created widespread degraded air quality in the Owens Valley, there's the potential for a similar circumstance here of dust bowl effects from this project.

Fourthly, there's likely to be harm to wildlife, particularly to the second largest herd of antelope -- or bighorn sheep that remain in the Mohave Desert. T2-42

And finally, as several of the witnesses will testify, there are gross inadequacies with this so-called monitoring and management plan, which clearly does not protect the public interest and will not really -- in fact, will virtually guarantee that there will be no remedial action. T2-43

With that, we would like to ask --

MS. SALENIUS: Call Mr. Bredehoeft?

MR. BURNETT: -- Mr. Bredehoeft to testify.

Thank you.

MR. BREDEHOEFT: I have some overheads.

I'm John Bredehoeft. I'll just say a little bit about my background. I'm a hydrogeologist. I worked for the Geological Survey for 32 years. I managed the water program in the eight western states during that period. I managed the research program for water at the USGS during another period. I did water -- I did research on groundwater problems. George Pinder and I wrote the first widely used groundwater models. I have a Ph.D. I'm also a member of the National Academy of Engineering. T2-44

In looking at the draft -- the first Draft EIR/EIS report, there was -- as you can see on the top here (indicating), the report uses a figure for recharge of something like -- from something like 20,000 to 70,000 acre-feet. And then the monitoring that was done by Geoscience, they used 50,000 acre-feet.

In commenting on that report, the USGS and various different people suggested that the recharge probably was in the -- less than 10,000 acre-feet and could be as low as a couple hundred acre-feet, and probably the most probable number was in the range of 5- to 6,000 acre-feet.

So the Draft EIR/EIS was based on this 50,000 number, which the comments suggested was way too high, an order of magnitude too high. That was not addressed in the supplemental EIR/EIS.

Next slide.

Now, looking at the project, if you take the Draft EIR/EIS -- and scenario 2 in the Draft EIR/EIS suggested that there would be a million one acre-feet of water stored from the river and a million one would be pumped out. In addition, there would be 1.7 million acre-feet of indigenous groundwater that would be pumped out. This was scenario 2.

Now, if you use the 50,000 acre-feet for

recharge, you see that over a 50-year life you'll get 2.5 million acre-feet of recharge into the system. And under that scenario, you have about 800,000 acre-feet of surplus water that has gotten to the groundwater system. T2-46

MS. SALENIUS: Helen Wagenword is yielding her three minutes to Mr. Bredehoeft.

MR. BREDEHOEFT: Okay.

Now, if you -- if you then say let's use something more likely, like 6,000 acre-feet, you see again that we've got on the right-hand side (indicating) a million one stored, a million one pumped out, a million seven of indigenous groundwater pumped out. However, now we've only got 300,000 acre-feet of recharge to the system. We have an overdraft that's on the order of a million four acre-feet.

If you say to yourself, okay, we've got a million four acre-feet after a 50-year life of the project. We stop the project. How long will it take us to compensate for that million four? You're talking about 200 years. T2-47

So if we pump this project for 50 years, and this is more likely the recharge, we're going to talk about an overdraft on the groundwater system that is on the order of a million acre-feet or more. All right.

Next slide.

Now, one of the things that Tim Durbin did for the County of San Bernardino was to put together a groundwater model for the entire aquifer system and project what the drawdown would be after 50 years of operation.

I did the same thing. And this is my computed drawdown map after 50 years of project operation (indicating). And you see in the vicinity of the Cadiz project we have a couple hundred feet of drawdown, and it extends up the Fenner Valley, although it's only a foot up in the area of a place called Danby. Under Bristol Lake here, we have about ten feet of drawdown, and under the north end of Cadiz Lake, there's something like five feet of drawdown. That's after 50 years of project operation.

Now, the question is: What happens if we shut the project down in 50 years? So I made a hundred year projection of what the system will look like in -- after a hundred years, 50 years after we shut the project down.

Well, what you see now is that there's something on the order of 30 to 50 feet of drawdown in the vicinity of the project, but that's not the total story. You've now got instead of ten feet of drawdown under Bristol Lake, we've got 20 feet, and the drawdown

extends further down Cadiz Valley and further up the Fenner Valley.

So what happens is just because you shut this project down does not mean that the impacts are over. The impacts will extend on in time.

T2-47

So I want to look particularly at three locations . . . and I've looked at three hypothetical observation wells: one in the vicinity of this small town up the Fenner Valley, Danby; one under Bristol Lake, sort of in the middle of the Bristol Lake; and one at this location SCE-5, which is about halfway between the project and Bristol Lake. Okay.

So the next slide shows the water levels -- the change in water levels at these locations. And again --

T2-48

MS. SALENIUS: Mr. Todd Shuman is donating his three minutes to Mr. Bredehoeft.

MR. BREDEHOEFT: Thank you.

What we've done is shut the project down after 50 years. So we've halted the project after 50 years and looked at what the drawdown will be out to a hundred years.

T2-49

Can we move this slide over just a little bit. All right.

So what you see at this SCE-5 location, which is halfway between the lake and the project, we've got

about 50 years of drawdown at the end of the project life, and then the well recovers but it only recovers about 20 feet. So at a hundred years we've still got 30 years of drawdown -- 30 feet of drawdown at this SCE-5 location.

Now, let's look particularly at the Danby location in Fenner Valley. What you see there is there's no drawdown essentially out to something like 30 to 35 years. At 40 years we've got about two feet of drawdown. And at 50 years it's about three feet of drawdown. However, if you stop the project again, that drawdown continues. And up the Fenner Valley at the place in Danby we've got about 11 feet of drawdown at a hundred years.

So simply stopping the project at 50 years does not stop the impacts on the groundwater system. Those impacts -- the groundwater system has been perturbed, and those impacts will go on, and they'll go on for several hundred years.

The same is true at Bristol Lake. You see at about 50 years, we have roughly ten feet of drawdown at Bristol Lake under the center of the lake. At 80 years it's -- it doubles to 20 feet, and it stays there. So what we've created is a cone of depression in the groundwater system which persists, and it's going to

persist for several hundred years. All right. T2-52

Next slide, please.

Now, one of the things that is of concern is that under Bristol Lake is a body of brine. That brine is about seven times as concentrated as seawater. It has concentrations of 200,000 milligrams per liter. Seawater is 32,000 milligrams per liter. So we've got a very dense brine that exists under Bristol Lake.

Now, on this slide (indicating) I've used the groundwater model again, a contaminated transport model, to look at how the change in concentration would occur at this SCE-5 well. And what you see here is that there's basically no changes to 30 years or so, and by the time you get out here to 50 years, we've got a concentration of a thousand parts per million total dissolved solids. But that goes on. T2-53

We stop the project at 50 years and you can see that the -- there's a continued increase in -- decrease in water quality, increase in total dissolved solids, so that out at a hundred years we've now got 7500 parts per million total dissolved solids at this location, and it's still going on.

MS. SALENIUS: Tasha Stuart-Shuman yields three minutes to Mr. Bredehoeft.

MR. BREDEHOEFT: Okay.

Now, my point is this: If we say to ourselves we're going to observe this system and control it in some way, this is a typical example. Here's a well where there's really no change out to 30 years in water quality. And as you can see, if we cut the project off at 50 years, stop the project totally, we haven't stopped the impacts. The thing goes on. And we're going to have impacts well beyond the point at which we stop the project. The same would be true if we stopped the project at 30 years.

So monitoring is going to be difficult. There are going to be very subtle impacts that one is looking for. And once this system is perturbed, that perturbation is going to go on for a long period of time, and it will have impacts on the groundwater system, and those impacts are going to last several hundred years.

Thank you very much.

MS. SALENIUS: Mr. Bredehoeft, will you have those slides available copies for Metropolitan?

MR. BREDEHOEFT: No. We're going to submit formal comments.

MS. SALENIUS: Oh, okay. So you'll submit the slides in those comments?

MR. BREDEHOEFT: Yes.

MS. SALENIUS: Dr. John Gillies.

DR. GILLIES: Good evening, ladies and gentlemen.

My name is John Gillies. I'm an assistant research professor at the Desert Research Institute, and my studies are basically centered around the physics of wind erosion and dust emissions, and I was asked to comment critically on the EIR/EIS. And I would just like to raise some of those critical issues that seem pertinent to me reading the documents. T2-55

And the next slide, please.

One of the issues that has been raised here is what is the potential for dust emissions from the two dry lakes, Cadiz and Bristol Lake. And the question is: What is going to be the response of the lake bed surface? T2-56

Regardless of the drawdown, wind erosion happens at the interface between the atmosphere and the land surface. And any amount of water removed from the system increases the potential for dust emissions and an entrainment by the wind.

The response of the actual surface of Cadiz Lake and Bristol Lake is not clear -- the science hasn't been done in the impact assessments to determine what that response might be. Two things can happen. One, it depends on the salts and the brine and the delivery of

that brine to the surface.

In the case of Owens Lake, it becomes critical and very highly susceptible to wind erosion when there's hydration of the sodium carbonates. It's not clear to me, from reading the report, the comparison between those two systems and what the response of those two lake surfaces might be to the loss of water at the surface which is binding the particles together. You remove that -- you increase the susceptibility, but you also create a capillary zone where the salts are being brought to the surface. And depending on the salts that are there, the susceptibility can increase further.

The second point that clearly struck me while reading the reports was the plan to monitor the air quality should dust be mobilized at Bristol and Cadiz Lakes. I think it's fair to say that the monitoring proposed of the five-year evaluation period is much too short with some effects not becoming significant until farther into the lifetime of the project. And that monitoring should be available for the lifetime of the project to see if causal linkages between the drawdown of water and the activation of the surface occurs.

In addition, the Cadiz management plan issues four basic responses to the system if it should become erosive and emitting dust at the surface.

MS. SALENIUS: Robin Ives yields three minutes to Dr. Gillies.

DR. GILLIES: The management plan does not address the control of dust emissions from these two lakes should they occur.

The dust emission process is very short temporally speaking, and the -- to manipulate the surface -- the brine water layer to control the emissions by raising the water table back to the surface cannot work because of the time lags involved in the system. The dust system responds to weather on a 24-hour basis where the response of the groundwater system lags very much slower. So it can't be used as a mechanism to control dust emissions at the lake. And there are no other proposed actions in the EIR/EIS to deal with potential dust emissions, and I think that that's a critical issue that must be addressed. Okay. T2-58

Another area of concern I have with the management plan presented in EIR/EIS is to exclusively use open-air nephelometers to decide if dust emissions are occurring from Cadiz or Bristol Lake. T2-59

The federal standards for air quality for particulate matters are not regulated on the basis of measuring light scattering of particles, which is what a nephelometer will do. It's a mass-based standard. And

if you were going to understand how much is originating or may potentially originate from Bristol and Cadiz Lake you are going to have to monitor that with federally -- federal reference methods or equivalent to monitor the particulate matter.

The dust emission process is driven by the movement of particles that we call saltation, which are the ones that bounce across the surface and drive up the dust particles. There would be -- from the methodology proposed, there would be really no way to be 100 percent certain that the mobilization of Bristol or Cadiz Lakes was locally driven. And I think you would have to increase the monitoring plan to actually go out on the lake beds with a grid of instrumentation to monitor the saltation movement which drives the dust emission process. And that, again, because the responses may be later on in the lifetime of the project, it will requiring monitoring through the life of the project to deal with these longer time lag systems.

One issue that I felt was -- didn't get much coverage in the EIR/EIS --

MS. SALENIUS: Lori Ives yields three minutes.

DR. GILLIES: Okay. Thank you.

-- was the potential for emissions from the

spreading basins. The EIR/EIS says or claims that the emission potential of these 390-acre spreading basins is equivalent to the soils of the native Mohave Desert around the region, and this is not true.

The material that would be deposited in the spreading basins, whether it's coming from the water or through atmospheric deposition, has a potential for much higher emission rates than the native desert soils. These spreading basins will be devoid of vegetation and be much smoother where plants and the increased roughness of the Mohave Desert itself ameliorates the potential for emissions from the desert soils. So by smoothing out the surfaces, taking away the vegetation, you increase the susceptibility to erosion. T2-60

And in the second -- the second problem with that is that the material that will probably be introduced into the lake, whether it's atmospheric deposition or deposition from settling through the water, is fine grained and more susceptible to entrainment due to its slower threshold for movement. T2-61

The EIR/EIS claims that there will be not -- no problem associated with this production of sentiment inside the spreading basins. And I did some quick -- or some calculations to determine if -- something struck me that that claim might not be exactly true.

And if you assume that the material being laid down in the spreading basins is fine-grained silts and clay with a bulk density of about 93 pounds per cubic foot, how much would you -- would potentially be produced in the spreading basins in a year -- in the 40 cells of this spreading basin in a year.

Conservatively, estimating only a one-millimeter-thick layer develops, you're dealing with almost 5,000 tons of material.

MS. SALENIUS: One minute remaining.

DR. GILLIES: And moving that around -- and that, in and of itself, is an impossibility to remove one millimeter. So the potential is you have to let that grow to a significant depth before you can bring in the heavy equipment to remove it. And there you can increase in a geometric progression how much of the sediment you have to move, and it could potentially be a very large input of particulate matter to the atmosphere through its removal or through its susceptibility from wind erosion.

Do I have --

MS. SALENIUS: Is there any more time left? 20 seconds.

DR. GILLIES: I'll pass on to the next speaker.

MS. SALENIUS: Simeon Herskovits.

MR. HERSKOVITS: Thank you.

I'm a senior staff attorney with the Western Environmental Law Center, as I think Grove mentioned at the beginning, and I want to try and tie what you just heard into some of what Grove said before and the overall, overarching legal picture, I guess you could say, for the Cadiz project as it's been proposed and the documentation in the Draft EIR and the Supplemental EIR. TZ-63

The technical information or opinions that you received from Dr. Gillies and Dr. Bredehoeft may be a little bit difficult to understand at the moment. You'll be receiving formal testimony in written form later on. But let me explain exactly what it amounts to under the applicable environmental laws.

Essentially, in the case of air quality impacts that may result from the Cadiz project or appear probable to result from the Cadiz project, there is an acute lack of the data that needs to be gathered to make an informed and reasoned decision as to whether or not that's an impact, and what exactly the parameters of the impact would be, and how it would be mitigated if that were even possible. TZ-64

Two, there's been no analysis. There has been no sort of principled and systematic examination of what the risks of those air quality impacts are. And I might TZ-65

add, if it wasn't clear from Dr. Gillies' testimony, those are potentially catastrophically expensive impacts to try to mitigate, as I'm sure people in Southern California know from the experience of Owens Lake.

There's been no analysis, no data collected and presented in the documentation, and there's been no required analysis of it to evaluate the environmental impacts from the Cadiz project on air quality from the drawdown under the dry lakes.

As for Dr. Bredehoeft, I think it was clear that essentially once you've started this cone of depression, it's kind of like starting a locomotive and the momentum will carry the drawdown effects of the water out in a radiating fashion for a long period of time, creating impacts to the groundwater system and to the surface environment, potentially, for quite a long time. As he said, over 200 years.

This is critical because, again, there has been no presentation in the documentation to date of this impact or this set of impacts from the drawdown of native groundwater from the Cadiz project, and there's been no analysis or discussion, as required, of what those impacts are and how they will be mitigated and how the costs of those will be covered or what the costs of

those would even be.

It's critical here to look to the supplement as well as the original Draft EIR, because the supplement purports to solve this problem or to avoid this problem by positing a monitoring and mitigation -- or monitoring and management plan, actually. It doesn't purport to really lay out mitigation.

That plan is patently inadequate. Unfortunately, it includes almost no detail whatsoever of the structure of the committees that will make it up, and it also does not lay out the kinds of criteria that will be applied, other than a few very fundamental basic things about the two committees and some --

MS. SALENIUS: Mr. Eldon Hughes yields three minutes.

MR. HERSKOVITS: -- measuring of drawdown, there's no description of what kinds of actions will be taken to respond to these. And as both Dr. Bredehoeft and Dr. Gillies explained, the monitoring and mitigation or management plan is completely inadequate to actually even measure these impacts.

So it's -- it simply cannot support an informed decision by the Metropolitan Water District. It can't inform a reasoned analysis of the Cadiz project, its

TZ-67

TZ-68

TZ-69

potential costs, the potential liabilities that the Metropolitan Water District will bear or, in fact, the nature of the environmental impacts to be expected from this project.

Now, this is just the tip of the iceberg. I think it's important for you to realize that in addition to these two professors, an economist is looking up the nature of the costs and the structure of costs and payments and revenues for the Cadiz project. And it appears to be quite dangerous not only -- I suppose "dangerous" is an odd word to use, but it's not so much a matter of Cadiz just being leveraged, we may find ourselves with a Cadiz that is unable to foot the bill if there are high costs associated with the environmental impacts, but also, the payments are front-loaded for this.

As you, I'm sure, on the Metropolitan Water District should be aware, a great deal of money is going to be invested by the Metropolitan Water District and the taxpayers and rate payers of California right up front, which will create an enormous amount of pressure to keep the project going and keep the water being extracted.

Now, it's important to realize that with a fundamental lack of critical information that's required

under the California Environmental Quality Act and the National Environmental Protection Act, this cannot withstand judicial scrutiny. T2-71

The project as proposed and as documented in the Draft EIR/EIS and the supplement is fatally flawed and deficient under those -- T2-72

MS. SALENIUS: One minute remaining.

MR. HERSKOVITS: -- statutes. It doesn't contain the necessary information required for a description of the area, the impacts, and the project, you know, in a prospective manner, nor does it contain the kind of analysis that could support any defensible or rational decision by Metropolitan. T2-73

In addition, you should be aware that we're scrutinizing the project and find that it is -- it looks likely to be violating federal and state drinking water quality acts on the statutory regime that would control the input of pollutants into the groundwater, which is also raising another potential source of liability for the Metropolitan Water District. T2-74

There are also serious questions relating to the water rights reserved to the Federal National Mohave Preserve and also the wilderness areas. There are five wilderness areas, which under the California Desert Protection Act, the federal government is bound to T2-75

preserve the water rights of.

In addition, wildlife impacts --

MS. SALENIUS: Time is expired.

MR. HERSKOVITS: -- are not addressed, and that's another source of liability and probable failure of the plan under judicial scrutiny.

Let me just make sure: We're dead earnest about scrutinizing every single aspect of this plan and holding up all of these deficiencies in court, if necessary, but we would hope that the Metropolitan Water District would take a good close look at this and revisit it.

MS. SALENIUS: Thank you, Mr. Herskovits.

Mr. Steven Krefting.

MR. KREFTING: Good evening, and thank you for the opportunity to address the board.

My name is Steven Krefting. I'm the acting regional director for the National Parks Conservation Association's Pacific office. Our mission is the protection and enhancement of America's national park systems for present and future generations.

Our obvious interest here then, is the protection of the Mohave National Preserve. However, I must state in the beginning that ecosystems and the plant and animal associations within them don't observe

boundary lines. So that which affects the area around the Mohave Preserve affects the Mohave Preserve. TZ-78

One of our primary concerns is the preservation of air quality in the park. And although the preserve may not be classified as a class 1 air quality, we believe it deserves the same protection as any other park in the system under the Organic Act which, to paraphrase, calls for the preservation of the resources and values of the parks unimpaired for future generations. We do not believe that the draft supplement adequately addresses the potential air quality problems for the Mohave Preserve. TZ-79

And on the issue of the existing aquifer that this project proposes to tap, there are a number of potential impacts on desert life. We don't feel that those have been adequately addressed in this Draft EIR/EIS, and we also feel that the -- while an impressive monitoring system is proposed, it and the decision-making processes attached to it are not adequate safeguards for the park. TZ-80

The bottom line is that we believe this draft Supplemental EIR/EIS still contains too many unanswered questions about environmental impacts, in particular to the protected lands surrounding this area, and the safeguards described within it are not adequate. TZ-81

Thank you very much for your time.

MS. SALENIUS: Thank you, Mr. Krefting.

Jim Palecek.

MR. PALECEK: Good evening.

My name is Jim Palecek. I'm an attorney, and I represent Mr. Lizaldi, who I believe has yielded his three minutes to me, as well.

MS. SALENIUS: Yes.

MR. PALECEK: Mr. Lizaldi is the owner of 30 acres of land in the area of the Cadiz Valley. His -- if you look on the map and you see a little dot on the map and it's called Chanlis, that is the location of his property. It consists of a mobile home park, some small units, houses, a little store, and a little diner.

Now, Mr. Lizaldi, as a property owner, owns 30 acres, and there are other situated property owners -- small property owners around there. And while they own, in comparison to the large body of water and the body of acreage that we have here, a small amount, because they own that land, they own the water underneath it.

So when we talk about extracting water from the aquifer, we're talking about extracting not only water that Cadiz owns, because Cadiz owns that land, we're talking about extracting water that Mr. Lizaldi owns as well as the other neighboring owners.

The problem with the EIR/EIS is that it has not addressed any of these property owners and the taking of their water. No one has asked them whether or not it's okay to take that water, and no one has talked to them about that issue. TZ-83

What we have is three problems.

The first problem is that, according to Mr. Bredehoeft -- Dr. Bredehoeft -- excuse me, Dr. Bredehoeft and Dr. Gillies, the water is going to be a problem. Eventually there will be a lowering of that table, and since this site, Mr. Lizaldi's site, is three to four miles from the project area, very close to Bristol Lake, very close to what he designated as the SCE-5, it is going to be his water directly that's going to be affected. And that water will eventually deteriorate to the point where his land will be rendered unusable. There is no provision for what to do with Mr. Lizaldi's land when it is rendered unusable. TZ-84

Second, the monitoring device that's proposed in the supplement, while it is dual in nature, that is, there is a team and then there is a management group to watch the team, the problem is: Who's watching the management group? And the group itself and the team are both composed, as I understand it, or proposed to be composed of the same group of people. And it's like TZ-85

having the chicken house watched by the fox.

Where is Mr. Lizaldi's protection?

We would propose that Mr. Lizaldi, as a landowner -- even though he is a small landowner in comparison -- be treated equally as the other landowners, as Cadiz is a landowner. Perhaps he would be named as a member of that team and as a member of that management group.

The problem we have with the monitoring system itself is that when a problem or a complaint is brought forward, what I envision is the following:

Mr. Lizaldi says, "Guess what? My water is a problem. I've taken it out of the tap. I've tested it, and it is more salty than it should be. It's got some chromium in it," et cetera, et cetera. We bring it before the board --

MS. SALENIUS: Mr. Lizaldi yields the next three minutes to Mr. Palecek.

MR. PALECEK: We bring it before the board or before the team, and the team says, "Oh, that's not right. There's no problem, Mr. Lizaldi."

What does that force Mr. Lizaldi to do as the other property owners would have to do? Spend an enormous sum of money, hire attorneys, hire geologists, hire hydrologists and have them come in to prove that

there is a problem.

The problem with the monitoring system as proposed is that it doesn't have any way of issuing a standard to be tested by. There's no one to look over this monitoring system. There's no guidelines to set up that says, if it goes in one direction, it's X. If it goes in another direction, it's Y. And there's no cost analysis to determine for these property owners how they're going to be compensated or re-compensated to be able to bring in geologists and attorneys to fight this issue.

So it becomes a problem insofar as we can't use this monitoring system because it's not functional. There have been other people who have commented on the same monitoring system, and we would support that as well.

And the last thing I have to say is that if there is going to be this -- the project is going to go forward, Mr. Lizaldi should be treated like Cadiz is, as a property owner.

What I understand to be happening here is Cadiz is getting out of or perhaps already is out of the agricultural business and is going into the water mining business. And as a result of the water mining business they are going to be compensated as a property owner.

T2-87

T2-88

T2-89

T2-90

How can you compensate Cadiz for being a property owner without compensating all the other property owners in the same fashion?

So all the other property owners who are there must be considered and they must be addressed in terms of their loss.

Thank you.

MS. SALENIUS: Thank you, Mr. Palecek.

Susan Gilliam.

MS. GILLIAM: Susan Gilliam with the City of Twenty Nine Palms, and I come here today to read two letters on behalf of two of our councilmembers.

The first letter is:

"This letter is in support of the proposed Cadiz groundwater storage project. The concept of storing supplemental water for use in critical times is a wise management decision for all of Southern California. The underground storage concept would have innocuous impact on the desert environment. There will be no adverse impacts to our desert area.

"As the closest incorporated community to the Cadiz Basin area, we

are always greatly interested in any proposal that may impact our city. The careful and farsighted management of water resources is a goal we encourage. T2-91

"All communities in Southern California currently mine groundwater for their quality of life. Storing additional resources should be supported. Every issue in the California desert appears to attract opposition from urban-based political organizations who feel they have a mandate to dictate policies to the desert areas. T2-92

These outside political organizations with perpetual obstructionist agendas would spend their time better proposing conservation measures in their own metropolitan areas.

"No credible scientific argument for opposition to the proposals by the Metropolitan Water District for their dry year storage supplement program T2-93

has come forward. This project remains a desirable, wise resource management mechanism, and this project should become a reality to help serve the needs of Southern California."

"Jim Bagley, Councilmember."

This is from our mayor.

MS. SALENIUS: One minute remaining.

MS. GILLIAM: Okay.

"The impressive efforts put forth by Cadiz, Incorporated in conjunction with MWD of Southern California in planning for storage for future dry years show depth of both planning and foresight for the benefit of generations of Californians in the new millennium. Cadiz and MWD have been before the public in a variety of forums and answered all manners of questions concerning the contemplated project, both conceptually as well as definition of technical candor and thoroughness in the attempts to educate all interested parties.

"In my own particular case,

during both the Twenty Nine Palms meetings, I covered a multitude of topics and asked several dozen questions about both technical, as well as general subjects. I have been impressed with the all over knowledge and the professionalism of Cadiz and MWD staff and their follow-up to provide responses to our inquiries.

TZ-94

"These groundwater storage projects, when combined with the closely monitored native groundwater extraction, which is spelled out in the supplement, can plainly be defined as a win/win system where today's plans become the salvation of tomorrow's growing population."

MS. SALENIUS: Time expired.

MS. GILLIAM: Okay.

And just to end it, it says:

"I say a hardy well done' is due to all concerned for their efforts to date.

TZ-95

"Keep up the good work.

"Mac Dubey, Mayor of the City of

Twenty Nine Palms."

MS. SALENIUS: Thank you.

Conner Everts.

MR. EVERTS: I actually would like to yield my time, if I could, to Elden Hughes, who could speak better for this.

MS. SALENIUS: Okay. Mr. Elden Hughes.

MR. HUGHES: In 1976 the Federal Land Policy Management Act was passed setting up the Bureau of Land Management as a generic act and also creating the California desert conservation area, the first national conservation area in the United States.

They instructed the BLM to do zoning for the various areas. What could be intensely used. What must be protected. Class L was the highest zone, limited use. The area between the Aqueduct and the Cadiz Valley is Class L.

Then in 1994, the California Desert Protection Act was passed. It created 69 Bureau of Land Management wilderness areas. Five of these are in the immediate area of the Cadiz project. This is a higher zoning than Class L. This is a very special area.

The land must be -- there must be an amendment to the desert plan of 1980 for this to go forward. But even then, within the EIR/EIS there's not proper

attention as to how to protect the values there.

Certainly if you're going to allow the corridor to go forward, the pipe should be buried, and equally the power lines should be buried. There is no reason to mar the Class L limited use values established by Congress and the Bureau of Land Management. T2-97

Thank you.

MS. SALENIUS: Thank you, Mr. Hughes.

Richard Jamison.

MR. JAMISON: I'm Richard Jamison, chairman of the Southern California Water Committee's Bay Delta Task Force. I'm appearing here tonight on behalf of Robert A. Kreiger, who's chair of the Southern California Water Committee's Colorado River Advisory Task Force. T2-98

The Southern California Water Committee is a non-profit coalition of agriculture and business interests, sitting county governments, and water agencies and districts within eight Southern California counties who are committed to finding solutions to water problems that affect the Southern California region.

Through collective action we advocate, endorse, and support responsible actions that will guarantee water supply necessary for a sound economy, a healthy environment, and a desirable quality of life.

The water committee commends Metropolitan Water T2-99

District for its role in securing water supplies for Southern California in an environmentally sound and economically feasible way.

We endorse and support your public/private partnership with Cadiz to implement underground storage of surplus Colorado River water during wet years for subsequent groundwater extraction and use during dry spells. This project will significantly bolster water supplies, which are so critical to our region. T

The Colorado River Advisory Task Force of the Southern California Water Committee supports the implementation of programs in a draft Colorado River Water Use Plan that will help California live within its limited allotment of Colorado River water in the future. T

We therefore urge Metropolitan Water District to implement the Cadiz groundwater storage and dry years supply program since it is one of the key components of the Colorado River Water Plan.

And clearly, speaking as the head of the Bay Delta Task Force, who work closely with California Fed and with the governor's advisory drought panel concerning water shortage contingency plans, we're clearly in an era where we're promoting regional solutions, which this represents. We're clearly in an T

era when we are mandated to come up with market solutions, with water transfers, with groundwater storage which has been selected in many forms as the most environmentally sound approach to increasing storage.

TZ-101

And we support this project, and we think it's a step in the right direction.

MS. SALENIUS: Thank you.

Juan Roberto Gonzalez.

MR. GONZALEZ: Good evening.

My name is Juan Roberto Gonzalez. I'm the legislative manager for the Los Angeles Area Chamber of Commerce, a regional chamber that encompasses a five-county area.

The Los Angeles Area Chamber of Commerce and the business community in this region are committed to ensuring that Southern California maintains a dependable water supply.

TZ-102

Southern California's economic prosperity relies on the availability and quality of water. The Chamber continues to support all efforts to secure new water sources and to store existing water in an environmentally friendly manner. We understand the importance of preserving a healthy environment while securing a reliable water supply for future growth. The

Chamber is a strong advocate of projects that protect our environment and guarantee a dependable source of water for the region.

The Chamber feels that the Cadiz Groundwater Storage and Dry Year Supply Program is an example of such a project. This first-of-its-kind public/private partnership between Cadiz and the Metropolitan Water District is an important step towards meeting the need for reliable water supply during years -- during dry years in the Southern California region.

The program at Cadiz can potentially store up to one million acre-feet of water and possibly supply an additional two million acre-feet. The storage capacity at Cadiz's underwater aquifer insures that MWD's aqueduct continues supplying affordable water during dry years, protecting the rate payer from rate hikes during water shortages. Moreover, by storing water in a national underground aquifer, the environmental impact is reduced compared to an above ground water reservoir.

MWD, Cadiz, the State of California, and the Federal Government are working together to monitor the impact that the Cadiz groundwater storage program may have on the eco system.

The Chamber applauds Cadiz's commitment to the

protection and preservation of the environment through diligent monitoring of the ecosystem.

As one component in a statewide program of conservation, storage, and innovation, the Cadiz Groundwater Storage and Dry Year Supply Program secures water for the continued prosperity of the region's business community.

T2-103

Therefore, the Los Angeles Area Chamber of Commerce and the Southern California business community strongly supports the efforts of the Metropolitan Water District, Cadiz, and the State of California to create reliable, environmentally sound sources of water for the future of this region.

Thank you.

MS. SALENIUS: Thank you.

Susan Nelson.

MS. NELSON: I'm Sue Nelson. I'm going to represent as a planner and political scientist the coalition, and it's CADRE, Citizens Against the Despoliation of Residential Environment.

T2-104

This group of people have been working on the toilet-to-tap issues in Los Angeles, and the whole issue of chromium VI in the water.

The testimony that we know now is that there's no way to really monitor it. And there's no way to

really gauge it, because we have not the systems to do it.

So this is going to be also a source of clean water -- so-called clean water to mix with this so-called -- the reclaimed water to expand drinking water, which is not a clean drinking water system. We have very little clean drinking water; hence, this political act to use mined out fossil beautiful aquifer water, the kind that this country -- California was doing in the 19th century and caused such huge droughts.

What I would like to say here is that your EIR -- and I have not had a chance to examine it closely. There's been very little notice of this meeting -- but we don't see any alternatives, and you are not addressing the impacts of growth. Because it is that growth -- and that's why Twenty Nine Palms, it will add to their property values, and therefore their tax base. That's why the chamber of commerce wants it.

We need water conservation up front, not private expensive marketing of water that doesn't look like it's economically feasible from the testimony I've heard.

I think the experts here are excellent. I think you should listen to them. I think you need much

more widespread public knowledge of this sort of boondoggle in the desert. TZ-108

Thank you.

MS. SALENIUS: Thank you.

I'm having trouble with the handwriting here.

Is it Ann Krans or Kranes?

MS. KRAMER: I'll yield my time.

MS. SALENIUS: You don't want to speak? Okay.

Nick Ulman.

MR. ULMAN: Good evening.

My name is Nicholas Ulman. I own a small piece of property about three miles north of the proposed project in the town of Chanlis. TZ-109

MS. SALENIUS: Could you speak a little bit more loudly, Mr. Ulman?

MR. ULMAN: Certainly. Yeah.

There's been a little bit of concern about the lowering of the water table in drier years. I have looked extensively at all of the precautions and monitoring and studies that Cadiz, Inc. has done, and I'm satisfied and not worried that there would be any appreciable drop in the groundwater levels that would affect any of the small wells owned by the property owners in the area. TZ-110

Thank you.

MS. SALENIUS: Thank you.

Mr. Donald Kendall.

MR. KENDALL: Yes. My name is Donald Kendall. I'm the general manager for the Calleguas Municipal Water District in Ventura County. I have a Ph.D. in engineering. I presently teach graduate courses in groundwater management, water resources management.

And I would like to state a comment to the supplemental EIR/EIS as directed by you.

No. 1, I have personally sat down at length with Dr. Williams to discuss his monitoring plan and his modeling. I'm very satisfied with it. And we are supportive of the project.

I want to point out a couple of things, and my comments are meant to be constructive.

Specifically, I want to echo the fact that you do have a groundwater monitoring and management plan. As you know, Calleguas Municipal Water District of Ventura County has in place a groundwater storage program, which we actually did in conjunction with Metropolitan, to take state project water and store it in much the same way that you're doing here in this project.

I would add that one of the successful features of that program was specifically the development of a

technical group with independent third-party interests not represented other than what is in the best interest of the aquifer and the environment. T2-113

Also, we had landowner representation, and it has gone a long way towards getting the support in Ventura County and in Southern California for this type of effort. And we would encourage you to follow that. T2-114

With respect to the chromium VI matters, since we also have significantly researched that, I would ask you to go through our Web site at www.calleguas.com and download a significant body of research and credible references on this matter so we can help put that issue to rest and help, I think, allay the concerns of the general public, not only in that area but also, obviously, in the water resources area, as we're talking about potentially depleting the resource. We're all here about storing water, not depleting water. T2-115

And if you do not develop these types of projects along the Colorado River, we're basically transferring our environmental problems to the Delta, where we just can't get any more water out of that. T2-116

So in conclusion, we are supportive of this effort. We think it's technically sound. We hope we can work with our other technical colleagues, I think, on satisfying everyone's concern.

MS. SALENIUS: Mr. Kendall, I understand you have some information from Lawrence Livermore Laboratory that was provided to you to yield time?

MR. KENDALL: That was Mr. Davisson. I was going to come read his letter, but I left it at my place.

MS. SALENIUS: Oh, okay. Maybe you can get that. I think you're the last speaker, and Mr. Davisson had sent a letter in, and he was going to try to fly down here today but, apparently, was not able to fly.

MR. KENDALL. Again, I'm here representing him, Mr. Davisson, who is the environmental chemistry and toxicology head for the Lawrence Livermore National Laboratory. I would like to read his letter, please, for the record. It's written to Mr. Jack Safely of the Metropolitan Water District, and it says:

"Dear sir,

"Recharge estimates in desert groundwater basins often generate intensive discussion and occasional disagreement. Much of this appears to be due to the misconception that visibly dry landscapes are the result of negligible recharge of annual precipitation. However, in the past 20 years, many groundwater recharge

studies in arid and semi-arid environments have shown that a significant portion of annual precipitation recharges deep into groundwater aquifers. Among these are studies by Stephens and Knowlton (1986), Barnes and others (1994), Stephens (1994), Gee, et al. (1994), and Davisson and others (1999), who have shown that desert recharge occurs by diffuse infiltration of sustained rainfall, concentrated pulses from melting snow packs, and focused recharge through sandy-bottom washes. The results are undeniable and have been validated for several desert environments where measurements were made.

T2-117

The recent hydrogeological assessment by Geoscience Support Services, Inc. for the Cadiz Groundwater Storage and Dry Year Supply Program Draft EIR estimated recharge rates to the Bristol, Cadiz, and Fenner basins. Their rates were

T2-118

consistent with recharge rates measured for similar basins in the above-cited references. The Geoscience estimates show no evidence for being unreasonably high, and the results, using several independent approaches, were based on sound scientific methodologies.

"For the past one and a half years, I have been making observations on groundwater in the Fenner Basin. My independent recharge assessment using isotopic analysis on collected groundwater and Maxey-Eakin estimates, yield similar results to Geoscience. In particular, my observations of groundwater tritium occurrence imply that a significant quantity of groundwater annually recharges in the New York and Providence Mountains.

"Furthermore, two independent groundwater age determinations in the Fenner Gap using methods of helium 4 accumulation and radiocarbon dating of dissolved organic carbon show

consistently young ages for this groundwater. My data suggests that groundwater age determinations using radiocarbon dating of inorganic carbon or by the chloride mass balance approach, as proposed by others, yield erroneously old ages which subsequently underestimate recharge.

"The groundwater monitoring plan outlined in the draft supplement to the EIR appears to be designed to effectively detect potential impacts to the Fenner groundwater basin during operation of the Cadiz Groundwater Storage and Dry Year Supply Program.

"Given the convincing evidence that recharge rates to the Fenner Basin are adequate to support the storage and supply project goals, and that the monitoring plan is thorough in its design, any concerns raised for potential irreversible damage to the Fenner Basin water supplies at this point in time would appear to be unfounded.

TZ-120

TZ-121

TZ-122

"Sincerely,

"M. Lee Davisson,

"Group Leader, Environmental Chemistry and Toxicology, Lawrence Livermore National Laboratory."

MS. SALENIUS: Thank you.

David Czamanske.

MR. CZAMANSKE: Yes. I may be able to finish in three minutes, but I believe Ann Kramer desired to contribute her three minutes to me. She did not quite understand the procedure. But if I need that time, I hope it will be granted.

My name is David Czamanske. I'm an environmental and government relations consultant, and I'm also a water resource consultant this year for California.

There's been quite a bit of comment on the details of this project. I don't intend to review that. I would like to comment on a couple more general aspects of it.

I think it should be remembered that there are two separate and distinct aspects of this project.

One is a groundwater storage project in which water would be stored in wet years and pumped in dry years.

The second aspect of the project is basically a pumping or, as some people call it, a mining of virgin or indigenous groundwater. T2-124

I would like to say on behalf of the Sierra Club, the Sierra Club is very well aware of the needs of Southern California for efficient and economic use of water. We support water conservation, water reclamation. We do support conjunctive use of groundwater in appropriate circumstances, and we also support water transfers, whether it be from the agriculture, or urban, or otherwise. T2-125

There is a second aspect of this project that, as I've mentioned, the pumping aspect that is of most concern to the environmental community including the Sierra Club. T2-126

I think one needs to take a look at what the status of alternatives to each aspect of this project are. If you look in the draft water quality -- urban water quality -- Urban Water Management Plan of the MWD, issued earlier this year, there are, in fact, four proposed groundwater storage potential projects where up to 600,000 acre-feet of water could be stored. One of these is the Cadiz project, the second is in Coachella Valley, a third is in the Heyfield site that MWD owns, and a fourth is in the Arizona water bank in the state

of Arizona.

It should be noted that MWD only needs approximately 300,000 acre-feet of storage to store Colorado River water according to its plan. However, these four projects, if they were all implemented, would provide twice that much storage.

I guess the point is that only two of the projects are needed. And the question is: Which two?

I would like to utilize the technique of the girls school from Beverly Hills and ask the question: What is the status of the other three projects that could be used for groundwater storage?

What is the cost per acre-feet of storage and retrieval of groundwater in each of those projects?

Certainly many of us are under the impression that the Cadiz project is on a fast track, you might say, and we're very concerned that these other three projects are not being adequately --

MS. SALENIUS: Ann Kramer yields her three minutes to Mr. Czamanske.

MR. CZAMANSKE: -- the other three projects are not being adequately evaluated within the proper time frame.

I guess the other question would be: What would be the cost per acre-feet of the pumping or mining

aspect of this Cadiz project as compared to other sources of water for the Metropolitan Water District?

The second point that concerns me and the environmental community in Southern California very greatly are the public policy issues. One of them has been mentioned and discussed: the deficiency of the monitoring program in which MWD, Cadiz, and perhaps the County of San Bernardino would monitor this project. Well, of course Cadiz and MWD have an interest in the project.

It was represented to me by one of the attorneys at MWD, that, well, MWD is a state agency and they will represent the interests of the citizens of the state of California.

I don't think that will wash, quite frankly. If we're talking about some kind of state representation, we need a state agency in Sacramento that's going to perform that function.

Finally, there's a question of taxpayer funds involved in this project. And I think, again, the question would be: In this particular project how many -- how much money is Cadiz going to put up?

How much are MWD rate payers going to put up?

How much are the taxpayers of California going to put up?

TZ-133

TZ-134

TZ-135

TZ-136

TZ-137

Both in terms of appropriated funds that have been appropriated by the state legislature, it could be up to $30 million, as well as some money from Proposition 13, passed this March, could be up to $50 million, how much of that $80 million in public taxpayer funds does this project intend to use?

Thank you very much.

MS. SALENIUS: Thank you.

That's all the speaker cards I have this evening. I want to thank you all for coming. I think it's been a useful session for all of us.

I do want to mention that the comment period is open for written comments until January 8, 2001. That's a 34-day extension from the original comment period. So just remember that and try to get your written comments in within that time frame.

Thank you very much.

(The Public Hearing of the Metropolitan Water District of Southern California ended at 7:58 P.M.)

--oOo--

REPORTER'S CERTIFICATE

I, KATHLEEN MARY O'NEILL, CSR No. 5023, RPR, in and for the State of California, do hereby certify:

That said Public Hearing of the Metropolitan Water District of Southern California was taken down by me in shorthand at the time and place therein named and thereafter reduced to typewriting through computer-aided transcription;

That said Public Hearing of the Metropolitan Water District of Southern California is a true, correct, and complete transcript of said hearing taken to the best of my ability.

WITNESS MY HAND this 8th day of January, 2001.

KATHLEEN MARY O'NEILL

CSR 5023, RPR

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

TRANSCRIPT OF PROCEEDINGS OF:

BLM NATIONAL OFF-HIGHWAY VEHICLE

MANAGEMENT STRATEGY

SATURDAY, OCTOBER 21, 2000

8:00 A.M.

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

TRANSCRIPT OF PROCEEDINGS OF:

BLM NATIONAL OFF-HIGHWAY VEHICLE

MANAGEMENT STRATEGY

SATURDAY, OCTOBER 21, 2000

8:00 A.M.

Transcript of proceedings of BLM NATIONAL OFF-HIGHWAY VEHICLE MANAGEMENT STRATEGY listening meeting, taken on behalf of the BLM on Saturday, October 21, 2000, 8:00 a.m., at Barstow Community College, Barstow, California.

For the BLM: U.S. Department of the Interior
Bureau of Land Management
By: MOLLY BRADY
California State Office

Desert Advisory Council: IAN DAVIDSON, CHAIRMAN
ILENE ANDERSON
MARILYN BEARSLEE
ISABELLA BURNS
BUFORD CRITES
ROY DENNER
NICK ERVIN
JIM REDDY
RANDY RISTER
DENNIS CASEBIER
SHERI DAVIS

KATHY DAVIS

MIKE POOL

JON STONE

Members of the Public

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BARSTOW, CALIFORNIA;

SATURDAY, OCTOBER 21, 2000; 8:00 A.M.;

BARSTOW COMMUNITY COLLEGE

IAN DAVIDSON: We're here today for the Advisory Council. We've got a big crowd here today. Glad to see that.

We're going to have our meeting. We're going to go over a number of issues. Some of them I'm sure people here are interested in -- some, less interested in it. We'll accommodate that and anticipate people's interests and the public.

I'd like to start our meeting with the pledge of allegiance. If you'll all please stand.

"I pledge allegiance to the flag of the United States of America, and to the republic for which it stands, one nation, under God, indivisible, with liberty and justice for all."

Please take your seats.

All right. Here we go.

Next on our formal agenda, we were going to talk about meeting dates, location, and agenda

topics. We're going to move that back towards the end of the day to -- so we can get right into the agenda.

I'm really happy to be able to say that

any form of recreation caused by implementation of this program.

(Applause.)

DENNIS CASEBIER: I'll second it.

IAN DAVIDSON: Discussion? Discussion?

ILENE ANDERSON: It occurs to me -- this is my understanding and perhaps somebody else here can enlighten all of us on this. It appears to me that mitigation is done when there is any plant under the Endangered Species laws or any predator in SECA. And so I don't know that even if you voted on this measure, if the legalities involved with enforcing those particular laws, in fact, would have an effect.

Can someone help with this?

IAN DAVIDSON: Okay. Call for the vote. Those in favor raise your right hand.

Those opposed?

(Applause.)

(Whereupon a luncheon recess was taken from 12:35 to 1:36.)

(Whereupon, a presentation was given on the Jawbone Canyon-Rudnick by Hector Villalobos)

(Whereupon, a presentation was given on

the Proposed Cadiz, Inc., Groundwater Storage and Dry-Year Supply program.)

IAN DAVIDSON: All right. Let's take a 15-minute break -- 10-minute break. Be back here at ten till 4:00.

(Break taken from 4:40 to 4:51.)

IAN DAVIDSON: All right. I'd like to open up this meeting for public comment.

Bob Ellis.

Please state your name for the record.

BOB ELLIS: My name is it Bob Ellis. Today I'm representing a conservation environmental group interested in the protection of California and Nevada desert areas.

We have commented on the first draft of this plan. We're very interested, and we'll be commenting on the supplemental. And, of course, I haven't -- I have not yet read the supplemental.

I did get the chance to participate yesterday in the tour, and I was very happy to go out there. I got a lot of information. But, I guess, I

effect the concerns that I have about the feelings that I have when I go out there.

This plan currently is saying, "Well, we have two difficult problems here. We have a watering problem, and we have a problem about how much rechargable water is replaceable if we take it out of the ground."

T3-1

So we don't know the answers to these problems; so we're going to put a plan in place. But even thought we don't know if there's going to be enough water to take out of there, we are going to launch a bill for this thing anyway and find out afterwards what the effect is.

T3-2

And I think that's a backwards approach to this project. I would like to see some more work done ahead of time.

Let's find out, really, what the recharge is. We can disagree beforehand. And when the project is put in place and then discover that, perhaps, we made a mistake. And after we discover that, we already have in place 350 miles of pipeline,

50 miles of which is across the canal on undisturbed desert.

When I've gone down that road, that road to the Ambi Dry Lake, to me, that is one of the

T3-3

loneliest roads, you know. You hear Highway 50 in Nevada, that's supposed to be the loneliest road west. You have signs up. You go there now, there's a lot of cars. You go to Highway 66 -- we were out there yesterday -- they have a beautiful historical history. And everyone is trying to prevent changes to that and to restore some of the feelings of the past that you get when you got out there. And, of course, the trains keep going by, and they keep going by more and more often.

T3-3

But when you turn off on to Ambi Dry Lake Road, you begin to have one of these not-so-common desert experiences.

When I first came out here a few years ago with my wife, we had a two-wheel drive. We had never been down a dirt road before, and we weren't sure if we were going to make it. And we got down the roadway, and all of a sudden we saw this very mysterious, slow-moving train coming along across the desert. And it's the Arizona going "chug, chug, chug, chug." A whole lot of four engines

moving very slow, and we called it the "ghost train." And we got a little further and we saw the some buildings and derelict kinds of things from the past are around that dry lake, and the whole road is just

T-3-3

filled up with mystery.

And I think that that is an opportunity that is still there for people from the city that want to come out. They want to take a drive. They want to do a back-country drive. They want to have a little, small adventure, and that's an opportunity.

Now, if we put a power line down that road, which is what the proposal is, 42 feet high -- there's currently no power. A power line of a modern design divides your view of the desert, and you don't see those trains the way we saw it there. T3-4

When you get to Chubba (phonetic) or you get a little further beyond there and you start looking off at the Iron Mountains, those mountains are very mysterious. And there across the other side of that dry lake, you have an area which is undisturbed. And that's a view I'd like to preserve. T3-5

So I wanted you all to think about the aspect of this project which would irreversibly affect the desert.

So as you look at that, think about that. This is Route 66 country. This is a country we're trying to look at from a 50-year-old or 40-year-old point of view, and I'd hate to see it getting too

modernized with a power line. That would be a big disturbance.

I would prefer that if it had to be built, let's use something along the existing railroad where we already have a road. Let's put the pipeline above ground next to the big power line that's already there. T3-6

And if the project needed -- because the other thing that bothers me was if we have concerns here about the amount of surplus water only for the ground. And if you have concerns about the amount of rechargeable water available subsequent to those 15 years to take out, it seems to me that the value of this project and the value that we would be getting for trading away some of the desert qualities is not sufficient to have this go forward. T3-7

So I'll be looking forward to commenting on the plan. And maybe my concerns are wrong. I'm very happy to see a strong, alternate plan. T3-8

Thank you.

IAN DAVIDSON: Thank you.

Next speaker Gus Lizade.

State your name for the record, please.

GUS LIZADE: Gus Lizade.

Thank you for your time. My name is

Gus Lizade. I'm from Chambless, Chambless, California. Chambless is located about 90 miles from Barstow, here. It's about -- to give you a better example, it is approximately four miles away from the Enos Land Company's wells, and I'm very concerned.

Chambless has been pumping water for near 80 years, and it has a two-well water system that's been pumping water for 80 years. And I'm very concerned with the future of Chambless. T3-9

I recently had a conversation with Jack Safety from the planning of that the Metropolitan Water District, and I asked Jack -- I said, "Jack, tell me what's going to happen to poor little Chambless that's four miles away from your cows when you put traction wells in? What's going to happen when the wells run dry?"

His response was, "Well, you're going to fill out a complaint, and we're going to have to supply you with water."

My second question was, "Jack, what's going to happen to my water rights? I've been T3-10

pumping water for 80 years. You've been around for only a few years. What am I going to do?"

He had no response.

Just for your -- some legal advice.

I have seeked counsel in water and land, and this is what brings me here before you today is that, you know, I have an historical management -- I have an historical management on Route 66. I have a business. And for this plan, I need 90 days. I would like 90 days to get legal advice for asking these questions.

Now, at this time, I've disclosed the plan on how Chambless could come back to life.

Can I have that 90 days?

IAN DAVIDSON: I'm not sure what you can seek in 90 days.

MOLLY BRADY: For the review for comment, we have -- there's many issues that we have to resolve, legal issues with water laws, and they keep on coming up. I'm very concerned because I have attorneys that come up with flag after, flag after, flag after, flag.

And they say, "Gus, we need more time." And I said, "I'm going to go and request at least 90 days."

T3-11

T3-12

T3--12

Can I have 90 days to finish my investigation and to better comment on the situation?

MOLLY BRADY: What is your last name, again?

GUS LIZADE: Lizade, L-i-z-a-d-e.

IAN DAVIDSON: Lizade?

GUS LIZADE: Yes, sir.

MOLLY BRADY: That's what I want to say. I have my own field manager here.

We certainly will take into consider- -- take into consideration your thoughts on extension on the -- I should state that the Advisory Council doesn't make that decision on the extension. They don't make a decision. Any decision on that would be based on consultation between the Lead State Agency and policy and stuff.

Thank you for that comment and request.

GUS LIZADE: Thank you. But I am requesting it, and I want it to go on the record.

T-3-13

MOLLY BRADY: Right.

GUS LIZADE: Thank you very much.

IAN DAVIDSON: Adams.

ILENE ANDERSON: Well, in light of some of the other recommendations that we made today with extensions to the public review of the documents, I

would like to make a motion that we extend the review on this document to 90 days.

BUFORD CRITES: So seconded.

IAN DAVIDSON: Any discussion?

KATHY DAVIS: I guess I need to understand what we would be accomplishing by extending our review time.

THE COURT REPORTER: I can hardly hear you. I'm sorry. Can you bring the mike in a little closer? Thank you.

ILENE ANDERSON: Well, what is our intent to accomplish with these -- the extension of this for another 90 days versus continuing on with the process. What will it result in?

DENNIS CASEBIER: Could I comment?

On another topic today, there was a 30-day period, and it was the sentiment of the Commission that 30 days wasn't long enough. And this -- Gus' comment here just sort of led right into some side discussions that have taken place here.

That's -- that's why everybody is jumping on it. The 30 days might not be enough to comment on something of that complexity. And Gus' statement just sort of reinforced that.

MOLLY BRADY: Yes. Granted, the current

time period is 45 days; so this would effectively double the comment period.

IAN DAVIDSON: Jim?

JIM REDDY: Yeah. Maybe I can answer.

What might be accomplished is somebody who usually isn't applying for the permit, there's always the frustration that the Government gives us short periods of time to review. But if we submit something, no matter what the official review time is, it takes much longer.

What I think we seek in here is that a reasonable review of anything takes longer than 45 days. So I think 90 days is a very reasonable period of time. It takes us time to read it, to review it, and to comment on it. And what we're trying to accomplish will be to give you, the public, an honest chance to review. It's not -- 45 days is not enough time.

IAN DAVIDSON: Any quick discussion?

MARILYN BEARSLEE: If I understood Iilene correctly, she is proposing an additional 45 days on the existing 45 days; so it wouldn't be an additional 90 day. It's 90 total; am I correct?

MOLLY BRADY: That's correct.

IAN DAVIDSON: Further discussion?

Call for a vote.

Those in favor of the extension of 45 days for the comment period. All in favor, please raise your hand.

Those opposed?

GUS LIZADE: Thank you. You're very kind.

IAN DAVIDSON: We have one more speaker, John Bezzant.

JOHN BEZZANT: Hi. I'm John Bezzant, Vice President of the Resources Group with Catellus. As most of you know, we conveyed land, with the help of the law whose conservancy is about 400,000 acres that belong to the Park Services, earlier this year. We remain, however, the largest private landowner in the basin affected by this project. T3-14

And we have continued concerns over this project that we have expressed privately in both metropolitan communities and will continue to express those over the comment period, however along it may be.

I would, specifically, though, for this group, like to address one issue, and that is the issue of oversizing.

We have already touched on that in some

way. And the concern that we have -- and this concern, apparently, is my own personal concern after a very cursory review of this document that I got yesterday -- and that is the structure of the CRT and

T3-14

more than, you know. Now, this gentlemen -- he's left, but his concern regarding wells and the trigger mechanism for how that works, if there isn't an impact on a neighborhood -- well, whether it's ours

T3-15

T3-16

or whether it's his or whoever else -- it is out there.

That trigger impact comes back through the TRT. The TRT decides whether that is a project that has a big impact or not.

IF BLM is an observer, non-voting observer, on that committee, and it is made up of metropolitan Cadiz, I don't want to speculate as to what the votes would be in advance. T3-16

But we've had concerns as a landowner and potential operator of wells on our properties, as to what the decision would be as to the impacts that are occurring in our wells. And so it's a concern on our part; I think it needs to be a concern on your part. I would like to see it directed from this committee to BLM that whatever the legal issues are, that they be resolved as to what the control mechanisms are for this project because BLM, if it is going to drain a pipeline -- and I heard something new today that I have not heard before, which is that BLM is considering grant right-of-way for the actual storage T3-17

of the water underneath BLM lands.

If that is the case, we need to see those documents; BLM ought to be the ultimate arbiter of what's going on out there and carry it out,

T3-17

T3-12

maintaining some level of control.

Thanks.

IAN DAVIDSON: Discussion?

MOLLY BRADY: John, thank you for your comments.

Also, in the document, if you read further on in the decision-making process in that same chapter, in Section 3.10.3, that "If consensus cannot be reached by the BMG, the BLM will receive ultimate control over the enforcement of terms and conditions of any right-of-way grants and issues so that if there is a consensus, the BLM is an observer."

I'm not quite sure what that means.

JOHN BEZZANT: But if they reach a consensus that you're not part of, what difference does that make?

T3-13

MOLLY BRADY: We make a de- -- we make a final decision one way or the other.

JOHN BEZZANT: Why is there --

MOLLY BRADY: It's not terribly clear

here that we would make a decision in the -- on those issues relative to the monitoring of the Management Plan.

JOHN BEZZANT: Why is that -- why does

T3-14

that committee exist, then?

MOLLY BRADY: We'll get into that. I would appreciate the comments on that in writing also, John. My -- my bottom line is that the BLM will makement final decision on this issue.

IAN DAVIDSON: Is there anybody else from the public --

IRA GWYNN: Yes. I've submitted a card at 10:00, and apparently you don't have it.

IAN DAVIDSON: There was another card made with some names. You're willing to speak; you don't need a card. Is this on the Cadiz?

IRA GWYNN: Yes. And I wrote on the top like I was asked to by the lovely young lady in the uniform.

My name is Ira Gwynn. I'm a resident of Barstow and have been for many years.

We took -- our museum went out there two years -- a couple three years ago, and we had a visit. And they gave us a barbecue, and they gave us a -- bottles of very pure water. And they told us it

was many thousands of years old, very precious. And they certainly didn't want that nasty trash from Los Angeles coming in next door to them and possibly contaminating that water supply.

T-3-20

And everybody agreed that that was a terrible thing to -- to have. And it did not happen for possibly other reasons.

The fact of the matter is, now, apparently, we are going to allow the Colorado River to be mixed with this Cadiz River, which has taken thousands of years to come along. And as I understand, it's going to be pumped up and sent to Los Angeles where they certainly need it.

Certainly the Metropolitan Water District, whom I've worked with in the past, has a tremendous job to take care of 17-, 18 million people today.

T3-20

And in 50 years, when this project is over, I think that it's probably going to be at least double that amount or possibly more, given growth rate, population, et cetera.

My concern is -- one of our concerns is that they're worried about their constituency. I don't believe they're taking into consideration the constituency of the Mojave Desert. That means

T3-21

Barstow; that means the people up and down the road.

Frankly, regardless if this is a supervisorial district of the County of Los Angel- -- the County of San Bernardino, I am not satisfied that

T3-4

the interests of the desert in this particular case have been adequately addressed.

As a matter of fact, two nights ago, many of the people running for office in the county and the city had a meeting here at this college, and, when asked what the major issues of the desert were, to a man and woman, the answer was "Jobs. We need jobs here."

People would like to stay in this area, and they would like to see it grow. You have to have jobs. You have to have land. You have to have a resource. You have to have an emergency work supply, and you have to have water.

T3-21

Now, I don't see anything in this project that does one single thing to help supply water or to provide future water supplies for the desert area.

This is a project to help Los Angeles, and God knows they need it, and the districts in that area. And's that's a very serious issue. I mean, I know these folks are doing the best they can. The politicians are beating them over the heads on one

hand. "Keep the rates low. Keep the water here."

And it's not even watering the lawns, folks, flushing toilets. This is minor. It's industry that takes most of the water in the

T3-22

Los Angeles area, and industry is not going to come in there unless the water rates are cheap and it's good water, and they can get as much as they -- as much as they can possibly use.

And all of that is part of their interests. I don't think we have to talk about Bishop, Lone Pine, and the eastern part of the Sierras. We know what state they're in now because they don't have water. There's other reasons, of course. They're out in the middle of nowhere.

T3-L3

But the fact of the matter is, they will not grow because they do not have water and they are not likely to the get it in the future.

My concern is that the Los Angeles Metropolitan Water District is the big dog on the block, no question about it. This is where the votes are; this is where the money is. And once this project is put into effect, 50 years from now I envision -- well, I don't think any of us will be here. In any event -- but I can almost guess that that will be a straw sucking the water right down to

where it's needed by the most number of people.

I'm prudential, I'm afraid. I prefer that this water and this -- a project be initiated, this one is putting our interests into

consideration.

When I grew up here, there were trees along the Mojave. There were cottonwoods all up and down here, and people used to camp in Barstow near the cottonwood trees. It's not there. Population has sucked that water dry, and the further are you down the street from the water source, the less you're going to get. That's the way it is.

T3-22

Now, this is an interesting plan, and certainly there's been a lot of technical work going on to try and mitigate all the concerns. I'm sorry, but I'm a skeptic. I see what they want to do, and certainly it drops down a foot. "My goodness, we're going to stop pumping right away."

Excuse me? When the taps don't run in Los Angeles, someone's going to make sure that they're open.

I don't think it's a great idea. I think this is a resource that should be maintained for this area, first. And then if there's anything left, we can look at the other areas. But we have this

resource in the desert, and I think it should be considered to be used here.

Thank you very much.

IAN DAVIDSON: Thank you.

Anybody else from the audience wishing to speak on this issue?

I see no one.

We'll close the public hearing at this time, and on that issue -- and we will continue on with any discussion from Council.

Any further discussion? I see none.

At this time we will reopen the public hearing and continue on with issues related to OHV. And we have another speaker card in regards to road closure.

So would the gentleman who's been waiting the longest please step up and --

WAYNE MOORADIAN: Thank you, again.

IAN DAVIDSON: Would you state your name, again.

WAYNE MOORADIAN: Wayne Mooradian. This is directed towards Molly.

BLM moneys Green Stickered, you know, the moneys that we send to the State of California for off-highway vehicle uses. What's going on with those

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM

COMMENT CARD

PLEASE PRINT

Do you want to speak?

☐ Yes ☒ No ☐ Did not attend meeting

Name Jane Smith

Address

City, State, Zip 29 Palms

Phone No. (optional)

Organization (if applicable)

Comments Why is the life of the project so short term and what source will replenish there will be a likelihood of ever greater need for water from MWD.

4-1

Thank you. Please return this card or call Jack Safely, Metropolitan Water District, at 213-217-6981, or James Williams, Bureau of Land Management, at 909-697-5390 by January 8, 2001.

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM

COMMENT CARD

PLEASE PRINT

Do you want to speak?

☐ Yes ☒ No ☐ Did not attend meeting

Name Robert BERDSCH

Address 78286 Montezuma Cir

City, State, Zip Palm Desert CA 92260

Phone No. (optional) 1-760 or 773-4720

Organization (if applicable) LEE CHEMICAL INC

Comments What is the Shut Down Procedure in event of excess Pumping drawn & Chrome #6

14-2

Thank you. Please return this card or call Jack Safely, Metropolitan Water District, at 213-217-6981, or James Williams, Bureau of Land Management, at 909-697-5390 by January 8, 2001.

COMMENT CARD

PLEASE PRI

Do you want to speak?

☒ Yes ☐ No ☐ Did not attend meeting

Name D J PIASKEA

Address PO Box 9879

City, State, Zip Bo Pico CA 92019

Phone No. (optional)

Organization (if applicable)

Comments TRT ENG COMPOSITION

"A" "J" "C"

Public Comments in the Supplemental

II

T4-3

Thank you. Please return this card or call Jack Safely, Metropolitan Water District, at 213-217-6981, or Jan Williams, Bureau of Land Management, at 909-697-5390 by January 8, 2001.

COMMENT CARD

PLEASE PRINT

Do you want to speak?

☒ Yes ☐ No ☐ Did not attend meeting

Name M. J. "MAC" DUBE

Address CITY HALL (COUNCIL MEMBER)

City, State, Zip 29 PALMS, CA. 92277

Phone No. (optional) (760) 367 - 6799

Organization (if applicable) MAYOR PRO-TEM

T4-4 Comments (1) QUESTION IN RE LOCAL PARTNERSHIPS

T4-5 (2) LOWERING OF CHROM 6 STDS IN FUTURE?

T4-6 (3) GUARANTEES OF AQUIFER STABILITY - i.e. NO OVERDRAFT — 1 MIL IN = 1 MIL OUT!

Thank you. Please return this card or call Jack Safely, Metropolitan Water District, at 213-217-6981, or James Williams, Bureau of Land Management, at 909-697-5390 by January 8, 2001.

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM

COMMENT CARD

PLEASE PRINT

Do you want to speak?

☒ Yes ☐ No ☐ Did not attend meeting

Name Peter Kiriakos

Address 29421 Sionharbor Court

City, State, Zip Lake Elsinore CA 92530

Phone No. (optional) (909) 245-2304

Organization (if applicable) Sierra Club - San Gorgonio Chapter

T4-7 Comments We are totally opposed as an organization

Thank you. Please return this card or call Jack Safely, Metropolitan Water District, at 213-217-6981, or James Williams, Bureau of Land Management, at 909-697-5390 by January 8, 2001.

COMMENTS BY THE ASSOCIATION OF CALIFORNIA WATER AGENCIES ON THE SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM

My name is Krista Clark and I am with the Association of California Water Agencies or ACWA. ACWA appreciates the opportunity to submit comments on the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed Cadiz Groundwater Storage and Dry-Year Supply Program. ACWA consists of over 440 public water agencies in California. Our members serve nearly 90% of the delivered water in California for residential, industrial and agricultural uses. T4

Two of ACWA's goals are to promote the use of good science in water management decisions and to provide the public and policy leaders with the most accurate information about the quality of California's drinking water. It is in this capacity that I present these comments today. ACWA would like to take this opportunity to provide the lead agencies with current information on the subject of chromium VI and also to briefly comment on the groundwater monitoring and management plan proposed for this project.

CHROMIUM

There has been a significant amount of media attention shown to the discovery of chromium VI in the proposed project area and in Southern California drinking water supplies. Although this media attention has been limited mostly to Southern California, testing of groundwater wells has discovered chromium VI in Northern and Central California supplies as well. These findings are not altogether surprising considering that chromium is the 11th most common element in the earth's crust. In fact, chromium is more commonly found in soils than mercury, zinc, or uranium.

That said, the concern that has been expressed by the public, media, and policy leaders over chromium VI is valid. Chromium VI is a known carcinogen when inhaled and the

perception of any potentially cancer-causing element in our water supplies is naturally disturbing. It is this perception of risk, coupled with some misleading assumptions and reporting, that we would like to address today. We do not appear here today as opponents or proponents of this project. The future of this project is a decision appropriately made by the lead agencies, qualified engineers and local stakeholders. However, we are here today to reinforce that this project should not be decided based on the presence or absence of chromium VI. Despite the implication in recent media reports that chromium VI may be a deciding factor for this project, the truth is that chromium VI is a statewide issue, not a local issue, and its potential impacts will be felt by water suppliers everywhere. T4-8

The California Department of Health Services and California's water suppliers concern themselves first and foremost with the protection of public health and are deliberately working to understand the full impact of this contaminant. Active sampling of water supplies throughout the state is underway and the results of this sampling will assist all involved parties in taking appropriate and immediate action.

But this sampling is just one part of the process established by the state legislature for the setting of new drinking water standards. Several other considerations must be taken into account during this process such as health risks, treatment options, treatment costs, and laboratory capability. Unfortunately, at this time the health risks are highly debatable, treatment options and costs are still unknown and there are no labs currently certified to perform the correct analysis. In order to provide the lead agencies with the most current information available on chromium VI, I would like to provide a bit more detail on each of these components.

Health Effects

Rightfully of highest priority is the evaluation of the health effects of chromium VI. As mentioned earlier, when inhaled, certain forms of chromium VI are known to cause cancer. However, what is currently being debated in scientific circles is whether or not chromium VI in drinking water can also cause cancer by ingestion. Scientific experts at the state Office of Environmental Health Hazard Assessment last year came to the conclusion that chromium VI in drinking water can cause cancer. And yet, scientists at the U.S. Environmental Protection Agency (EPA) and the World Health Organization, upon evaluating the exact same studies, concluded there is currently no evidence that chromium VI in drinking water causes cancer. In fact, EPA actually raised its total chromium standard based on review of these studies. The

EPA's conclusion about chromium is similar to the health conclusions drawn for asbestos; it is a carcinogen when inhaled but not when ingested.

It is not our intention here today to determine which of these experts is right or wrong. Merely, it is our intent to point out that major health discrepancies exist which must be resolved immediately. While it may be easy to justify an immediate standard based on the "better safe than sorry" principle, it is important to remember that any action will come with a price tag. The additional cost to treat chromium VI, especially if the chromium is naturally occurring, will likely be substantial and will be passed on to water ratepayers. In order to continue providing affordable water to all consumers, it is our responsibility to ensure that every treatment facility constructed and paid for by consumers is providing healthful benefits and not simply alleviating "perceived" threats.

T4-

Treatment

Of course, in order to construct treatment facilities, a mode of treatment must be determined. This is another step in the standard setting process developed by the legislature and employed by the Department of Health Services. It does absolutely no good to set a standard for a contaminant when there is no way of removing it from the water supply to that level. Although there are likely treatment options available that will effectively remove chromium, there is currently no such system in place in California.

Despite media reports that any such treatment will cost anywhere from $50 an acre foot to $500 an acre foot, these figures are obviously just speculation. There is currently no way to know how much treatment will cost without any determination of effective treatment options. ACWA, its member agencies, and the Department of Health Services are all actively investigating an appropriate treatment method and the associated costs if it is determined that chromium levels should be reduced. This process is underway but will likely take at least three to six months to complete the proper engineering estimates.

Lastly, the Department of Health Services has begun the process of certifying laboratories for chromium VI drinking water analysis. Although a few laboratories are currently performing chromium VI analysis, the techniques used for this analysis are complex and expensive. The quality of the data and the capability of the labs to handle the volume of samples needing analysis will need to be resolved prior to the adoption of any drinking water standard. As mentioned, this process is underway and several labs should be certified in the near future.

Standard Setting

I would also like to take a moment to clarify the "proposed standards" that are frequently referred to in the press and provide a bit of history on the current standards for chromium and the processes used to set them.

In 1991, U.S. EPA performed a review of its current total chromium standard, which at the time was 50 ppb. Based on the health effects data mentioned earlier, EPA decided to raise its chromium drinking water standard from 50 ppb to 100 ppb, the first and only time EPA has raised a drinking water standard. California has long maintained the more restrictive standard of 50 ppb. T4-8

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I want to reinforce here that the PHG is NOT a proposed standard. Although the PHG is a very important part of the standard setting process, it is only ONE part of the process and the ultimate standard may not equal the PHG once technology and costs are considered.

I also want to clarify that, despite reports to the contrary, OEHHA did not develop the PHG because of any specific concerns about chromium or chromium VI at the time. The PHG was developed in accordance with legislation passed in 1996 that required PHG development for ALL 84 drinking water standards. OEHHA was given three years to complete all the PHGs in groups of 25, starting in 1997 and ending in 1999. The PHG for chromium was among the second set of PHGs developed, which occurred in 1998. On a side note, this process proved far too burdensome for OEHHA to complete on time and thus the legislature has granted it additional time to complete the PHGs yet to be developed.

As evidenced here, there is much we know about chromium VI and still much we don't know about this element. Fortunately, the legislature has recognized that evaluating drinking water contaminants and resultant actions is complex business. That is why it enacted a thorough process to determine risks and implement precautions. The legislature has acknowledged that a

standard truly protective of public health must be thoroughly understood and possible to achieve both technically and financially. Any rush to set a standard due to perceived threats could greatly strain public resources, while providing little true benefit to public health.

T4

CADIZ MONITORING PROGRAM

I now briefly want to comment on the primary subject of today's hearing which is the groundwater monitoring plan proposed for the Cadiz project. This monitoring program is one of the most, if not the most, comprehensive plan ever designed for a groundwater storage project in California. Understandably, this program is designed to protect vital groundwater resources, surface water resources, and eliminate any potential related air quality problems. The degree of detailed and thorough oversight that this program will provide is impressive and the project's proponents should be applauded.

T4

That said, this project is being watched closely by water managers and regulators throughout the state due to its potentially precedent-setting nature. As the lead agencies are surely aware, CALFED has identified groundwater banking and conjunctive use projects as vital to ensuring the future water needs of California. Several projects have already begun operation and many more are targeted for investigation. We realize that there are sensitivities in this region that distinguish it from other targeted banking areas, and yet we also become concerned about the potential to require the level of monitoring envisioned for the Cadiz project on a statewide basis.

This sort of state-of-the-art monitoring program will be very expensive to construct and operate. A monitoring plan this comprehensive, applied to every conjunctive use project in the state, would likely price many of those projects out of feasibility. While this level of oversight is admirable in this case, it is possibly unnecessary for many groundwater banking projects in other locations. We simply want to reinforce that the extraordinary circumstances involved with this project may warrant extra caution but that this project should in no way define a new standard for conjunctive use monitoring. We feel it's important that all involved parties know that the rest of the state is watching the development of this project and specifically this monitoring program.

We appreciate the opportunity to submit these comments and are open to answering any questions on these subject matters. Thank you.

Lawrence Livermore National Laboratory

December 14, 2000

Jack Safely
Metropolitan Water District of Southern California
P.O. 54153
Los Angeles, CA 90054

Dear Sir,

T4-10

Recharge estimates in desert groundwater basins often generate intensive discussion and occasional disagreement. Much of this appears to be due to the misconception that visibly dry landscapes are the result of negligible recharge of annual precipitation. However, in the past 20 years many groundwater recharge studies in arid and semi-arid environments have shown that a significant portion of annual precipitation recharges deep into groundwater aquifers. Among these are studies by Stephens and Knowlton (1986), Barnes et al. (1994), Stephens (1994), Gee et al. (1994), and Davisson et al. (1999), who have shown that desert recharge occurs by diffuse infiltration of sustained rainfall, concentrated pulses from melting snow packs, and focussed recharge through sandy-bottom washes. The results are undeniable and have been validated for several desert environments where measurements were made.

The recent hydrogeological assessment by Geoscience Support Services Inc. for the Cadiz Groundwater Storage and Dry-Year Supply Program Draft EIR estimated recharge rates to the Bristol, Cadiz, and Fenner basins. Their rates were consistent with recharge rates measured for similar basins in the above cited references. The Geoscience estimates show no evidence for being unreasonably high, and their results using several independent approaches were based on sound scientific methodologies.

For the past one and a half years, I have been making observations on groundwater in the Fenner basin. My independent recharge assessment using isotopic analysis on collected groundwater and Maxey-Eakin estimates, yield similar results to Geoscience. In particular, my observations of groundwater tritium occurrence imply that a significant quantity of groundwater annually recharges in the New York and Providence Mountains. Furthermore, two independent groundwater age determinations in the Fenner Gap, using methods of helium-4 accumulation and radiocarbon of dissolved *organic* carbon, show consistently young ages for this groundwater. My data suggests that groundwater age determinations using radiocarbon of *inorganic* carbon or by the chloride mass balance approach as proposed by others yield erroneously old ages, which subsequently underestimate recharge.

The groundwater monitoring plan outlined in the Draft Supplement to the EIR appears to be designed to effectively detect potential impacts to the Fenner groundwater basin during operation of the Cadiz Groundwater Storage and Dry Year Supply Program.

Given the convincing evidence that recharge rates to the Fenner basin are adequate to support the storage and supply project goals, and that the monitoring plan is thorough in its design, any concerns raised for potential, irreversible damage to the Fenner Basin water supplies at this point in time would appear to be unfounded.

T4-10

Sincerely,

M. Lee Davisson

Group Leader
Environmental Chemistry and Toxicology
Lawrence Livermore National Laboratory

Cc: Dennis Williams
Mark Liggett

References

Barnes, C.J., Jacobson, G., Smith, G.D., 1994, The distributed recharge mechanism in the Australian arid zone. *Soil Sci. Soc. Am. J.*, 58, 31-40.

Davisson, M.L., Smith, D.K., Kenealley, J., Rose, T.P., 1999, Isotope hydrology of southern Nevada groundwater: stable isotopes and radiocarbon. *Water Resour. Res.* 35, 279-294.

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This sort of state-of-the-art monitoring program will be very expensive to construct and operate. A monitoring plan this comprehensive, applied to every conjunctive use project in the state, would likely price many of those projects out of feasibility. While this level of oversight is admirable in this case, it is possibly unnecessary for many groundwater banking projects in other locations. We simply want to reinforce that the extraordinary circumstances involved with this project may warrant extra caution but that this project should in no way define a new standard for conjunctive use monitoring. We feel it's important that all involved parties know that the rest of the state is watching the development of this project and specifically this monitoring program.

We appreciate the opportunity to submit these comments~~, and are open to answering any questions on these subject matters.~~ Thank you.

Metropolitan Water District
700 N Alameda Street
Los Angeles, California

Monday, December 18, 2000
Public Meeting Record

This letter is in support of the proposed Cadiz ground water storage project. The concept of storing supplemental water for use in critical times is a wise management decision for all of Southern California. The underground storage concept would have an innocuous impact on the desert environment. There would be no adverse impacts to our desert area.

T4-1

As the closest incorporated community to the Cadiz Basin area we are always greatly interested in any proposal that may impact our city. The careful and far-sighted management of water resources is a goal we encourage. All communities in Southern California currently mine ground water for their quality of life. Storing additional resources should be supported.

Every issue in the California Desert appears to attract opposition from urban-based political organizations that feel they have a mandate to dictate policies to the desert areas. These outside political organizations with perpetual obstructionist agendas would spend their time better proposing conservation measures in their own metropolitan areas.

No credible scientific argument for opposition to the proposal by Metropolitan Water District for their dry year storage supply program has come forward. The project remains a desirable wise resource management mechanism. This project should become a reality to help serve the needs of Southern California.

Jim Bagley, Council-member

SECTION 3

MASTER RESPONSE NO. 1 - AIR QUALITY

This master response addresses two types of potential impacts to air quality in the Mojave Desert region that were mentioned as matters of concern by commentors on the project. First, potential impacts to air quality due to the operation and maintenance of project spreading basins. Second, potential impacts to air quality (increase in the frequency or magnitude of wind blown dust) as a result of lowering brine levels beneath Bristol or Cadiz dry lake due to project operations.

POTENTIAL IMPACTS TO AIR QUALITY DUE TO THE OPERATION AND MAINENANCE OF PROJECT SPREADING BASINS

The project spreading basins will be composed of individual earthen berm cells ranging in size from 10 to 15 acres encompassing a total area of 390 acres. The project spreading basins are described in Section 4.6.1 of the Final EIR/EIS, Volume 1, and their location is shown on Figure 4-15. Spreading basin operation and maintenance is described in Section 4.7.1. A Cadiz Project pilot spreading basin test was conducted at the proposed location of the project spreading basins. For information regarding the pilot spreading basin test, see the Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163) Volume I.

Estimates of the potential impact to air quality from the maintenance of the spreading basins (removal of accumulated sediment) are included in the Final EIR/EIS, Volume 1, Section 5.6.4. Sediments are anticipated to accumulate in the spreading basins from three sources: 1) sediments deposited from Colorado River Aqueduct water delivered to the spreading basins, 2) sediments from the deposition of particulate matter from the atmosphere (wind blown dust) that will accumulate when spreading basins contain water, and 3) algae that will grow within the spreading basins when they contain water. These sediments will remain on the dry surface of the basins when they empty through percolation of the water. If not removed, these materials would reduce the percolation rate of the spreading basins. For this reason, the accumulated sediments will be removed prior to refilling the spreading basins. In this process, sediments will be removed by heavy equipment to a depth of approximately one-half inch just prior to refilling of a cell. The procedures described below will be implemented to minimize the amount of dust emissions during these operations. The sediment removal process will be conducted only as required prior to commencement of spreading operations within specific cells.

The removed material will be loaded into haul trucks by a front-end loader for transport and disposal at the Cadiz agricultural holdings. PM_{10} emissions during these operations include:

- Scraper exhaust
- Fugitive emissions from the scraper operation
- Front-end loader exhaust
- Fugitive emissions from dumping material into the haul trucks
- Haul truck exhaust, brake and tire wear
- Fugitive emissions from entrained unpaved road dust during haul truck travel
- Fugitive emissions when the material is unloaded from the haul trucks

Watering will be used to reduce PM_{10} emissions by an estimated 50 percent of uncontrolled emissions during sediment removal by the scraper. Additionally, the unpaved roads used by the haul trucks will be watered once each hour during truck travel to reduce fugitive PM_{10} emissions by an estimated 73 percent from uncontrolled emissions. The haul trucks will be covered when they transport material,

so emissions from loss of material are not anticipated to occur. Removed material will be disposed of at and integrated into the cultivated Cadiz agricultural landholdings. PM_{10} emissions from the sediment removal activities are estimated to be 4.8 tons per year, which is below the Mojave Desert Air Quality Management District's CEQA significance criterion of 15 tons per year, as described in Section 5.6.2 of the Final EIR/EIS, Volume 1.

A significant increase in PM_{10} emissions from current levels is not anticipated to occur through wind erosion of the spreading basins because of the formation of a crust on their surface when the basins dry out after emptying. Cadiz Project pilot spreading basin tests have shown that the sediment forms a crust on the surface because of the presence of algae and other materials. This crust reduces the susceptibility of the spreading basin surfaces to wind mobilization of dust to levels comparable to or lower than that of the surrounding desert land. For additional information, see the Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163) Volume I, page 10. Should the spreading basin crust not form as anticipated and significant increases in PM_{10} emissions occur, the Final EIR/EIS includes Mitigation Measure AQ-9:

> "Based on periodic visual inspection, soil binders will be applied to the spreading basins following water spreading operations to control wind-blown dust emissions."

In conclusion, the spreading basins will be operated and maintained in a manner that minimizes the mobilization of dust to below a level of significance.

POTENTIAL IMPACTS TO AIR QUALITY DUE TO INCREASED MOBILIZATION OF WIND BLOWN DUST ON BRISTOL OR CADIZ DRY LAKE

BACKGROUND INFORMATION

The Cadiz Project is located in the Mojave Desert Air Basin and is within the jurisdiction of the Mojave Desert Air Quality Management District. With respect to the federal ambient air quality standards, the Cadiz Project area is in a moderate non-attainment area for particulate matter (PM_{10}). Wind mobilized dust occurs as a natural condition in the East Mojave Desert and on Bristol and Cadiz dry lakes. Natural, active sand dunes occur at the margins of both dry lakes. In addition to natural conditions, four entities operate sodium chloride and calcium chloride mining and production facilities on Bristol and Cadiz dry lakes that contribute wind mobilized dust in the region. Lee Chemical operates a facility on Cadiz Dry Lake; Hills Brothers, National Chloride and TETRA Technologies, Inc operate production facilities on Bristol Dry Lake. For additional information, see Section 5.9 of the Final EIR/EIS, Volume I.

Potential impacts to air quality in the Mojave Desert region due to mobilization of wind-blown dust on Bristol and Cadiz dry lakes is addressed in Section 5.6 of the Final EIR/EIS, Volume I, and Section 2.4 of the Management Plan, Final EIR/EIS, Volume IV. It is believed that the groundwater beneath the lakebeds (brine) is sufficiently near the surface to moisten the surface soils through the capillary rise of moisture from the water table. It is also believed that brine beneath the lakebeds is hydraulically connected to the freshwater aquifer outside the dry lakes. If so, lowering of the freshwater aquifer to an extent that results in the lowering of brine levels could cause an increase in the frequency and severity of wind blown dust on the dry lakes by reducing or eliminating the capillary rise of moisture to the surface.

The potential for the Cadiz Project to increase the frequency and severity of wind mobilized dust on Bristol and Cadiz dry lakes requires: 1) project operations that result in an excessive lowering of the

groundwater levels beneath the dry lakes; 2) lowering of groundwater levels that result in the drying-out of lakebed surface soils; and 3) drying-out of dry lakebed surface soils that causes an increase in the mobilization of wind blown dust. Provisions of the Management Plan, described below, will be implemented to avoid lowering of groundwater levels beneath the dry lakes. Furthermore, monitoring of wind-blown dust at the dry lakes will be performed to identify any changes in wind-blown dust conditions. With these measures, it is not anticipated that the Cadiz Project will result in an increase in the mobilization of wind-blown dust on Bristol or Cadiz dry lake.

Some commentors have compared the Cadiz Project to the air quality problems at Owens Lake. The comparison is not appropriate. Bristol and Cadiz dry lakes have been intermittent dry lakes for thousands of years, while Owens Lake was a surface body of water that was drained (over a short period of years) by removal of surface water recharge. Dust mobilization from the surfaces of Bristol and Cadiz dry lakes already exists. The intent of the Management Plan is to prevent any increase in dust mobilization due to the operation of the Cadiz Project.

GROUNDWATER MONITORING AND MANAGEMENT PLAN

To ensure that the operation of the Cadiz Project will not cause adverse impacts to air quality or any other critical resource, the Management Plan has been incorporated into the Cadiz Project. It establishes an extensive monitoring network and the use of predictive water resources models that will provide guidance for operating the project in a manner that avoids adverse impacts to critical resources. Information collected from the monitoring network will be evaluated in conjunction with the results of water resources models to provide an early warning of the potential for adverse impacts. The provisions and requirements of the Management Plan are more fully described in the Master Response "Groundwater Monitoring and Management Plan." The particular provisions relating to the potential for air quality impacts at Bristol and Cadiz dry lakes are set forth below.

WATER RESOURCES MONITORING AND MODELING

A series of water resources models are described in Section 3 of the Management Plan. These models will be calibrated to interpret groundwater level data gathered from monitoring wells at locations between the project area and the dry lake margins and beneath the dry lakebeds. The location of the monitoring wells is described in Section 4 of the Management Plan. Well clusters on Bristol and Cadiz dry lakes will be monitored in coordination with well clusters at the dry lake margins and observation wells located closer to the project wellfield. This configuration of well clusters and monitoring wells will provide a series of early warning monitoring locations. The data collected will be used in the models to evaluate the future effect of project operations on groundwater levels beneath the dry lakes. If and when necessary, modifications to project operations will be implemented so that the project does not cause groundwater level declines beneath the surface of the dry lakes that could contribute to or cause an increase in the mobilization of dust from the surface of the dry lakebeds.

Additionally, evapotranspiration (ET) monitoring stations and surface water monitoring stations will be located on Bristol and Cadiz dry lakes. ET stations will record ambient air temperature, vertical and horizontal wind speed and direction, humidity, water vapor density, solar radiation, net radiation, soil temperature, soil heat flux and soil water content or soil suction on an hourly basis. Soil moisture data collected from the evapotranspiration stations during the pre-operational phase of the project, in conjunction with soil moisture analyses from continuous core samples collected during drilling, will provide a baseline soil moisture condition with which to compare data collected during the operational phase of the project. Soil moisture data will be evaluated in the context of measured

groundwater levels to establish a relationship between changes in groundwater levels, soil moisture content, and potential for dust mobilization.

A staff gage will be established at the location of the evapotranspiration monitoring station on each of the dry lakes. These staff gages will be established to measure surface water accumulation on the dry lakes from storm runoff. A staff gage will consist of a calibrated measuring rod vertically mounted into the lakebed surface. Surface water effects on soil moisture and shallow groundwater levels will be evaluated to distinguish natural conditions from those attributable to project operations.

METEOROLOGICAL MONITORING AND ANALYSIS

Open-air nephelometers will be installed at Bristol and Cadiz dry lakes to obtain continuous information on dust mobilization and wind speed and direction. The open-air nephelometers measure increases in light-scattering associated with dust storms. These devices will be located based on measured wind direction to match prevailing wind patterns at each dry lake. An automated digital camera will be located at each lakebed to provide periodic photographs as further documentation of the occurrence of dust mobilization from the lake. Analysis of dust mobilization and wind data will indicate whether there is any changing relationship between these two factors (reduced wind speed required for dust mobilization). This dust/wind speed relationship will also be compared with any changes in surface soil moisture of the dry lakebeds and groundwater levels beneath the dry lakebeds.

Three meteorological towers will be installed in the region for a period of at least five years to establish patterns of regional wind speed and direction. Data collection from any or all of the meteorological towers may be extended if warranted. This baseline information will be used in conjunction with lakebed data for wind speed and direction and groundwater levels and soil moisture to determine whether (a) the project could contribute to lakebed dust mobilization and (b) if any project-mobilized lakebed dust could be transported throughout the Mojave Desert region. This review will consider whether existing dust storms on the dry lakebeds occur simultaneously with regional winds that are capable of transporting lakebed dust beyond the localized lakebed areas.

Groundwater, evapotranspiration, air and meteorological monitoring information, together with the results of water resources modeling and statistical analysis of air quality and meteorological data will be used to evaluate, and as appropriate, guide the management of project operations.

ACTION CRITERIA, DECISION MAKING PROCESS AND CORRECTIVE MEASURES

The Management Plan identifies specific quantitative criteria (action criteria) that will "trigger" review to determine whether a measured change is attributable to project operations. It is the intent of the Management Plan to identify changes from natural conditions at monitoring features as early as possible in order to identify and prevent the occurrence of adverse impacts to critical resources as a result of project operations. The action criteria presented in the Management Plan are considered conservative and may be refined as data is collected during project operations.

The action criteria for potential air quality impacts at the dry lakes, is a change of six inches from the pre-operational static groundwater levels in the observation wells on the dry lakebeds. (Section 7.4, Final EIR/EIS, Volume IV) Exceeding the action criteria does not necessarily constitute an impact to a critical resource or a predictor of a potential impact. The water resources models and air quality analysis that have been calibrated with data collected during the pre-operational and operational phases of the project will be used to evaluate whether the change in groundwater level is caused by the project. If so, a further assessment will be made of whether the groundwater change is accompanied by decreases in soil moisture and an adverse change in air quality.

The assessment will consider the groundwater level, soil moisture at the lakebed surface, wind velocity data obtained from weather stations on the dry lakebeds, and dust mobilization data obtained from the instrumentation installed upwind and downwind of the dry lakebeds. Statistical analyses will be performed as described in Sections 6.4.1 and 6.4.2 of the Management Plan to identify any adverse change in air quality. The changes in airborne particulate matter that can be detected by the instrumentation depend on the level in the atmosphere. In very clean air, changes of about 20% to 30% can be detected reliably. Changes as small as 10% can be detected in air with higher particle concentrations. The differences between the downwind and upwind readings from the open-air nephelometers that can be reliably attributed to particulate matter emissions from the dry lakebed surfaces will be established during analyses of the baseline monitoring. An adverse change in air quality is defined as a measurable increase in seasonal dust mobilization, attributable to project operations, based on the analyses of baseline monitoring.

If the assessment determines that the project is causing groundwater level changes that create a potential adverse impact to air quality at a dry lakebed, then corrective measures will be implemented. Such measures include modification of project storage and extraction operations to re-establish the natural hydraulic gradient in and at the margins of the dry lakes. This may be accomplished through: (a) reduction in pumping from project wells, (b) revision of pumping locations within the project wellfield, (c) stoppage of groundwater extraction for a duration necessary to correct the predicted impact, or (d) delivery of Colorado River water, if available, to the project spreading basins.

Metropolitan will inform the Bureau of Land Management of its assessment and any corrective measures that are implemented. BLM will review Metropolitan's assessment with appropriate technical assistance from the Technical Review Panel, as necessary. The BLM will retain the authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project.

CLOSURE PLAN

Section 8 of the Management Plan requires preparation and implementation of a Closure Plan. The Closure Plan will be developed no later than halfway through the project term to ensure that no residual effects of project operations will result in adverse impacts to critical resources during or after the post-operational phase. Metropolitan will utilize the groundwater modeling and monitoring data to identify actions to be taken during the operational-phase of the project to ensure that declines in groundwater levels due to project operations will not result in adverse impacts to critical resources, including adverse impacts to air quality in the Mojave Desert region.

Metropolitan will continue monitoring groundwater levels and air quality at the dry lakebeds during the post-operational phase (a minimum period of 10 years). The term of the post-operational phase will be extended if necessary to protect critical resources, including air quality. The other provisions of Management Plan will remain in effect and run concurrently with the term of the post-operational phase.

CONCLUSION

The Cadiz Project has the potential to cause indirect effects to air quality through an increase in the frequency and severity of wind mobilized dust on Bristol and Cadiz dry lakes. This potential is related solely to the lowering of groundwater levels, and would only occur if there is a connection between groundwater levels, surface soil moisture, and wind-mobilized dust. For the protection of air quality against this potential impact, the Management Plan requires the monitoring of groundwater

levels, surface soil moisture, and wind-mobilized dust. Any potential changes in air quality due to project effects on groundwater levels at the dry lakebeds will be identified and avoided through modifications of project operations. For these reasons, it is not anticipated that the Cadiz Project will result in an increase in the mobilization of wind blown dust on Bristol or Cadiz dry lake.

MASTER RESPONSE NO. 2 - ALIGNMENT ALTERNATIVES

Several commentors have suggested that the alignment for the Cadiz Project pipeline should utilize existing utility and/or transportation corridors and avoid lands that have been designated for limited use pursuant to the California Desert Conservation Area (CDCA) Plan.

The CDCA Plan was developed by the Bureau of Land Management as a comprehensive land use management plan for BLM-managed lands in the Mojave Desert. The Plan includes classifications for allowable uses and levels of resource conservation. The Plan also identifies planning corridors for meeting the future needs for utility, communications and energy transmission lines crossing the Mojave Desert.

The CDCA Plan classifications that are pertinent to the Cadiz Project include Multiple Use Classes L and M. "Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." Within Class L areas, "New gas, electric, and water transmission and trans-desert telecommunications facilities may be allowed only within designated corridors.... New distribution systems may be allowed and would be placed underground where feasible except where this would have a more detrimental effect on the environment than a surface alignment. In addition, new distribution facilities shall be placed within existing rights-of-way where they are reasonably available."

Class M (Moderate Use) is based upon "a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources that permitted uses may cause." The CDCA Plan land use classifications and designated utility corridors in the project area are shown in Figure 5.2-2 in Volume I of the Final EIR/EIS.

In response to the comments received regarding use of existing designated utility corridors, BLM and Metropolitan have considered a potential alignment that maximizes the use of such corridors. A discussion of this potential alignment has been added to Section 3.6 of Volume I of the Final EIR/EIS. There is not a CDCA Plan utility corridor that directly connects the Iron Mountain Pumping Plant with the project spreading basins or wellfield, nor is one proposed. (Final EIR/EIS, Volume I, Figure 5.2-2) For this reason the project would, under all cases, require an amendment to the California Desert Conservation Area Plan for an exception to the utility corridor requirement regardless of the route selected. However, there is a designated utility corridor for the above-ground utility lines (two 230kV power lines and telephone lines) that connect the Iron Mountain Pumping Plant with Hoover Dam. This utility corridor runs northeast from the Iron Mountain Pumping Plant across Danby Dry Lake, and eventually crosses another designated utility corridor northeast of the Old Woman Mountains Wilderness Area. This second utility corridor is used by natural gas pipelines that roughly parallel Route 66. Use of these two designated utility corridors would minimize the length of the Cadiz Project facilities that would be located outside of an existing designated utility corridor.

This potential alignment was rejected from further detailed analysis based on a review under the three technical objectives (total length, operations and maintenance, and environmental impact) used for screening alternative alignments (Final EIR/EIS, Volume I, Section 3.6.3). The length required to utilize the two utility corridors is 73 miles, compared to approximately 35 miles for the other alignments considered. The increased length would contribute to operational and maintenance impacts and costs, as well as the impacts due to construction. A portion of this potential alignment crosses the Danby Dry

Lake, which poses construction and maintenance problems that are further discussed below. Furthermore, this potential alignment creates potential environmental impacts not shared with the other alignments. It crosses approximately twice the length of Class L designated lands as the preferred Eastern Alternative alignment, and approximately 60 miles of this potential alignment falls within designated critical habitat for the desert tortoise. Each of the alternative alignments analyzed in detail in the Final EIR/EIS are outside of desert tortoise critical habitat. For these reasons, the potential alignment making maximum use of designated utility corridors was eliminated from further consideration.

Several commentors have suggested that the Cadiz Project alignment should follow the utility corridor that runs from the Iron Mountain Pumping Plant to the Arizona and California Railroad line and Cadiz-Rice Road, both of which travel to the project wellfield and spreading basin areas. The railroad and road are not located within a utility corridor designated in the CDCA Plan, so that an amendment to the Plan for an exception to the utility corridor requirement would still be necessary if the suggested route were followed.

The north half of the Eastern Alternative does follow an alignment within or adjacent to Cadiz-Rice Road and the Arizona and California Railroad line. The southern half of the Eastern Alternative follows the southern side of the Danby Valley rather than cross the Danby Dry Lake. (Final EIR/EIS, Volume I, Figure 4-2). Several alternatives were initially considered for crossing the Danby Dry Lake, but these potential alignments were eliminated from detailed consideration for both engineering and environmental reasons.

As part of the alternatives screening process, three separate pipeline design alternatives were considered for crossing Danby Dry Lake. The three design alternatives were: (1) a buried coated-steel pipeline; (2) an above-ground, coated-steel pipeline at ground level on concrete pylons; and (3) an above-ground, coated-steel pipeline constructed within a berm. As discussed below, each of these alternatives was eliminated from further consideration due to identified fatal flaws.

The underground pipeline alternative would encounter environmental and engineering problems due to high groundwater levels and de-watering requirements, extreme salinity and corrosion potential of the dry lake. Corrosive salts, as measured by total dissolved solids (TDS), reach levels in shallow groundwater under the dry lake as high as 298,000 mg/L. For comparison, TDS in seawater is generally 35,000-40,000 mg/L. This corrosive environment coupled with the higher internal pressure in the pipeline due to the lower elevation within the lakebed could lead to catastrophic failure of the pipeline. In addition, excavations would require discharging highly saline groundwater and soils during construction, which could require treatment to remove corrosive and hazardous materials. For these reasons, the buried pipeline across Danby Dry Lake alternative was eliminated from consideration.

Both of the above-ground alternatives across Danby Dry Lake would have operational and maintenance problems due to exposure to temperature extremes, inaccessibility during periods that the lakebed is covered with surface water, and disruption of surface drainage. In addition, these alternatives would create significant, permanent impacts to aesthetics in the area, would impact wildlife movement, would increase the potential for vandalism, would increase construction costs, operations costs and energy costs. For these reasons, the above-ground Danby Dry Lake crossing alternatives were eliminated from consideration.

The preferred Eastern Alternative alignment follows the existing railroad and road to the extent that is reasonably possible. Section 11 of the Final EIR/EIS, Volume I, sets forth the conclusion that the Eastern Alternative is the preferred alternative based on its lower level of impact to critical environmental criteria.

A related concern raised by certain commentors involves the undergrounding of the electric power lines that parallel the pipeline. This was considered and rejected as fatally flawed for technical reasons. Underground electric lines develop a reactive charging load that is not present in overhead lines. This phenomenon affects voltage stability and could cause system failure. Construction impacts would increase significantly due to the need to separate the underground power line from the water pipeline. The trench for the electric line would be separately constructed causing additional disturbance. Maintenance and repair of underground lines would also be difficult and cause substantial disturbance due to excavation that is not required to maintain aboveground electric lines. For these reasons, the undergrounding of power lines for the project was rejected.

Use of natural gas to power project facilities was also evaluated for potential implementation. The use of natural gas as a power source was rejected. Operation of the Cadiz Project using natural gas would require construction of a new natural gas transmission line to an existing line six miles from the project area, and a new distribution system to deliver the natural gas to each well. (Final EIR/EIS, Volume I, Section 5.9.4) The environmental impacts and increased costs of these facilities did not justify pursuing this alternative power source.

MASTER RESPONSE NO. 3 - GOVERNANCE

Comments were received that questioned the independence and timeliness of the decision-making process described in the Groundwater Monitoring and Management Plan (Management Plan) as set forth in the Supplement to the Draft EIR/EIS. That process involved initial review of data by a Technical Review Team (TRT) comprised of The Metropolitan Water District of Southern California (Metropolitan), Cadiz Inc., the County of San Bernardino, and the U. S. Department of the Interior. The same parties were also represented on a Basin Management Group (BMG) that would attempt to resolve issues based on TRT recommendations through development of a consensus. If the BMG failed to reach consensus, the BLM retained authority to enforce the Management Plan through the terms and conditions of its grant of the right-of-way for the project.

Commentors noted that the process described in the Supplement would be slow due to the need to reach a consensus before any action could be taken. Other commentors questioned the independence of the TRT and BMG with the inclusion of Metropolitan and Cadiz Inc. In response to these comments, the decision-making process in the Management Plan has been streamlined to avoid delays in implementing measures to protect critical resources. The process has also been refined to reflect the legal authority and obligations of Metropolitan and BLM to ensure that the project is operated in a manner that is consistent with the Management Plan provisions to avoid adverse impacts to critical resources. Provisions are also included for public disclosure of the data collected, the assessments and analyses that are performed, and other information regarding aspects of project operations.

Metropolitan is undertaking the Cadiz Project to provide storage for Colorado River water and indigenous groundwater for dry year supply. Metropolitan is a public agency created pursuant to California law, and is subject to the requirements of the California Environmental Quality Act (CEQA). This statute provides that measures to mitigate or avoid significant effects on the environment may be incorporated into the project plan or design. (Public Resources Code section 21081.6(b)). Accordingly, Metropolitan has incorporated the provisions of the Management Plan into the Cadiz Project. (Final EIR/EIS, Volume IV) Metropolitan is primarily responsible for operating the Cadiz Project in accordance with the Management Plan to avoid adverse impacts to critical resources.

Metropolitan's responsibilities include installation and operation of the monitoring features required under the Management Plan, and the collection of data from the monitoring features. When an action criterion has been met or exceeded, Metropolitan must notify the BLM and prepare an assessment of whether the measured change is attributable to project operations and, if so, whether it may indicate a potential adverse impacts to critical resources. Metropolitan will provide its assessment to the BLM, and will institute appropriate corrective measures when necessary to avoid the potential adverse impacts.

The Management Plan requires Metropolitan to prepare annual and five-year reports describing the data collected, modeling results, analyses performed, and project operations. (Section 6.8, Final EIR/EIS, Volume IV) These reports will be available to the public to allow review of Metropolitan's compliance with its obligations to operate the Cadiz Project in accordance with the Management Plan. As a California public agency, Metropolitan is also subject to legal requirements to make its records available for public inspection. (Government Code sections 6250 *et seq.*)

The BLM is responsible for granting a right-of-way for the Cadiz Project across federal lands in accordance with the Federal Land Policy and Management Act (FLPMA) (Title 43, United States Code, sections 1701 *et seq.*). In issuing the right-of-way, BLM is subject to the requirements of the

National Environmental Policy Act (NEPA) (Title 42 United States Code, section 4332) and the NEPA regulations (Title 40, Code of Federal Regulations, sections 1500 *et seq.*). In accordance with FLPMA and NEPA, BLM will retain the authority through the terms and conditions of the right-of-way grant to enforce the provisions of the Management Plan, and thereby avoid adverse impacts to critical resources. (*See* Title 43, United States Code, section 1765, and Title 40, Code of Federal Regulations, section 1505.3)

The BLM will receive technical support and recommendations from other federal, state and local agencies through the Technical Review Panel (TRP) described in Section 9 of the Management Plan. The agencies that will participate in the TRP include the National Park Service, the U. S. Geological Survey, and the County of San Bernardino. Other agencies may be consulted by BLM for their relevant expertise (e.g., Environmental Protection Agency for air quality, or the California Regional Water Quality Control Board for water quality). BLM and the TRP will receive data collected by Metropolitan in accordance with the Management Plan within ninety days after its collection, as well as the annual and five-year reports required in Section 6.8. In addition, the BLM may provide for public participation in its review and decision-making process when, in its discretion, it determines that it is appropriate to do so.

The BLM, together with the TRP, provides an independent, science-based review of Metropolitan's operations in accordance with the Management Plan. BLM retains the authority under the terms and conditions of the right-of-way grant to compel Metropolitan to comply with provisions of the Management Plan for the protection of the environment and identified critical resources.

The governance structure set out in the Management Plan reflects the legal authority and responsibilities of Metropolitan and the BLM. Metropolitan will be able to perform its responsibilities to implement the mitigation measures required in the Management Plan without the delays inherent in reaching a consensus among several agencies. The BLM will review Metropolitan's actions, and will retain the authority it has under federal law to require compliance with the mitigation measures in the Management Plan for the protection of the environment. The TRP ensures that there is independent and science-based input into BLM's decision-making process. Additionally, the public has the right to inspect the data. Through this process, the public can be assured that the Cadiz Project is operated in accordance with the Management Plan, and that adverse impacts to critical resources are avoided.

MASTER RESPONSE NO. 4 - GROUNDWATER MONITORING AND MANAGEMENT PLAN

BACKGROUND INFORMATION

The Metropolitan Water District of Southern California (Metropolitan) and the United States Department of the Interior, Bureau of Land Management (BLM) are jointly evaluating the implementation of the Cadiz Groundwater Storage and Dry-Year Supply Program (Cadiz Project). With this project, Metropolitan will utilize the groundwater basins underlying a portion of the Cadiz and Fenner Valleys to store Colorado River water imported from the Colorado River Aqueduct during periods of excess water supply. When needed, such as in dry years, the stored water and indigenous groundwater will be extracted and returned to the Colorado River Aqueduct for use within Metropolitan's service area. All Cadiz Project operations, including extraction of groundwater, would be governed by and subject to the provisions of the Groundwater Monitoring and Management Plan (Management PIan).

Cadiz Inc. is the owner of property overlying the groundwater basins that will be used for the project spreading basins and extraction wellfield. Cadiz cultivates approximately 1,600 acres of its property and uses groundwater for irrigation in its agricultural operations. In 1993, the County of San Bernardino approved the expansion of the agricultural operations to a total of 9,600 acres. The extraction of groundwater for use in Cadiz' agricultural operations will be performed in accordance with the provisions of the Management Plan to ensure that such extraction, in conjunction with Metropolitan's project operations, does not cause adverse impacts to groundwater-related critical resources. All aspects of the agricultural operations other than extraction of groundwater are outside the scope of the Management Plan and are subject to the terms of approval by the County of San Bernardino.

The Cadiz Project Draft EIR/EIS was circulated for public review and comment from November 26, 1999 through March 8, 2000. A number of the comments were received on the Draft EIR/EIS regarding the potential for impacts to springs, the Cadiz and Fenner groundwater basins, adjacent groundwater basins, and the potential for increased dust mobilization from Bristol and Cadiz dry lake beds. Notable among these comments was a February 23, 2000 memorandum prepared by the U.S. Geological Survey (USGS) for the BLM and appended to the National Park Service (NPS) letter of comment on the Draft EIR/EIS. This memorandum raised a number of concerns, including the amount of natural recharge to the project area.

Metropolitan and BLM convened discussions among experts to determine if the technical disagreements could be resolved. Participating in these discussions were Metropolitan, BLM, NPS, USGS, Cadiz Inc. and the County of San Bernardino. The NPS and USGS became cooperating agencies pursuant to NEPA for purposes of providing assistance based on their special expertise in groundwater and air quality issues. The USGS limited its role to providing scientific and technical support and advice to the BLM on the design of the Management Plan.

While there remains disagreement among experts regarding the amount of natural recharge to the project area, the parties agreed that the overriding objective is to ensure the protection of environmental resources, and that this objective would best be accomplished through the development and implementation of the Management Plan.

Preparation of the Groundwater Monitoring and Management Plan was identified as mitigation measure WR-1 in the Draft EIR/EIS, and it was intended that such a Management Plan would be presented in the Final EIR/EIS. In response to comments received on the Draft EIR/EIS, a Supplement to the Draft EIR/EIS (Supplement) which included the draft Management Plan was

prepared. The Supplement discussed the potential groundwater related impacts of the project in light of the Management Plan, and described the monitoring features and management procedures for operating the project without causing adverse impacts to critical resources. The Supplement was circulated for public review and comment from October 20, 2000 through January 8, 2001 to provide the public with the opportunity to review and comment on clarifications to Cadiz Project water resources information, including the Management Plan.

OUTLINE OF THE MANAGEMENT PLAN

The Management Plan, which is set out in Volume IV of the Final EIR/EIS, is an integral part of the Cadiz Project governing water storage and extraction for the Cadiz Project. The Management Plan will also ensure that groundwater use for irrigation of Cadiz Inc. agricultural operations in the Cadiz Valley is conducted without adverse impacts to critical resources.

The Management Plan is designed to ensure there will be no adverse impacts by providing "early warning" of potential adverse impacts to critical resources that could result from Cadiz Project operations. With such early warning, adverse impacts would be prevented by implementation of corrective actions.

Critical resources are identified in the Management Plan, Section 2, as follows:

- Springs Within Affected Watersheds Including Springs of the Mojave National Preserve and BLM-Managed Lands
- Aquifer System
- Brine Resources of Bristol and Cadiz Dry Lakes
- Air Quality in the Mojave Desert Region.

To accomplish the goal of providing an early warning of potential impacts, the Management Plan requires a comprehensive network of monitoring and data collection facilities. The monitoring facilities will gather data on spring flows, groundwater levels, water quality, land surface elevations, brine, soil moisture, weather, and wind-mobilized particulate matter. A detailed description of each of the 24 monitoring features is set out in Section 5 of the Management Plan, and monitoring procedures are described in Section 6.

Groundwater data will be incorporated into water resource models that provide a predictive tool to identify how project operations will affect the aquifer and groundwater-related resources. The groundwater models are described in Section 3 of the Management Plan. Air quality data will be utilized in statistical analyses to identify the relationship between groundwater levels, soil moisture, and dust mobilization from the surface of the dry lakes. The air quality analyses are described in Section 7.4 of the Management Plan.

The Management Plan includes a set of action criteria that will trigger a decision-making process upon measurement of quantified changes in conditions relating to critical resources. These action criteria have been set at conservative levels to provide an early warning of potential future impacts. There is a defined process for scientific review of the monitoring data and modeling results when an action criterion has been reached. If the review results in a determination that the changed conditions are attributable to project operations and constitute a potential adverse impact to critical resources, corrective measures must be implemented to avoid the adverse impact.

Action criteria and corrective measures have been developed for potential impacts to springs, groundwater quality, wells owned by neighboring landowners, land subsidence, liquefaction related to spreading basin operations, hydrocompaction, movement of the groundwater-brine interface, brine resources, and air quality related to wind-blown particulate matter from the dry lakes. The corrective measures that may be implemented to avoid adverse impacts include modification or suspension of project operations that are creating the potential for the impact. Specific action criteria, decision processes, and corrective measures that apply to each type of resource are set forth in Section 7.

The collection of data prior to project operations will provide a baseline that reflects natural fluctuations in the resources that are monitored. Data collected during project operations will provide further information with which to calibrate the water resource models and perform the air quality analyses. This data and scientific analysis may result in determinations that monitoring features should be adjusted or refined to gather more appropriate data. Action criteria may also be refined to reflect natural conditions.

Metropolitan will operate the Cadiz Project in accordance with the Management Plan. Extraction of groundwater for use in Cadiz' agricultural operations will be conducted without adverse impacts to critical resources in accordance with the Management Plan. Metropolitan will be responsible for the construction and maintenance of the monitoring facilities and the collection and analysis of data. BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant for the project. Further details of the responsibilities and enforcement provisions are set forth in the Master Response "Governance."

The Management Plan provides measures to protect against the potential adverse impacts to groundwater-related critical resources. The potential impacts are identified and described in both Section 5.6.4 of Volume I, and in Section 2 of Volume IV, of the Final EIR/EIS. The monitoring features and procedures that will be implemented to provide the early warning and avoidance of potential adverse impacts are detailed in the Management Plan. The provisions of the Management Plan are enforceable obligations of Metropolitan under California law, and may be enforced by BLM under federal law. Operation of the Cadiz Project in accordance with the Management Plan will avoid adverse impacts to critical resources.

MASTER RESPONSE NO. 5 - GROWTH INDUCEMENT

A number of commentors expressed concern about the potential for the Cadiz Project to contribute to growth within the service area of The Metropolitan Water District of Southern California (Metropolitan). Some suggested that growth control measures should be imposed in lieu of the project.

The concerns about growth inducement are addressed in the Final EIR/EIS. The evidence supports the conclusion that the Cadiz Project will neither induce growth nor eliminate a constraint on growth. Furthermore, Metropolitan has no authority to regulate or control population or land use. Therefore, it cannot impose growth control measures within its service area.

Section 6 of the Final EIR/EIS discusses historic and projected growth within Metropolitan's service area, which includes much of the urbanized coastal plain of southern California (Final EIR/EIS, Volume I, Figure 2-1). There has been a 22% rise in population from 1980 to 1990. The factors that contribute to the rise in population include socioeconomic factors (employment and industry, housing availability, cost of living) as well as intangible factors (weather or aesthetics). Regional planning agencies like the Southern California Association of Governments project that population growth will continue in southern California through 2020. The growth projections are derived from local officials and are based on regional planning goals. (Final EIR/EIS, Volume I, Section 2.4.2.)

Past experience with drought conditions indicates that restrictions in water use have not restrained growth. During droughts in 1976-77 and 1987-92, when water conservation measures were imposed, population growth continued. For example, the growth rate over the period 1987 to 1992 was 2.5% per year. It is clear that short-term water shortages and mandatory conservation measures did not affect the rate of population growth. The Cadiz Project will help offset the impacts of growth on water supplies. As such, the Cadiz Project responds to needs generated by growth, but does not itself induce growth or eliminate a constraint that has been shown to limit growth.

There are additional reasons why the Cadiz Project will not have growth inducing effects within Metropolitan's service area. The project is located on the Colorado River Aqueduct, and will deliver stored Colorado River water and indigenous groundwater through the Aqueduct for use in the service area. The Cadiz Project will not change the capacity of the Aqueduct, but rather will provide a source of replacement water for other sources of Colorado River water that may not be available in the future.

The Colorado River Aqueduct has a capacity of 1.25 million acre feet (maf) per year. Metropolitan has historically delivered this much Colorado River water, although its dependable supplies of Colorado River water are only 656,000 acre feet per year. (Final EIR/EIS, Volume I, Section 2.5.3) Annual water deliveries through the Aqueduct have generally ranged between 1.2 and 1.3 maf since the mid-1980's. Periodic reductions in Colorado River Aqueduct deliveries prior to 1984 were due to factors such as the availability of lower cost water from other sources or blending requirements within Metropolitan's service area.

In the past, Metropolitan has made full use of the Aqueduct by delivering water that is apportioned to, but unused by, the states of Arizona and Nevada, as well as surplus water to which California is entitled. As Arizona and Nevada reach the full use of their entitlements on the Colorado River, there will be less water available for use by California agencies, including Metropolitan. During years in which there is insufficient Colorado River water to deliver a full 1.25 million acre feet to Metropolitan, there will be space available in the Colorado River Aqueduct. The Cadiz Project will provide a replacement supply of water that may be delivered to Metropolitan's service area using the available space in the Aqueduct.

Since the size of the Colorado River Aqueduct is not increased by the Cadiz Project, it will not result in the delivery of a greater volume of water than Metropolitan has delivered in the past. Instead, the project provides an alternate source of water for delivery through the Aqueduct. Since there is no increase in the capacity of the delivery system, the project cannot result in the delivery of additional water supplies. Therefore, the project cannot have growth inducing impacts.

The Cadiz Project will add flexibility to Colorado River Aqueduct operations. When surplus Colorado River water is available or when demands for such water in Metropolitan's service area are reduced, a portion of the Colorado River Aqueduct capacity will be used to put water in storage in the Cadiz groundwater basin. Conversely, when no surplus is available from the Colorado River and demands for imported water within Metropolitan's service area require full deliveries from the Colorado River Aqueduct, available Aqueduct capacity will be used to deliver stored water and available indigenous groundwater from the Cadiz groundwater basin. This balancing of Aqueduct operations to maintain constant Colorado River area water supplies does not alter historical Colorado River Aqueduct delivery patterns and does not cause growth.

MASTER RESPONSE N0. 6 - NEED FOR SUPPLEMENT/RECIRCULATION

A number of commentors requested that the Draft EIR/EIS be supplemented and/or recirculated. NEPA regulations require that a Supplemental EIS be prepared when there are substantial changes in the proposed action relevant to environmental concerns or significant new circumstances or information relevant to environmental concerns (Title 40, Code of Federal Regulations, section 1506.9(c)(1)). A Supplement may also be prepared where the agency determines that the purposes of NEPA would be furthered by doing so (Title 40, Code of Federal Regulations, section 1506.9(c)(2)). The CEQA Guidelines (Title 14, California Code of Regulations, section 15088.5) discuss the need for recirculation of a Draft EIR or of portions of the EIR for public review when significant new information is added.

A number of the comments received on the Draft EIR/EIS raised concerns regarding the proposed Cadiz Project operations related to potential impacts to springs, the Cadiz and Fenner groundwater basins, adjacent groundwater basins, and the potential for increased dust mobilization from Bristol and Cadiz dry lake beds. Preparation of a Groundwater Monitoring and Management Plan was identified as mitigation measure WR-1 in the Draft EIR/EIS, and it was intended that such a Management Plan would be presented in the Final EIR/EIS.

The Bureau of Land Management and the Metropolitan Water District of Southern California, the NEPA and CEQA lead agencies for the project, determined that preparation of a Supplement to the Draft EIR/EIS would be appropriate. The Supplement addressed concerns raised in comments regarding potential impacts to water-related resources, and allowed the Management Plan to be circulated for public review and comment. Potential impacts to water-related resources were reevaluated in light of the development of the Management Plan and its incorporation into the proposed action. Finally, cumulative effects of the Cadiz Project and other projects on water resources were reevaluated.

The National Park Service (NPS) and U. S. Geological Survey (USGS) became cooperating agencies pursuant to NEPA for purposes of preparation of the Supplement to the Draft EIR/EIS and the Final EIR/EIS. The USGS limited its role to providing scientific and technical support and advice to the BLM on the design of the Management Plan. The Management Plan was prepared by the BLM, NPS, USGS, Metropolitan, the County of San Bernardino, and Cadiz Inc.

The Supplement, including the Management Plan that was included in Section 3.0, was circulated for public review and comment beginning on October 20, 2000 and ending on January 8, 2001. The preparation and circulation of the Supplement satisfied the NEPA and CEQA requirements for addressing new information regarding the provisions of the Management Plan and potential impacts to water-related resources.

MASTER RESPONSE NO. 7 - FORMULATION AND SCREENING OF POTENTIAL PROJECTS

Comments were received that questioned the scope of formulation and screening of potential projects considered in the environmental documents, or suggested additional "alternative projects" such as limiting the project to storage operations or using water conservation measures to meet the project purpose and need.

CEQA and NEPA both require that an EIR/EIS discuss a reasonable range of alternatives that would feasibly attain most of the basic project goals and would substantially lessen or avoid its environmental impacts. (Title 14, California Code of Regulations, section 15126.6; Title 40, Code of Federal Regulations, section 1502.14) There is no minimum number of alternatives that must be discussed, although inclusion of a "no project" or "no action" alternative is required. In addition, the EIR/EIS should include a discussion of alternatives that were considered but eliminated from detailed analysis.

Section 3 of the Draft EIR/EIS described the process of formulating and evaluating formulation and screening of potential projects to meet the project need of providing dry-year water supply from the Colorado River resource area. This process included an initial review of potential projects, and a subsequent evaluation of alternative alignments for the Cadiz Project. To avoid confusion between the screening of potential projects and the selection of alternative alignments, the discussion of this process has been clarified in the Final EIR/EIS. Section 3 describes the screening of potential projects that lead to the selection of the combined Cadiz Storage and Transfer projects for further analysis. Section 4 discusses the selection of alternative alignments for the combined Cadiz Storage and Transfer project.

The formulation and evaluation of potential alternatives was conducted in a series of increasingly detailed studies. Each alternative was formulated and reviewed in light of the project goal of developing storage and dry-year water supplies in the Colorado River area. As described in Section 3.4, a total of thirteen potential projects were initially identified, including ten groundwater storage projects, one water transfer project, and two projects that would desalt agricultural drainage water. For the reasons described in Section 3.5, all of the potential projects except the Cadiz Valley Groundwater Storage Project, the Cadiz Valley Dry-Year Transfer Project, and the Hayfield Valley Groundwater Storage Project, were eliminated from detailed analysis because of technical or environmental considerations that rendered the other alternatives infeasible. The Hayfield Project was separately analyzed and is being implemented by Metropolitan.

The two projects located at Cadiz Valley were combined into one project. All project operations at the Cadiz Valley site will be governed by and subject to the provisions of the Groundwater Monitoring and Management Plan (Final EIR/EIS, Volume IV). Both storage of Colorado River water and withdrawal of Colorado River water and indigenous groundwater must be monitored and managed to avoid adverse impacts to critical resources. The amount of water that may be withdrawn will be determined in compliance with the requirements of the Management Plan and, if indigenous water cannot be taken without adverse impacts to critical resources, then the project will be operated as a "storage-only" project. With the implementation of the Management Plan, critical resources will receive the same level of protection regardless of whether the project is operated as a "storage only" project or for both storage and transfer of water. Therefore, all of the potential environmental impacts which could result from a "storage only" project have been evaluated.

There is no set amount of indigenous groundwater that may be transferred under the Cadiz Project, and therefore, the Final EIR/EIS does not evaluate the potential impacts from the transfer of a set

amount of water. Rather, the project will be implemented in accordance with the Management Plan that requires operation of the aquifer so that no adverse impacts occur to critical resources. Therefore, any project definition that is based on a specified amount of indigenous water for transfer is not appropriate. The project may only transfer an amount of water that meets the requirements of the Management Plan.

Conservation was not considered an alternative to the Cadiz Project because a wide variety of conservation methods are already being implemented by Metropolitan and its member agencies. (Final EIR/EIS, Volume I, Sections 2.3.3 and 2.4.4) Even with these conservation methods in place, and including all other known projects for meeting the dry-year demand, including the Cadiz and Hayfield Projects, there will still be an unmet demand for water in Metropolitan's service area. Thus, a conservation alternative would not achieve the project goals. More information on Metropolitan's conservation efforts is provided in Master Response "Water Conservation."

The formulation and selection of site-specific formulation and screening of potential projects for the Cadiz Groundwater Storage and Dry-Year Supply Program is described in Sections 3.6 and 4. Further information regarding the selection of alternative alignments for the Cadiz Project is discussed in Master Response "Alignment Alternatives."

MASTER RESPONSE NO. 8 - WATER QUALITY

This master response addresses three types of potential impacts to water quality: 1) potential impacts to indigenous groundwater quality due to the introduction of water from the Colorado River Aqueduct; 2) potential impacts to indigenous groundwater quality due to induced flow of lower quality groundwater from Bristol and Cadiz dry lakes; and 3) potential impacts to water quality in the Colorado River Aqueduct due to introduction of indigenous groundwater.

POTENTIAL IMPACTS TO INDIGENOUS GROUNDWATER QUALITY DUE TO THE INTRODUCTION OF WATER FROM THE COLORADO RIVER AQUEDUCT

Groundwater quality in California is protected pursuant to the California Porter-Cologne Water Quality Control Act. In the Cadiz Project area, water quality is regulated by the State Water Resources Control Board (State Board) and the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Board). Pursuant to its statutory authority, the Regional Board prepared and adopted its Water Quality Control Plan in 1994 (Basin Plan), which identifies surface and groundwater within its geographical jurisdiction, existing and potential future beneficial uses of those waters, and water quality objectives to protect the beneficial uses of the waters. The Bristol groundwater hydrologic unit is identified in the Basin Plan as having municipal, industrial, and agricultural beneficial uses. The Cadiz groundwater hydrologic unit has municipal and industrial beneficial uses. The Basin Plan also states the Regional Board's goal of maintaining the existing water quality of all non-degraded groundwater basins. The State Board follows a similar non-degradation policy.

The potential impacts to indigenous groundwater quality due to the introduction of water from the Colorado River Aqueduct are addressed in Section 5.5.4 of the Final EIR/EIS, Volume I. These potential impacts include transport of salts from the unsaturated soil into the indigenous groundwater, and introduction of undesirable constituents, such as TDS and perchlorate, from Colorado River water.

Results obtained during operation of the pilot spreading basin and groundwater analyses from the nearby observation wells indicate that the initial infiltration of Colorado River water will dissolve salts in the upper parts of the unsaturated zone and carry them downward to the water table (Metropolitan 1999b). Although this process would create some initially high TDS concentrations below and adjacent to the spreading basins, over time the effect would be transitory. The dissolved salts will be pumped out when water is delivered from storage or assimilated into the groundwater within the project area. Accordingly, such impacts are less than significant.

Colorado River water has a higher level of TDS (600 mg/L) than indigenous groundwater (300 mg/L) in the project area. Colorado River water also has levels of perchlorate (up to 9 μ/L) that are higher than the indigenous groundwater, although they are lower than state action levels. As a result, storage operations will result in an increase in groundwater concentrations of these constituents. However, this effect will be limited to the area of groundwater mounding caused by the project spreading operations. Selected project production wells will be screened in the permeable upper alluvial sediment to ensure the extraction of the stored water, along with the higher levels of TDS and perchlorate. During periods of prolonged storage of Colorado River water in the aquifer system, the project wellfield would be operated to manage the stored Colorado River water to prevent it from migrating outside the zone of influence of the extraction wellfield. Any increase in TDS or perchlorate concentrations within the project area groundwater will be small and will not affect compliance with beneficial groundwater uses (municipal, industrial and agricultural) in or adjacent to the project area.

The Cadiz Project will be operated in accordance with the provisions of the Groundwater Monitoring and Management Plan (Final EIR/EIS, Volume IV). These provisions include the requirement that operations meet the requirements of the Regional Board's Basin Plan. (Final EIR/EIS, Volume IV, Section 7.2.1) Future updates of the applicable Basin Plan may alter the requirements that Cadiz Project operations must meet.

The monitoring provisions of the Management Plan include regular water quality testing. During storage operations, the quality of Colorado River water will be monitored weekly at Lake Havasu. Water samples from project area wells will also be tested on an annual or semi-annual basis. Should the storage of imported Colorado River water present a potential violation of the Basin Plan, Metropolitan will implement corrective measures that may include curtailing delivery of Colorado River water, treating the water prior to storage, or such other measures as may be required by the Regional Board.

In addition to the above provisions, the Management Plan requires the implementation of a Closure Plan (Final EIR/EIS, Volume IV, Section 8). The overall purpose of the Closure Plan is to ensure that no residual effects of project operations will result in adverse impacts to critical resources in or adjacent to the project area and to protect groundwater quantity and quality for future beneficial uses in and adjacent to the project area. If delivery of Colorado River water into the Basin is determined to be necessary as a corrective measure to avoid long term impacts, the water will meet the water quality requirements of the Basin Plan so that there is no impairment of the groundwater for beneficial use.

Operation of the Cadiz Project in accordance with the provisions of the Management Plan will protect groundwater resources within the project area. Accordingly, adverse impacts to groundwater quality as a result of project operations will be less than significant.

POTENTIAL FOR IMPACTS TO INDIGENIOUS GROUNDWATER QUALITY DUE TO INDUCED LOW OF LOWER QUALITY GROUNDWATER FROM BRISTOL AND CADIZ DRY LAKES

The potential impacts from migration of lower-quality groundwater from the Bristol and Cadiz dry lakes is discussed in Section 5.5.4 of the Final EIR/EIS, Volume I. Such an occurrence is not likely to result from project extraction operations. The location of the saline groundwater interface (defined by the 1,000 mg/L TDS concentration line) was determined using groundwater data from wells in the vicinity of the project area. Regular monitoring of potential movements of this saline groundwater interface will be undertaken as part of the Management Plan (Final EIR/EIS, Volume IV, Section 7.2.6). A measured change in excess of 25% of background TDS concentrations will be evaluated and if appropriate, corrective measures will be implemented. Corrective measures may include modification of project storage and extraction operations to re-establish the natural hydraulic gradient and background TDS concentrations at the margins of Bristol and Cadiz dry lakes.

Operation of the project in accordance with the Management Plan will avoid adverse impacts to the fresh water aquifer in the vicinity of the project area due to movement of the saline groundwater interface.

POTENTIAL IMPACTS TO WATER QUALITY IN THE COLORADO RIVER AQUEDUCT DUE TO INTRODUCTION OF INDIGENOUS GROUNDWATER

The potential impacts to water quality in the Colorado River Aqueduct due to introduction of indigenous groundwater are analyzed in Section 5.5.4 of the Final EIR/EIS, Volume I. Potential

impacts include increased concentrations of bromide, arsenic, hexavalent chromium, and nitrates. Introduction of indigenous groundwater can provide water quality benefits through the reduction of certain constituents, such as TDS and perchlorate. Although introduction of indigenous groundwater into the Colorado River Aqueduct would raise concentrations of some undesirable constituents, these constituent levels in the Colorado River Aqueduct will not appreciably increase and will not affect the ability to meet drinking water standards. Accordingly, adverse impacts to water quality in the Colorado River Aqueduct will be less than significant.

Several comments expressed concern regarding the existence of hexavalent chromium in the indigenous groundwater. Sampling and analysis of groundwater yielded values in the range of approximately 0.015 mg/L (15 ppb) to 0.026 mg/L (26 ppb). The distribution of the groundwater samples within the project area, and the similarity in values to other groundwater basins, suggest that the hexavalent chromium in the groundwater is a natural phenomenon, unrelated to industrial or man-made causes. There are no applicable standards for hexavalent chromium in drinking water, but the state standard for total chromium in drinking water is 50 ppb (a federal standard of 100 ppb applies to total chromium in drinking water). The California Department of Health Services and the U. S. Environmental Protection Agency consider the drinking water standards for total chromium to be protective from the effects of hexavalent chromium. The Cadiz Project will include routine monitoring for this constituent and the delivery of water from the groundwater basin will comply with any future applicable federal or state standards.

MASTER RESPONSE NO. 9 - WATER CONSERVATION

Comments were received that suggested the use of water conservation measures within the service area of The Metropolitan Water District of Southern California to reduce water demands. Metropolitan is not a retail water agency and delivers water only to its member agencies. This imposes limitations on Metropolitan's ability to enforce conservation measures, however, it has developed an extensive water conservation program that it implements directly and through its member agencies.

INTEGRATED RESOURCES PLANNING GOALS

Metropolitan's Integrated Resource Planning (IRP) process places equal emphasis on local and imported resource development. The IRP treats conservation as core local supply, on par with recycling and other resources. As described in the IRP, conservation savings result from both "active" and "passive" conservation efforts. "Active" conservation consists of water-agency funded programs; "passive" conservation is demand reductions attributable to conservation-oriented plumbing codes and usage reductions resulting from increases in the price of water; that is, the conservation will occur without any specific agency action targeted at conservation.

Metropolitan and its member agencies have adopted a regional water conservation goal of 1 million acre feet in annual savings by 2020. Since 1980, conservation programs and plumbing codes have resulted in annual savings that reached an estimated 480,000 acre feet in 1998. Metropolitan is continuing to implement conservation programs, such as those described in Section 2.4.4 of the Final EIR/EIS, so that the goal may be met.

IMPLEMENTATION OF CONSERVATION BEST MANAGEMENT PRACTICES

Metropolitan's conservation programs are closely linked to the efforts of the California Urban Water Conservation Council (CUWCC). As a signatory to the CUWCC's *Memorandum of Understanding Regarding Water Conservation in California* (Urban MOU), Metropolitan has pledged to make a good faith effort to implement a prescribed set of urban water conservation "Best Management Practices" (BMPs). Metropolitan is providing technical and financial support to enable its member agencies to meet the terms of the Urban MOU.

Funding for urban BMPs and other conservation-related activities is provided by Metropolitan's Conservation Credits Program (CCP). Under the CCP program, Metropolitan provides financial support to member agency conservation programs by paying either $154 per acre-foot of water conserved or one-half of the program cost, whichever is less.[1] To be eligible for CCP funds, water conservation project proposals submitted by a member agency must have demonstrable water savings that reduce demands on Metropolitan's system. There are four main areas of focus regarding conservation: residential programs; large landscape programs; commercial, industrial and institutional programs; and measurement and evaluation.

RESIDENTIAL PROGRAMS

Residential programs include funding of ultra-low-flush toilets (ULFT) and low flow showerheads. As of June 2000, Metropolitan had provided $95 million for installation of over 1.6 million ULFTs and $12 million to install or distribute 2.9 million low flow showerheads. More than 200,000 ULFTs

[1] The $154 per acre-foot represents Metropolitan's avoided cost of water attributable to conservation.

are installed each year through programs sponsored by Metropolitan and its member agencies. This level of activity is expected to continue for at least the next five years.

High-efficiency clothes washers (HECWs) are relatively new to the list of urban water conservation BMPs. In September 1997, the CUWCC adopted BMP 6 for HECWs. Prior to 1999, two of Metropolitan's member agencies sponsored rebates for HECWs: the San Diego County Water Authority (SDCWA) and the Los Angeles Department of Water and Power (LADWP). Metropolitan participates in rebate programs offered by energy companies to replace inefficient appliances by adding $35 for the water savings generated by HECWs. As of June 2000, the number of rebates issued by all HECW rebate programs in Metropolitan's service area totaled 14,000 and Metropolitan had contributed $590,000.

The Residential Water-Use Efficiency Survey Program was designed to meet the requirements of BMP 1. The purpose is to develop a standard approach to the design and implementation of residential survey programs. In total, approximately 57,000 surveys have been performed in Metropolitan's service area to which Metropolitan contributed more than $3 million, including retrofits, since residential survey programs began.

Metropolitan has funded several residential research and development projects. These include a leak repair project, an Evapotranspiration Controller Pilot project, a test of various targeting components for survey programs, and several other similar projects.

LARGE LANDSCAPE

Under this program, Metropolitan offers financial assistance to its member agencies for the purchase and installation of landscape retrofit equipment that saves water and improves irrigation efficiency. The landscape retrofits have included moisture sensors, controller up-grades, and centralized computer-controlled irrigation systems. Funding is provided based on verified water savings. Because outdoor water use is affected significantly by the behavior of the people controlling watering, a pay-for-performance structure guarantees that retrofits will not only be installed, but will also be used properly. Twenty-six of these projects have been completed by eleven member agencies. In support of the retrofit program, Metropolitan funds, develops, and coordinates training and education programs for landscape workers and professionals. Metropolitan also collects and disseminates information about the effectiveness of landscape water conservation programs and strategies, participates in landscape research projects, and investigates and tests promising new technologies.

COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL PROGRAMS

The Commercial, Industrial, and Institutional (CII) community is motivated by and reached through an array of outreach and financial incentives. In addressing BMP 9, Metropolitan currently manages two types of financial incentives programs with participating member agencies. The first involves a "menu" arrangement under which Metropolitan offers financial incentives for the replacement of specific water efficient equipment such as ultr-low-flush toilets, ultr-low-flush urinals, cooling tower conductivity controllers, and coin-operated high efficiency washing machines. These incentives are based on the results of nearly 1,000 commercial audits conducted by Metropolitan and its member agencies. The most frequently identified retrofits formed the basis for the current CII Menu Program. The second program involves financial incentives for capital improvements that increase the efficiency of large water using processes. Metropolitan pays up to $154 per acre-foot for water saved, up to one-half of the project cost over a five-year period. Since each industrial process change is unique, Metropolitan works closely with member agencies and their industrial customers to custom-tailor three-way contracts specifying performance requirements for each project.

MEASUREMENT AND EVALUATION

The Measurement and Evaluation effort has four primary functions:

- Providing a means to measure and evaluate the effectiveness of current and potential conservation programs
- Developing reliable estimates of various conservation programs and assessing the relative benefits and costs of these interventions
- Providing technical assistance and support to member agencies in the areas of research methods, statistics and program evaluation
- Documenting the results and the effectiveness of Metropolitan-assisted conservation efforts

Metropolitan's staff has served as technical advisors for a number of state and national studies involving the quantification and valuation of water savings.

OTHER CONSERVATION-RELATED ACTIVITIES AT METROPOLITAN

Metropolitan has a program of water-conservation related education programs. These provide education materials to the public and the schools.

Metropolitan's Water System Operations Group works to fulfill BMP 3 (System Water Audits, Leak Detection, and Repair) and BMP 4 (Metering With Commodity Rates for All New Connections and Retrofit of Existing Connections). Metropolitan has a variety of ongoing system-wide leak detection programs. Each month, a mathematical algorithm compares inflow with outflow for Metropolitan's entire system. Major control structures and hydroelectric plants are inspected weekly and field crews patrol Metropolitan's pipelines daily, visually inspecting for leaks. All below-ground structures are checked every six months as part of a continuous preventive maintenance program.

As a wholesale water supplier, Metropolitan has no retail customers. However, all inter-agency water service connections are metered. Any new water agency supplied by Metropolitan would likewise be metered. Metropolitan currently charges a unit price per acre-foot. The unit price does not decline with the amount of water supplied. This commodity-based rate structure complies with BMP 11.

CONCLUSION

Because of Metropolitan's commitment to conservation, water conservation savings are projected as a local supply in planning for future water resources. Even with conservation measures, however, the Cadiz Project is needed to meet dry-year demand within Metropolitan's service area.

SECTION 4

F3 RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY DATED JANUARY 3, 2001.

F3-1 Comment noted. No response is required.

F3-2 Comments noted. The Management Plan (Final EIR/EIS, Volume IV) contains detailed information regarding groundwater monitoring and impacts. See also Responses to Comments F3-4 through F3-18.

F3-3 Copies of the Final EIR/EIS will be provided as requested.

F3-4 The governance structure of the Groundwater Monitoring and Management Plan has been finalized and is presented in Sections 9 and 10 of the Management Plan. The Technical Review Team (TRT) and Basin Management Group (BMG) have been removed. Metropolitan will implement the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project. BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). Members of the TRP will be selected based on their expertise in a given subject area (e.g. hydrology, air quality). See Master Response "Governance."

F3-5 Participation and responsibilities of the BLM, U.S. Geological Survey and National Park Service are stated in Sections 9 and 10 of the Management Plan. There are no conflicts of interest with San Bernardino County related to enforcement of special use permits because Metropolitan is not required to obtain permits from the County to implement and operate the project. See Master Response "Governance."

F3-6 Section 10 of the Management Plan states that BLM retains the ultimate control over the enforcement of the right-of-way terms and conditions under 43 CFR Section 2800. See Master Response "Governance."

F3-7 BLM may only make decisions related to enforcement of the terms and conditions of any right-of-way grant(s) it issues. It is not anticipated that any decisions will be required on issues not covered under the right-of-way grant(s). The decisions of the BLM Authorized Officer are subject to appeal to the Interior Board of Land Appeals in accordance with 43 CFR Part 4.

F3-8 The terms and conditions of the right-of-way grant(s) will be contained in the Records of Decision (ROD) for the project. All potential impacts of the project and appropriate mitigation measures have been identified in the Final EIR/EIS and will be contained in the Mitigation Monitoring Plan and the ROD. See Section 10 of the Management Plan for a discussion of the decision-making process.

F3-9 Action criteria are based on "early warning" triggers that are set below the significance thresholds in order to ensure there will be adequate opportunity to avoid potential significant adverse impacts to critical resources. Sections 9 and 10 of the Management Plan specify that TRP members may submit requests to the BLM Authorized Officer for a meeting of the TRP.

F3-10 As described in Section 3.1.4 of the Management Plan, density dependent flow and transport models that employ numerical methods will be used. These models will be employed as predictive tools in conjunction with actual sampling and analysis of groundwater that occurs at different levels within the aquifer system. Such sampling will be facilitated by cluster wells as illustrated in Figure 6 of the Management Plan.

F3-11 Table 1 of the Management Plan summarizes water quality testing frequencies. Samples will be collected on a quarterly or annual basis and analytical results published in the annual report.

Sampling and analysis of groundwater for total chromium and hexavalent chromium (Cr-VI) was conducted in the vicinity of the proposed project wellfield . This sampling yielded total chromium values in the range of approximately 0.013 mg/L (13 ppb) to 0.024 mg/L (24 ppb) and hexavalent chromium values in the range of approximately 0.015 mg/L (15 ppb) to 0.026 mg/L (26 ppb). The distribution of these groundwater samples within the sampled area and the similarity in values to other groundwater basins suggest that the total chromium and hexavalent chromium in the groundwater are a natural phenomenon, unrelated to industrial sources or other man-made causes. These values are below the current state and federal maximum contaminant levels (MCLs) for drinking water. Under the provisions of the Management Plan (Final EIR/EIS, Volume IV) groundwater quality, including both total chromium and hexavalent chromium, will be monitored on a routine basis, and conveyance of water to the Colorado River Aqueduct will be subject to all applicable federal and state regulations.

F3-12 All agricultural irrigation on the Cadiz Inc. properties in the project area has utilized highly efficient and water conserving drip and micro-spray methods. Because of the efficiency of these methods, and the depth to the underlying water table (approximately 200 feet and greater), no return flow of irrigation water to the aquifer system is anticipated. In addition, the Management Plan ensures that project operations and all agricultural irrigation will be conducted without adverse impacts to critical resources.

F3-13 No injection wells or injections of fluids are proposed as part of the project; therefore, the project is not subject to federal underground injection control regulations. The Cadiz Project also will comply with applicable state Water Code regulations. Diagrams showing a typical project spreading basin and inlet structure are presented in Figures 4-17, 4-18, 4-19 and 4-20 of the Final EIR/EIS. Note that this structure is designed to discharge water conveyed from the Colorado River Aqueduct to the surface of the spreading basins.

F3-14 See Master Response "Water Quality." An eight month pilot demonstration program was conducted and the results are summarized in the Cadiz Groundwater Storage and Dry Year Supply Program Environmental Planning Technical Report, Groundwater Resources – Volume 1. This report characterizes the basin in the project area. The proposed project wellfield has been designed to efficiently extract the mound of stored water and indigenous groundwater that will form as a result of spreading operations. In addition, the wellfield has been designed to accommodate long hold periods. As described in Section 5.5.4 of the Final EIR/EIS, Volume I, individual wells will be screened to facilitate selective removal of stored water if necessary to comply with applicable regulations.

F3-15 Potential lateral migration of groundwater having undesirable compounds, such as high-TDS groundwater underlying Bristol and Cadiz dry lakes, is addressed in Section 5.5.4 of the Final EIR/EIS, Volume I and Section 7.2.6 of the Management Plan (Final EIR/EIS, Volume IV). Routine sampling of both observation wells and production wells in

compliance with the Management Plan will also identify potential lateral migration of undesirable compounds from other areas adjacent to the project wellfield.

F3-16 The "maximum area of influence of project operations" refers to potential impacts to groundwater levels and water quality as a result of project operations. This area of influence, which is anticipated to change over time, will be monitored on a continual basis in dedicated observation wells as outlined in the Management Plan.

F3-17 The analyses that will be conducted will not include CALPUFF modeling. Under the Management Plan, potential changes to air quality (airborne dust), groundwater levels beneath the dry lakes, soil moisture and evapotranspiration (ET) at the dry lake surfaces, and wind speed and direction at the dry lakes and at meteorological stations will be monitored and analyzed. Correlation of groundwater level information, soil moisture, ET, airborne particulate measurements, and wind speed will allow judgments to be made as to whether the Cadiz Project was contributing to any increase in the frequency or severity of dust mobilization from the surfaces of the dry lakes. It is not necessary to identify an air quality model to be used for the analyses. However, should modeling become appropriate at a future time, EPA would be consulted to identify the appropriate model for use.

F3-18 Comment summarizes background information and does not state a concern or question under CEQA or NEPA. No response is required.

F4 RESPONSES TO COMMENTS FROM THE UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE MOJAVE NATIONAL PRESERVE DATED JANUARY 8, 2001

F4-1 Comment noted. The governance structure and responsibilities of the BLM and the Technical Review Panel (TRP) are presented in Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV). Regarding air quality, see Master Response "Air Quality."

F4-2 The governance structure and responsibilities of the BLM and the Technical Review Panel (TRP) are presented in Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV) and incorporate many of the suggestions in this comment. See Master Response "Governance."

F4-3 Comment noted. The Management Plan (Final EIR/EIS, Volume IV) ensures protection of air quality of park units as presented in Sections 4, 6.4, and 7.4.

F4-4 See responses to comments below. The Management Plan adequately protects air quality in the Mojave Desert region, and provides necessary monitoring data and assessment criteria to make proper decisions regarding project operations.

F4-5 Air quality throughout the Mojave Desert region is treated equally in the Management Plan (Final EIR/EIS, Volume IV, Section 1).

F4-6 All areas of the Mojave Desert region are afforded equal protection under the Management Plan. Differentiation between Class I and Class II as defined in the Clean Air Act has been eliminated from the Management Plan. Regarding the Organic Act, see Response to Comment T2-79. Also see Master Responses "Air Quality" and "Groundwater Monitoring and Management Plan."

F4-7 Comment noted. Operation of the Cadiz Project in accordance with the Management Plan will avoid adverse impacts to the Mojave National Preserve.

F4-8 To address the concern stated in this comment, the Management Plan requires collection of meteorological and other data for a period of five years to document existing conditions in the area. See Section 6.4 of the Management Plan (Final EIR/EIS, Volume IV), and Master Responses "Air Quality" and "Groundwater Monitoring and Management Plan."

F4-9 The Management Plan provides for the collection of appropriate data to determine whether the project is causing changes in air quality, and requires implementation of corrective measures to avoid adverse impacts to air quality. See Sections 6.4 and 7.4 of the Management Plan, Final EIR/EIS, Volume IV, and Master Responses "Air Quality" and "Groundwater Monitoring and Management Plan."

F4-10 See responses to comments below regarding changes that have been made to provisions of the Management Plan.

F4-11 The portions of the Final EIR/EIS discussing the general purpose of the Management Plan have been revised to state that the Management Plan will "ensure that project operations will not result in any adverse impacts to groundwater resources or air quality."

F4-12 The stated need for the proposed revision is not clear. The operations of the project are governed by the Management Plan for the purpose of avoiding adverse impacts to critical resources.

F4-13 The project is clearly and adequately described throughout the Final EIR/EIS. The requested change is not necessary.

F4-14 This comment number does not refer to a comment due to a bracket numbering error.

F4-15 The words "withdrawal" and "extraction" are used interchangeably in the Final EIR/EIS when referencing the removal of groundwater. Using the two words does not confuse the meaning of either word.

F4-16 This suggested revision has been made in the Final EIR/EIS, Volume IV (Management Plan).

F4-17 The Management Plan has been clarified to state that the "adverse impacts" will be prevented.

F4-18 The BLM is responsible for all decisions related to enforcement of the terms and conditions of any right-of-way grant(s) it issues. Revision has been made in the Management Plan as suggested in the comment to provide that provisions relating to implementation of the Management Plan will be included in the terms and conditions of the right-of-way grant(s). See Master Response "Governance."

F4-19 A revision has been made in the Final EIR/EIS. The definitions contained in Section 16 of the Final EIR/EIS have been revised to state that "effect" is synonymous with "impacts," per CEQA and NEPA definitions. A cross-reference entry has also been added for "impact." With regard to the use of the term "adverse," this term remains in use in the Final EIR/EIS

where appropriate in order to differentiate impacts that are adverse from impacts that are "beneficial."

F4-20 A revision has been made in the Final EIR/EIS as suggested in the comment.

F4-21 Provisions to protect regional air quality have been developed in cooperation with NPS representatives and are included in the Management Plan. See Master Responses "Groundwater Monitoring and Management Plan" and "Air Quality." Also see the Final EIR/EIS, Volume I, Section 5.6.

F4-22 Section 1.7 of the Final EIR/EIS, Volume I, has been revised to state that the mitigation monitoring plan covers mitigation measures "for all resources categories identified in the Final EIR/EIS."

F4-23 See Response to Comment F4-15.

F4-24 The National Park Service (NPS) and U. S. Geological Survey (USGS) are cooperating agencies pursuant to NEPA for purposes of preparation of the Supplement to the Draft EIR/EIS and the Final EIR/EIS, and thus have contributed to the development of the project mitigation measures. Although the Mitigation Monitoring Plan is a state-required document which will be adopted by Metropolitan's Board, it is designed to ensure the implementation of all the mitigation measures as contained in the Final EIR/EIS and which NPS has helped develop.

F4-25 See Master Response "Formulation and Screening of Potential Projects." BLM and Metropolitan believe the alternatives analysis serves the purposes of and complies with CEQA and NEPA.

F4-26 Regardless of whether the County of San Bernardino executes the MOU referenced in the comment, the Management Plan ensures all water use associated with the Cadiz Valley Agricultural Development will be conducted without adverse impacts to critical resources. The Management Plan will be a condition of the of right-of-way grant(s) issued by the BLM. Therefore, the MOU is not needed to finalize the EIR/EIS and need not be an attachment to the Final EIR/EIS.

F4-27 As a regional map intended to provide an overview of the geologic setting of the Cadiz Project area, generalizations are made for legibility. More specific detail regarding the geologic setting of the proposed wellfield and spreading basin is provided in Figure 5.4-4 of the Final EIR/EIS, Volume I.

F4-28 Quantified annual precipitation information is provided in Section 5.5.1 of the Final EIR/EIS, Volume I.

F4-29 Surveys to quantify the average annual amount of snowpack for the referenced mountain ranges have not been performed.

F4-30 Beginning in the pre-operational phase and extending into the initial years of project operation, three meteorological towers will be installed in the region for a period of five years to establish patterns of wind speed and direction. See Master Response "Air Quality." Also see the Management Plan, Section 5.22.

F4-31 See Response to Comment F4-28.

F4-32 BLM and Metropolitan disagree with the opinion that it is misleading to state that "major precipitation events" occur in the region or that "winter rainfall occurs in events lasting several hours to a day or more." Both of these statements are correct. The fact that annual precipitation levels are generally low for the region is clearly stated in the document. Figures 5.5-3 and 5.5-4 in the Final EIR/EIS, Volume I, show historic rain amounts for the region. Nonetheless, both summer and winter storms can be severe, causing flash flooding.

F4-33 The Management Plan provides the ability to gather data regarding the carbonate bedrock aquifer from observation wells. This data will aid in characterizing the bedrock aquifer system. Production wells will not be drilled into the bedrock aquifer system. See the Final EIR/EIS, Volume I, Section 5.5.1.

F4-34 The comment number does not refer to a comment due to a numbering error.

F4-35 Since technical comments of the USGS and others containing this suggestion were attached to the comment letters of the NPS and County of San Bernardino and are indexed as such, BLM and Metropolitan believe it is appropriate to state that this suggestion came from the comment letters of NPS and County of San Bernardino.

F4-36 See Master Response "Water Quality" and Response to Comment F3-11. Revisions to the Final EIR/EIS, Volume I, have been made where appropriate to indicate the presence of hexavalent chromium. All water produced by the project will comply with applicable water quality standards and is not anticipated to affect the ability to meet drinking water standards.

F4-37 Comment noted.

F4-38 The Figure 5.5-1 of the Final EIR/EIS, Volume I, has been modified to reflect the changes suggested in the comment.

F4-39 The Joshua Tree National Park is designated as a Class I area under the Clean Air Act; however, the statement of this fact has been removed from the Final EIR/EIS.

F4-40 The Technical Review Team (TRT) and the Basin Management Group (BMG) have been removed from the Groundwater Monitoring and Management Plan. Metropolitan will implement the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan as described in Section 10 (Final EIR/EIS, Volume IV). BLM will receive technical support and recommendations from other federal agencies and the County of San Bernardino through a Technical Review Panel (TRP), whose functions are described in Section 9. Pursuant to NEPA, BLM cannot approve the Final EIR/EIS until thirty (30) days after its publication. Metropolitan's Board of Directors will consider certification of the Final EIR/EIS in a public meeting at which public comments may be made in accordance with California law. Therefore, there will be an adequate opportunity for public review and comment on the TRP and governance structure.

F4-41 The BLM is responsible for all final decisions related to the enforcement of the terms and conditions of any right-of-way grant(s) it issues and the terms and conditions will include provisions relating to implementation of the Management Plan. BLM will retain authority to enforce any terms and conditions of the right-of-way grant(s) and thus retains authority over the Management Plan. The governance structure and the responsibilities of the BLM and the TRP are presented in Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

F4-42 The definition of "feature," including natural and man-made, is provided in the Introduction to Section 1 of the Management Plan (Final EIR/EIS, Volume IV). The definition of "feature" contained in the Glossary in Section 16 of the Final EIR/EIS, Volume I, has been expanded to include water features as used in the Management Plan and elsewhere in the Final EIR/EIS.

During the pre-operational phase, field reconnaissance will be conducted of 28 known springs in the Fenner and Orange Blossom Wash watersheds. Each of these springs will be classified based on discharge rate in accordance with the following criteria as specified by Meinzer (1942). See Management Plan, Final EIR/EIS, Volume IV, Table 3.

Data to be collected and recorded at each spring will include:

- GPS coordinates
- Spring type
- Geology of Immediate Surroundings
- Vegetation Type and Cover
- Flow Rate and/or Water Level in Associated Shallow Piezometer
- Temperature, Electrical Conductivity, and pH

Approximately eight springs will be selected for on-going monitoring during the term of the Cadiz Project. BLM and Metropolitan have consulted with National Park Service staff regarding the appropriate assessment of springs.
Spring survey and monitoring tasks will be coordinated with the National Park Service. The Revised Draft Environmental Impact Statement and General Management Plan for the Mojave National Preserve (*produced as a component to the Northern & Eastern Mojave Planning Effort*) (page 116) states:

> "The National Park Service in its general planning process for each unit of the national park system and the Bureau of Land Management in its planning process for each wilderness area, have jointly agreed to incorporate their respective policies, guidelines, and administrative procedures and apply the following principles to discharge their responsibilities under the section 706 of the California Desert Protection Act to manage and protect federal reserved water rights (Desert Managers Group (1995):
>
> • Inventory all water sources within the boundaries of the wilderness area/park unit."

The inventory and monitoring of springs located in the Mojave National Preserve that will be undertaken in connection with the Cadiz Project Management Plan may be useful to National Park Service efforts to "assess 'natural flows' from springs."

F4-43 See Response to Comment F4-41. See Master Response "Governance."

F4-44 See Response to Comment F4-41. See Master Response "Governance."

F4-45 See Response to Comment F4-41. See Master Response "Governance."

F4-46 The mandatory monitoring provisions of the Management Plan are stated in the Management Plan, Section 5 (Final EIR/EIS, Volume IV). The Management Plan includes the provision for 24 separate types of monitoring features. Table 1 of the Management Plan

identifies these monitoring features and distinguishes which are mandatory and which will be implemented only if warranted. Metropolitan will operate the Cadiz Project in compliance with the provisions of the Management Plan and the BLM will retain authority to enforce the terms and conditions of any right-of-way grant(s) it issues.

F4-47 Heading numbering and cross-referencing have been revised in the Management Plan.

F4-48 The suggested changes have been made to Table 1 of the Management Plan (Final EIR/EIS, Volume IV).

F4-49 Figure 3-1 has been revised in accordance with this comment.

F4-50 See Response to Comment F4-26.

F4-51 Section 1.4 of the Management Plan has been revised to read: ". . . protection of critical resources in or near the Fenner, Bristol, and Cadiz Valleys."

F4-52 Comment noted.

F4-53 See Master Response "Air Quality." For a discussion of air basin designations under the Federal Clean Air Act, see Response to Comment G33-13. Regarding the Organic Act, see Response to Comment T2-79.

F4-54 See Response to Comment F4-41. The information in the Final EIR/EIS, including the public and agency comments received, will be used by the BLM in considering whether to approve the amendment and rights-of-way grant(s), and what terms and conditions to impose.

F4-55 The comment correctly notes that the water resources modeling required by the Management Plan will be used to predict long term effects from project operations. This role is described in Section 3 of the Management Plan. Final EIR/EIS, Volume IV.

F4-56 See Response to Comment F4-41.

F4-57 Section 3.2.2 of the Management Plan (Final EIR/EIS, Volume IV) states that the water resources models will be calibrated throughout the project based on the data collected. Such calibration will enable more accurate predictions of long term effects based on varying natural recharge conditions.

F4-58 See Response to Comment F4-41.

F4-59 As noted in Response to Comment F4-57, there is a natural variation in recharge conditions. Data collection to refine water resource models will allow the calibration of models to more accurately predict long term effects of project operations. The potential air quality impacts related to groundwater recharge are based on the assumption of possible lowering of water levels below Bristol and Cadiz dry lakes. The Management Plan requires monitoring of wind mobilized particulate matter from these lakebeds in addition to the monitoring and modeling of groundwater levels. This combination of monitoring will be used to identify changes in groundwater levels and changes in airborne particulate matter to assure that project operations do not cause air quality impacts. See Section 4, 6.4, and 7.4 of the

Management Plan, Final EIR/EIS, Volume IV, and Master Responses "Air Quality" and "Groundwater Monitoring and Management Plan."

F4-60 BLM and Metropolitan have consulted with National Park Service staff regarding the appropriate location for nephelometers. The locations discussed in Section 4.1 of the Management Plan, Final EIR/EIS, Volume IV, were agreed upon by NPS.

F4-61 The language referenced in the comment has been revised to reflect that air quality in all areas of the Mojave Desert region will be afforded equal protection under the Management Plan. Section 4.2 of the Management Plan, Final EIR/EIS, Volume IV.

F4-62 See Response to Comment F4-61.

F4-63 The Management Plan has been revised to provide for regional monitoring of air quality. An additional meteorological tower has been added to provide additional data. See Section 5.22, Final EIR/EIS, Volume IV.

F4-64 The Management Plan has been revised to make the correction noted.

F4-65 The Management Plan has been corrected to delete the reference noted in the comment. All observation wells will be constructed to allow for geophysical logging. Such logging will be performed on the six deepest wells at the margins of Bristol and Cadiz Dry Lakes. See Section 5.18 of the Management Plan, Final EIR/EIS, Volume IV.

F4-66 Footnote b in Table 2 of the Management Plan, Final EIR/EIS, Volume IV has been revised to reflect the comment. Section 5.5 of the Final EIR/EIS Volume I states that additional isotopic sampling and analysis will be performed during the pre-operational phase to refine estimates of the age of groundwater. Table 1 of the Management Plan, Final EIR/EIS, Volume IV identifies that water quality sampling would be conducted on an annual basis in the S-Series observation wells throughout the term of the project and also indicates that He^3 and stable isotopes of oxygen and hydrogen will be sampled semi-annually during the pre-operational phase. Appendix D contains protocols related to drinking water, and has not been modified to reflect the changes suggested in this comment. Table 3-2 has been revised to reflect the correct state well number as suggested.

F4-67 Figure 4 of the Management Plan, Final EIR/EIS, Volume IV has been revised to reflect the comment.

F4-68 See Response to Comment F4-67.

F4-69 The location of springs identified in Features 2 and 3 were developed in consultation with NPS staff during preparation of the Management Plan. Refinements to the Management Plan will be implemented in accordance with the processes presented in Sections 9 and 10 of the Management Plan, Final EIR/EIS, Volume IV.

F4-70 See Response to Comment F4-41.

F4-71 Because water quality in the Colorado River Aqueduct does not appreciably vary between Lake Havasu and Iron Mountain Pumping Plant, utilizing data from sampling at Lake Havasu is appropriate, as identified in the Management Plan, Final EIR/EIS, Volume IV.

F4-72 The land surface elevation in the vicinity of the Cadiz Project wellfield and spreading basins is currently stable. Four annual monitoring surveys conducted under the Cadiz Valley Agricultural Development indicate that no land subsidence has occurred in the Cadiz agricultural wellfield area.

F4-73 As set forth in Section 10 of the Management Plan, Final EIR/EIS, Volume IV, the BLM Authorized Officer will review the details of the initial set of monitoring features submitted by Metropolitan. The BLM Authorized Officer may consult with members of the TRP to obtain recommendations regarding the final design of the monitoring facilities.

F4-74 This paragraph has been revised and is included in Section 5.16.2 of the Management Plan, Final EIR/EIS, Volume IV to describe regional meteorological monitoring. Reference to the Class I designation has been removed from the Management Plan and replaced with a discussion of regional air quality. Section 5.16.2 deleted the discussion related to shortening the monitoring period for regional wind patterns and states that data collection may be extended if warranted.

F4-75 This paragraph has been revised and is included in Section 5.22 of the Management Plan, Final EIR/EIS, Volume IV to describe regional meteorological towers. See Response to Comment F4-74 regarding the monitoring period for meteorological data.

F4-76 See Response to Comment F4-41.

F4-77 See Response to Comment F4-69. Metropolitan is responsible for conducting the field reconnaissance of the 28 known springs.

F4-78 The suggested revision has been incorporated and is contained in Section 6.1.1 of the Management Plan, Final EIR/EIS, Volume IV.

F4-79 The suggested reference to the table has been added in Section 6 of the Management Plan, Final EIR/EIS, Volume IV.

F4-80 The suggested change has been incorporated and is contained in Section 6.1.3 of the Management Plan, Final EIR/EIS, Volume IV.

F4-81 See Response to Comment F4-41.

F4-82 The use of digital cameras in conjunction with open-air nephelometers has been incorporated as suggested, see Section 6.4 and Figure 9 of the Management Plan, Final EIR/EIS, Volume IV. See Response to Comment F4-74 regarding the monitoring period for meteorological data.

F4-83 The use of digital cameras has been included and is contained in Section 6.4.3 of the Management Plan, Final EIR/EIS, Volume IV.

F4-84 See Response to Comment F4-74 regarding the monitoring period for meteorological data.

F4-85 The suggested change has been incorporated and is contained in Section 6.6 of the Management Plan, Final EIR/EIS, Volume IV.

F4-86 Comment noted. The BLM Authorized Officer could require preparation of a baseline conditions report as noted in Section 6.8 of the Management Plan, Final EIR/EIS, Volume IV.

F4-87 Regional wind data is not exclusively used to determine whether wind-mobilized particulate matter could be transported throughout the Mojave Desert region. See Sections 4, 5.16, 6.4 and 7.4 of the Management Plan, Final EIR/EIS, Volume IV.

F4-88 Reference to the Class I designation has been removed from the Management Plan and replaced with a discussion of regional air quality.

F4-89 The sixth bullet of Section 6.8.2 of the Management Plan, Final EIR/EIS, Volume IV has been revised to provide a more comprehensive description of information and analysis associated with regional air quality. The seventh bullet of Section 6.8.2 has been revised to include the possibility that collection of meteorological data may be extended beyond the first five years of the program. Reference to the Class I designation has been removed from the Management Plan and replaced with a discussion of regional air quality.

F4-90 The potential impacts related to the long-term drawdown of groundwater are evaluated in Section 5.5.4 of the Final EIR/EIS Volume I.

F4-91 The fourth column (Close Watch Measures) of Table 4 has been deleted in the Management Plan, Final EIR/EIS, Volume IV.

F4-92 The fourth column of the referenced table has been deleted.

F4-93 The referenced action criteria has been revised to state that project operations would meet the requirements of the Water Quality Control Plan adopted by the California Regional Water Quality Control Board, Colorado River Basin Region. See Section 7.2.1 and Table 4 of the Management Plan, Final EIR/EIS, Volume IV.

F4-94 The Management Plan, Final EIR/EIS, Volume IV does not incorporate the use of transmissometers. The reference to transmissometers has been deleted from Table 4 of the Management Plan.

F4-95 See Response to Comment F4-69 regarding selection of springs.

F4-96 See Response to Comment F4-40.

F4-97 See Response to Comment F4-41. Figure 10 of the Management Plan, Final EIR/EIS, Volume IV has been revised to reflect Sections 9 and 10.

F4-98 See Response to Comment F4-90.

F4-99 See Response to Comment R12-2 and Master Response "Water Quality" regarding compliance with the Basin Plan and SWRCB Resolution 68-16.

F4-100 See Response to Comment F4-93 regarding action criteria. Potential impacts of storing Colorado River water in the basin are discussed in Section 5.5.4 of the Final EIR/EIS Volume I, and do not rely on conclusory statements.

F4-101 The comment is incorrect. The referenced significance criteria used to evaluate potential impacts in the Final EIR/EIS are taken directly from the California Environmental Quality Act Guidelines.

F4-102 The Management Plan, Final EIR/EIS, Volume IV identifies Metropolitan and BLM as the parties to be contacted regarding issues related to the Cadiz Project.

F4-103 The referenced sentence is not inconsistent with the stated purpose of preventing adverse impacts.

F4-104 The comment is correct, such change will be measured against a baseline level.

F4-105 Comment noted. Corrective measures will be implemented based on measured data.

F4-106 Comment noted. The referenced sentence is correct and consistent with the description of monitoring features 14 and 15.

F4-107 Comment noted. This suggestion is not incorporated in the Management Plan, Final EIR/EIS, Volume IV.

F4-108 Comment noted. See Section 7.4.1 Decision-Making Process of the Management Plan, Final EIR/EIS, Volume IV which defines an adverse impact to air quality and specifies location.

F4-109 See Response to Comment F4-41. An appropriate monitoring system and decision-making process has been devised in cooperation with the NPS, USGS and the County of San Bernardino.

F4-110 The discussion of potential air quality impacts has been revised. See Section 7.4 of the Management Plan, Final EIR/EIS, Volume IV and Master Response "Air Quality."

F4-111 See Response to Comment F4-6 regarding the Clean Air Act and T2-79 regarding the Organic Act.

F4-112 See Response to Comment F4-40 and F4-41.

F4-113 Adequate protection of air quality in the Mojave Desert region has been provided. See Section 7.4 of the Management Plan, Final EIR/EIS, Volume IV and Master Response "Air Quality."

F4-114 See Responses to Comments F4-6 and F4-41. See Section 7.4.1 of the Management Plan, Final EIR/EIS, Volume IV regarding a "trigger" statement. Also see Master Response "Air Quality."

F4-115 Section 8 of the Management Plan, Final EIR/EIS, Volume IV states that the referenced 100 foot average drawdown is for the area underlying the project wellfield (see footnote 7). However, no amount of drawdown will be allowed that does not comply with other provisions contained in the Management Plan. Section 3.2.2 of the Management Plan states that the water resources models will be calibrated throughout the project based on the data collected. Such calibration will progressively improve the accuracy of predictions of long term effects based on varying natural recharge conditions. The long-term effects of project

operations will be evaluated in the Closure Plan, and ensure that by the end of the project, groundwater level drawdown in the area underlying the project wellfield will not exceed an average of 100 feet, and that critical resources will not be adversely impacted in the future.

F4-116 See Response to Comment F4-40.

F4-117 See Response to Comment F4-40.

F4-118 Many of the NPS recommendations have been incorporated in the Management Plan, Final EIR/EIS, Volume IV. See Responses to Comments F4-40 and F4-41 regarding the responsibilities of the TRP and BLM. Monitoring of critical resources within the Mojave National Preserve is proposed. With implementation of the Management Plan, no adverse impacts to critical resources in the Preserve are anticipated.

F4-119 See Response to Comment F4-41 regarding BLM's decision-making authority.

F4-120 See Responses to Comments F4-40 and F4-41.

F4-121 Reference to "significant adverse impacts" has been removed from the Management Plan, Final EIR/EIS, Volume IV as suggested.

F4-122 See Response to Comment F4-40 regarding the BMG.

F4-123 See Responses to Comments F4-40 and F4-41 regarding the TRT, BMG and authority of BLM.

F4-124 See Response to Comment F4-101 regarding the definition of CEQA thresholds of significance. Reference to "significant adverse impacts" has been removed from the Management Plan, Final EIR/EIS, Volume IV.

F4-125 CEQA generally does not set the thresholds of significance for particular environmental categories. Rather, such thresholds are to be determined by the lead agency, in this case Metropolitan. Consistent with this obligation, Metropolitan has included in the EIR/EIS qualitative or quantitative standards which are appropriate for use in judging whether this project will cause significant adverse impacts on the physical environment. Metropolitan used as guidance in setting the thresholds of significance the factors suggested by CEQA Guidelines Appendix G (which is a sample environmental checklist to be used when making the initial determination of whether an EIR should be prepared). Contrary to the statement made in the comment, the thresholds of significance provided in Section 4.0 of the Supplement do not formulate a circular argument. The second bullet-pointed threshold addresses potential impacts to neighboring land uses from drawdown of the aquifer, while the second to last threshold specifically addresses potential impacts to the Mojave National Preserve. Having two different thresholds of significance for these different resources is appropriate because merely lowering the water table within defined limitations will not constitute a significant impact of the project.

F4-126 See Response to Comment R12-2 and Master Response "Water Quality" regarding compliance with the Basin Plan and SWRCB Resolution 68-16.

F4-127 Static groundwater levels will be monitored regularly throughout all phases of the project as part of the Management Plan (Final EIR/EIS, Volume IV). To prevent adverse impacts

related to changes in long-term groundwater levels due to Cadiz Project operations, corrective measures will be implemented as required by the Management Plan. The commentor is correct that the Closure Plan has not yet been written. It will not be possible to prepare a Closure Plan before the program has been operated. However, the Closure Plan will require that pre-operational average static groundwater levels not be depressed by more than 100 feet in the area underlying the project wellfield at the conclusion of the project operational phase. As a result of such provisions, the potential for adverse impacts due to long-term drawdown of groundwater will be less than significant. While knowledge of a "reliable rate of recharge" would be useful prior to formulation of a Closure Plan, it is not "essential." The Management Plan was developed by the BLM and Metropolitan, in cooperation with NPS, to protect critical resources during project operations and after closure regardless of whether the experts can someday agree on the rate of recharge in the project area. See also Response to Comment F4-115.

F4-128 The analysis of the potential for long-term drawdown of groundwater, with the correct application of significance thresholds required under CEQA, is presented in Section 5.5.4 of the Final EIR/EIS Volume I. The potential adverse impacts due to the potential for long-term drawdown of groundwater are determined to be less than significant. Section 10 of the Final EIR/EIS evaluates the irreversible and irretrievable commitment of resources and properly concludes that water resources impacts are not irreversible due to implementation of the Management Plan.

F4-129 Protection of critical resources by the Closure Plan is not speculative. See Response to Comment F4-127. There was no MOU discussed in Section 6.2.7 of the Supplement. Implementation of the Closure Plan is contingent on a verifiable trigger of a 10 foot drop in pre-operational static groundwater levels underlying the project wellfield (see Section 8 of the Management Plan, Final EIR/EIS, Volume IV).

F4-130 Because there is the potential for adverse air quality impacts should the project cause an increase in dust mobilization from the dry lakebeds, the Management Plan contains specific monitoring features and corrective measures to ensure there will be no adverse impacts to air quality in the Mojave Desert region. See Final EIR/EIS, Volume IV, Sections 6.4 and 7.4.

F4-131 See Response to Comment F4-124 regarding the definition of significant adverse impacts. The conclusions of the impact analysis contained in the Final EIR/EIS are correct and consider the incorporation of the Management Plan. Regarding item: 1) see Responses to Comments F4-127 and F4-129, 2) see Response to Comment R12-2 and Master Response "Water Quality", 3) see Master Response "Air Quality", 4) see Response to Comment F4-127, 5) a Memorandum Of Understanding is not required to subject Cadiz agricultural irrigation to the provisions of the Management Plan, and 6) the Final EIR/EIS Volume I utilizes proper CEQA thresholds of significance to evaluate potential impacts to environmental resources.

F4-132 Comment noted. A response is not required.

S7 RESPONSES TO COMMENTS FROM STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE DATED OCTOBER 25, 2000.

S7-1 Comment noted.

S8 RESPONSES TO COMMENTS FROM STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE DATED DECEMBER 5, 2000.

S8-1 Comment noted.

S9 RESPONSES TO COMMENTS FROM STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE DATED DECEMBER 7, 2000.

S9-1 Comment noted. The referenced comments in the February 22, 2000 letter were submitted in response to the Draft EIR/EIS and have been responded to in Responses to Comments S3-1 through S3-3.

S10 RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DATED DECEMBER 4, 2000.

S10-1 See Response to Comment S9-1.

S11 RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DATED DECEMBER 5, 2000.

S11-1 See Response to Comment S9-1.

S12 RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DATED JANUARY 8, 2001.

S12-1 Comment noted.

S12-2 Comments noted. With regard to total chromium and hexavalent chromium in the indigenous groundwater underlying the proposed project area please see responses to comments F1-13 and F3-11. The presence of arsenic in the indigenous groundwater is addressed in Section 5.5 of the Final EIR/EIS Volume I. The distribution of these groundwater samples within the project area and the similarity in values to other desert groundwater basins suggest that the concentrations of chromium and arsenic in the groundwater are a natural phenomenon, unrelated to industrial sources or other man-made causes.

S13 RESPONSES TO COMMENTS FROM STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE DATED JANUARY 10, 2000.

S13-1 Comment noted. The comment period was extended until January 8, 2001.

S13-2 Comment noted.

S13-3 Comment noted.

R5 RESPONSES TO COMMENTS FROM THE CITY OF SAN DIEGO DATED OCTOBER 23, 2000.

R5-1 A copy of the Draft EIR/EIS and the Supplement to the Draft EIR/EIS was provided to this commentor as requested.

R6 RESPONSES TO COMMENTS FROM THE RIVERSIDE COUNTY SHERIFF DATED NOVEMBER 1, 2000.

R6-1 Comment noted.

R7 RESPONSES TO COMMENTS FROM THE U.S. BUREAU OF LAND MANAGEMENT DATED NOVEMBER 16, 2000.

R7-1 Please see Response to Comment F3-11 and Master Response "Water Quality" regarding total hexavalent chromium in the indigenous groundwater. Metropolitan does not have the ability to regulate or control growth. Its mission and obligation is to provide water to its service area. The remaining comments do not raise an issue under CEQA or NEPA and thus no response is required.

R8 RESPONSES TO COMENTS FROM THE CITY OF TWENTYNINE PALMS DATED NOVEMBER 23, 1987.

R8-1 Comment noted.

R9 RESPONSES TO COMMENTS FROM THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS DATED NOVEMBER 29, 2000.

R9-1 Comment noted. See Response to Comments R9-2 through R9-9.

R9-2 Comment noted. No response is necessary.

R9-3 Comment noted. No response is necessary.

R9-4 Comment noted. No response is necessary.

R9-5 Comment noted. No response is necessary.

R9-6 Comment noted. No response is necessary.

R9-7 As discussed in Section 2.4.2 of the Final EIR/EIS Volume I, the need for the Cadiz Project has been analyzed in accordance with the adopted population projections of SCAG's regional growth plan (SCAG's Regional Comprehensive Plan and Guide) as well as the population projections of SANDAG's regional growth plan. Section 6.3 of the Final EIR/EIS Volume I provides a discussion of the relationship of the Project to regional growth management plans. The consistency with local general plans and land use planning documents is discussed in Section 5.2.

R9-8 Comment noted. As noted in Section 1.7 of the Final EIR/EIS Volume I, a Mitigation Monitoring Plan has been completed in conjunction with the project.

R9-9 Comment summarizes background information and does not state a concern or question under CEQA or NEPA. A response is not required.

R10 RESPONSES TO COMMENTS FROM THE BALDY MESA WATER DISTRICT DATED JANUARY 1, 2001.

R10-1 Comment noted.

R11 RESPONSES TO COMMENTS FROM THE CUCAMONGA COUNTY WATER DISTRICT DATED JANUARY 4, 2001.

R11-1 Comment noted.

R11-2 See Master Response "Water Quality." Regarding the issue of costs, the Cadiz Project is not anticipated to appreciably affect Metropolitan's water rates.

R12 RESPONSES TO COMMENTS FROM THE COUNTY OF SAN BERNARDINO ECONOMIC DEVELOPMENT AND PUBLIC SERVICES GROUP DATED JANUARY 5, 2001.

R12-1 Comment noted. Responses to the County's comments on the Draft EIR/EIS are set forth in the Final EIR/EIS, Volume II. Responses to the County's comments on the Supplement to the Draft EIR/EIS are set forth below.

R12-2 The potential for impacts to indigenous groundwater quality due to the introduction of water from the Colorado River are addressed in Section 5.5 of the Final EIR/EIS Volume I.

The introduction of Colorado River water (approximately 600 mg/L TDS) into indigenous groundwater in the project area (approximately 300 mg/L TDS), will result in an increase in groundwater TDS concentrations. It is anticipated that this effect will be limited to the area of groundwater mounding caused by the project spreading operations. Any introduced Colorado River water will most likely be removed by the project wellfield during extraction operations. To recover stored Colorado River water from the basin, selected production wells will be screened in the more permeable upper alluvial sediment (current unsaturated zone). This design feature will allow for extraction of stored water that contains greater concentrations of TDS than the indigenous groundwater. In addition to this design feature, during periods of prolonged storage of Colorado River water in the aquifer system the project wellfield will be operated to manage the mounding of Colorado River water to prevent it from migrating outside the zone of influence of the extraction wellfield. This will consist of pumping the stored water from selected wells at the edges of the wellfield into the spreading basins for percolation back into aquifer storage.

Any resulting increase in TDS concentrations within the project area groundwater will be small and will not affect compliance with applicable water quality standards or other beneficial groundwater uses (municipal, industrial and agricultural) in or adjacent to the project area. The State Policy with Respect to Maintaining High Quality of Waters in California ("State Anti-Degradation Policy") is discussed in Section 7.2.1 of Volume IV of the Final EIR/EIS. For additional information see Master Response, "Water Quality."

The Technical review Team (TRT) and the Basin Management Group (BMG) have been removed from the Groundwater Monitoring and Management Plan. Metropolitan will

implement the Management Plan pursuant to its obligations under CEQA. BLM will retain its authority to enforce the Management Plan as described in Section 10 of the Management Plan, Final EIR/EIS Volume IV. BLM will receive technical support and recommendations from other federal agencies through a Technical Review Panel, whose functions are described in Section 9.

R12-3 See Response to Comment F3-11.

R12-4 Comment noted. See Response to Comments R12-5 to R12-32, below.

R12-5 The statement referenced in the comment has been deleted from the Final EIR/EIS, Volume I. The Management Plan (Final EIR/EIS Volume IV) ensures that future water use for the Cadiz Valley Agricultural Development will be conducted without adverse impacts to critical resources. This does not affect the obligations of Cadiz Inc. to comply with the Cadiz Valley Agricultural Development Groundwater Monitoring Plan developed with the County.

R12-6 The Management Plan referenced in the comment has been incorporated as part of the project. Metropolitan will implement the Management Plan pursuant to its obligations under CEQA. BLM will retain its authority to enforce the Management Plan as described in Section 10 of the Management Plan, Final EIR/EIS, Volume IV.

R12-7 As discussed in Response to Comment R12-2, the TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV). As discussed in Section 9.3 of the Management Plan, the models including model input and output data will regularly be made available to the TRP. In addition, the BLM, at its discretion, may make the water resource models and data available at other times and to others as it deems appropriate to facilitate the functions of the TRP.

R12-8 Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV) define the collaborative function of the TRP. See also Master Response "Governance."

R12-9 It is acknowledged that the County and other parties may seek enforcement of the Management Plan through CEQA and NEPA. Revisions have been made throughout the Final EIR/EIS to clarify that BLM's control over the enforcement of the Management Plan is through the terms and conditions of the right-of-way grant(s) it issues.

R12-10 Although major expansion of agricultural operations in the project area is not anticipated, all use of groundwater for irrigation, including any increased use, would be conducted in accordance with the Management Plan, Final EIR/EIS, Volume IV. Section 8 of the Management Plan identifies provisions of the Closure Plan that ensure that any decline in static groundwater elevations (from pre-operational levels) would not exceed an average of 100 feet at the end of project operations or lead to projections of exceeding any action level criteria during the post-operational phase of the project.

R12-11 The Management Plan, Final EIR/EIS, Volume IV, stresses the importance of acquiring project area site-specific data. With regard to regional precipitation data this is also acknowledged as extremely important, since numerous factors result in varied precipitation patterns in different watersheds throughout the Mojave Desert region. Such factors include

rain shadow effects, orographic effects, monsoonal patterns of summer precipitation, and particular storm tracks for winter precipitation. The Management Plan will incorporate regional data to site the precipitation station in the Fenner watershed.

R12-12 Comment noted. The groundwater flow model would be calibrated to a reasonable range of measured and assumed input parameters.

R12-13 As discussed in Response to Comment R12-2, the TRT has been removed from the Management Plan. Instead, BLM will receive technical support and recommendations through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV). Sections 9 and 10 of the Management Plan provide that the TRP will meet as requested by BLM, and that members of the TRP may also submit requests to BLM for meetings of the TRP.

R12-14 The project will comply with all applicable water quality standards, including those imposed by the California Regional Water Quality Control Board, Colorado River Basin Region. See Master Response "Water Quality."

R12-15 The project will be operated in accordance with the Management Plan and will meet all applicable water quality standards. Section 7.2.1 of the Management Plan, Final EIR/EIS Volume IV, notes that future updates of the Regional Board's Water Quality Control Plan may alter the requirements that the project operations must meet. It is the intent of the Management Plan to comply with all applicable water quality regulations during all the operational phases of the project, however, it is not possible at this time to know what, if any, changes there might be to such regulations. In any event, based on existing regulations and conditions, any resulting increase in TDS concentrations within the project area groundwater will be small, as discussed in Section 5.5.4 of the Final EIR/EIS and in Master Response "Water Quality." See also Response to Comment R12-16.

R12-16 Should a situation arise that implicates the State Board "Anti-Degradation" policy noted in the comment (State Board Resolution No. 68-16), Metropolitan as the responsible party under the Management Plan will make any necessary demonstration to the State Board according to the procedures of the State Board.

R12-17 Comment noted.

R12-18 The comment correctly notes that, as discussed in Section 8.1 of the Management Plan (Final EIR/EIS Volume IV), a Closure Plan will be prepared when static groundwater levels have declined 10 feet from pre-operational levels, but not later than 25 years from commencement of project operations. Contrary to the comment, there are no provisions identified for modifying the parameters that trigger preparation of the Closure Plan.

R12-19 As discussed in Response to Comment R12-2, the TRT and BMG have been removed from the Management Plan. See Master Response "Governance" and Section 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

R12-20 See Response to Comment R12-19, above.

R12-21 See Response to Comment R12-13.

R12-22 See Response to Comment R12-7.

R12-23 As discussed in Response to Comment R12-2, the TRT and BMG have been removed from the Management Plan. See Master Response "Governance" and Section 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

R12-24 As discussed in Response to Comment R12-2, the BMG has been removed from the Management Plan. See Master Response "Governance" and Section 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

R12-25 See Response to Comment R12-9.

R12-26 See Response to Comment R12-13.

R12-27 See Response to Comment R12-13.

R12-28 See Response to Comment R12-7.

R12-29 As discussed in Response to Comment R12-2, the BMG has been removed from the Management Plan. See Master Response "Governance" and Section 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

R12-30 Because the BMG has been removed from the Management Plan as discussed in Response to Comment R12-2, there will be no BMG operating agreement.

R12-31 Comment noted. No major expansion of agricultural operations in the project area is anticipated. See Response to Comment R12-10. BLM and Metropolitan recognize that changes in Cadiz Inc. agricultural operations will remain subject to the Cadiz Valley Agricultural Development Groundwater Management Plan.

R12-32 Comment noted.

R13-1 Comment noted.

R13-2 Comment noted.

R13-3 Comment noted.

B7 RESPONSES TO COMMENTS FROM THE CLAYPOOL & COMPANY DATED NOVEMBER 29, 2000.

B7-1 Comment noted. No response is required

B8 RESPONSES TO COMMENTS FROM THE GAS COMPANY DATED OCTOBER 26, 2000.

B8-1 Comment noted. The project is not planned to require natural gas.

B9 RESPONSES TO COMMENTS FROM GIS WATER DATED JANUARY 3, 2001.

B9-1 Comment noted. No response is required.

B9-2 Comment noted. No response is required.

B9-3 Comment noted. No response is required.

B9-4 Comment noted. No response is required.

B9-5 Tetra Technologies, Inc. will remain on the mailing list for new technical information regarding the Cadiz Project.

B9-6 Public comments on the Draft EIR/EIS and the Supplement are included in this Final EIR/EIS which is available for public review. In addition, copies of all project reports are available at the offices of the Metropolitan Water District in Los Angeles and the Bureau of Land Management in Riverside and Needles.

B9-7 Comment noted. No response is required.

B10 RESPONSES TO COMMENTS FROM PALECEK & SKAJA ATTORNEYS DATED JANUARY 2, 2001.

B10-1 Comment noted. See Response to Comments B10-2 through B10-10, below.

B10-2 The actual quantity of water that could be stored and transferred will be governed by the requirements of the Management Plan and is therefore not quantified at this time. The storage of Colorado River water and the extraction of indigenous groundwater that could be transferred will be conditioned by the requirements of the Management Plan.

Potential adverse impacts to critical resources due to the transfer of indigenous groundwater will be avoided by governing (limiting) the amounts of transfer (if any) to such amounts that comply with the requirements of the Management Plan. Because there is no set or minimum amount of indigenous groundwater to be transferred under the Cadiz Project, the Final EIR/EIS does not evaluate the potential impacts from the transfer of a set amount of water, but instead requires operation of the project so that no adverse impacts occur to critical resources.

The Management Plan will establish a comprehensive network of monitoring and data collection facilities combined with procedures for comprehensive scientific review of all actions and decisions. The Management Plan is designed to ensure there would be no significant adverse impacts is by providing "early warning" of potential adverse impacts to critical resources that could result from Cadiz Project operations. The Management Plan specifies action criteria (trigger levels) and mandates specified responses if an action criterion is reached. These action criteria have been set at conservative levels to provide an early warning of potential future impacts. With such early warning, adverse impacts will be prevented by implementation of corrective measures specified in the Management Plan. See Master Response "Groundwater Monitoring and Management Plan" and the Management Plan (Final EIR/EIS Volume IV).

The BLM is responsible for all final decisions related to the enforcement of the Management Plan through enforcement of the terms and conditions of any right-of-way grant(s) it issues in connection with the Cadiz Project. A BLM Authorized Officer will be designated to enforce the terms and conditions of any right-of-way grant(s) the BLM issues for the Cadiz Project in accordance with the statutory and regulatory provisions governing the right-of-way grant.

The BLM Authorized Officer will consult with technical specialists from other public agencies in a TRP. The TRP will consist of experts in various fields from the National Park Service, the U.S. Geological Survey, and the County of San Bernardino. The BLM Authorized Officer may also consult with any other public agency deemed to have relevant expertise (e.g., Environmental Protection Agency for air quality issues), the California State Department of Water Resources and/or the Regional Water Quality Control Board, as necessary. The BLM Authorized Officer may invite Metropolitan and Cadiz Inc. to participate in meetings of the TRP to present, explain or clarify the data and analyses collected in accordance with the Management Plan, however, neither Metropolitan or Cadiz will serve as members of the TRP or would otherwise serve in any advisory role.

Management Plan governance also includes provisions for public involvement and comment. Management Plan reports (described in Section 6 of the Management Plan, Final EIR/EIS, Volume IV) will be available to any interested party. This includes but is not limited to annual and five-year monitoring reports. Project information will be made available through an electronic network (e.g. web page) or other appropriate means to enable regular updates on Cadiz Project operation and management activities. In addition, the BLM, at its discretion, may conduct public meetings.

B10-3 The Cadiz Project is a conjunctive use storage and transfer project that will use raw water from the Colorado River and indigenous groundwater from the Cadiz area. Metropolitan will have a prior and paramount right to recapture water imported from the Colorado River and stored in the groundwater basin underlying the project site. As to the transfer of indigenous groundwater, Metropolitan will exercise an appropriative right under California groundwater law, according to the provisions of the Management Plan (Final EIR/EIS Volume IV), subject to reasonable and beneficial overlying uses.

The potential for impacts to wells owned by neighboring landowners due to project operations is identified in Section 5.5.4 of the Final EIR/EIS as a part of the "aquifer system" which is a critical resource protected by the provisions of the Management Plan. With implementation of the Management Plan, adverse impacts to critical resources will be avoided. To ensure that there will be no significant adverse impacts to wells owned by neighboring landowners, the Management Plan (Final EIR/EIS Volume IV) includes specific provisions as described in Section 7.2. If it were determined the Cadiz Project was impacting the wells of neighboring landowners, Section 7.2 of the Management Plan identifies several corrective measures that will be implemented to mitigate the impacts, including modification of project operations until adverse impacts were no longer present at the affected wells.

B10-4 See Response to Comment B10-3. With implementation of the Cadiz Project, existing and future agricultural irrigation water uses would be subject to all of the provisions and requirements of the Management Plan.

A specific discussion of the cumulative impacts of the Cadiz agricultural operations is contained in Section 7 of the Final EIR/EIS Volume I. All use of indigenous groundwater for current and potential future agricultural operations would be subject to the Management Plan. Therefore, the mitigation necessary to avoid significant impacts to water resources is provided and there will be no significant adverse cumulative impacts to critical resources from the project when combined with current and potential future agricultural operations. See Response to Comment R12-10.

B10-5 See Response to Comments B10-2 and B10-3, above. Because adverse water quality impacts to neighboring wells will be avoided, and operation of the project will be in accordance with state water law, no taking will occur.

B10-6 Section 5.5.4 of the Final EIR/EIS Volume I considers the potential water quality impacts to neighboring wells due to groundwater level fluctuation. Section 5.5.6 of the Final EIR/EIS concludes that the potential for such impacts is not significant. For additional information, see Section 7.2.2 of the Management Plan (Final EIR/EIS Volume IV). The comment concerning the potential for the commentor to suffering economic injury from the project does not state a concern or question under CEQA or NEPA.

B10-7 Comment noted. The project will not adversely affect critical resources, including the quantity and quality of groundwater in neighboring wells.

B10-8 Comment noted. No adverse impacts to Chambless Station resulting from the project have been identified.

B10-9 Comment does not state a concern or question under CEQA or NEPA. A response is not required.

B10-10 Comment noted. No response is required.

B11 RESPONSES TO COMMENTS FROM DECO FOODSERVICE DATED JANUARY 4, 2000.

B11-1 Comment noted. No response is required.

B12 RESPONSES TO COMMENTS FROM LATHAM & WATKINS ATTORNEYS AT LAW DATED JANUARY 5, 2001.

B12-1 Comments are noted.

B13 RESPONSES TO COMMENTS FROM CT ASSOCIATES DATED JANUARY 7, 2001.

B13-1 Comment noted.

B13-2 Comment noted. Results of water quality analyses of the indigenous groundwater are contained in the technical report, Cadiz Groundwater Storage and Dry-Year Supply Program, Environmental Planning Technical Report, Groundwater Resources, Volume II.

B13-3 Comment noted. Potential water quality impacts of the project to the aquifer and to the Colorado River Aqueduct were are discussed in Section 5.5.4 of the Final EIR/EIS, Volume I. No adverse water quality impacts are anticipated as a result of the project

B13-4 Comment noted. No on-site treatment is anticipated as part of the project.

B13-5 Comment refers to the San Gabriel groundwater basin in Los Angeles County, not the Cadiz Project.

B13-6 Comment noted.

B13-7 Comment noted.

G18 RESPONSES TO COMMENTS FROM ENVIRONMENTAL DEFENSE DATED SEPTEMBER 7, 2000.

G18-1 A copy of the Supplement was sent to the commentor as requested.

G19 RESPONSES TO COMMENTS FROM THE DESERT PROTECTIVE COUNCIL INC. DATED OCTOBER 19, 20000.

G19-1 Public review period for the Supplement was extended to a total of 80 days.

G20 RESPONSES TO COMMENTS FROM THE WESTERN ENVIRONMENTAL LAW CENTER DATED OCTOBER 20, 2000.

G20-1 The 45-day initial review period for the Supplement was authorized by the Department of the Interior's Office of Environmental Policy and Compliance on August 7, 2000. A 90-day review period was not required for the Supplement because it did not add any new information related to the amendment to the California Desert Conservation Area Plan that was not already covered in the Draft EIR/EIS. Ultimately, the public review period for the Supplement was extended to a total of 80 days.

G21 RESPONSES TO COMMENTS FROM THE WILDERNESS SOCIETY DATED NOVEMBER 1, 2000.

G21-1 Public review period for the Supplement was extended to a total of 80 days.

G22 RESPONSES TO COMMENTS FROM LOREY CACHORA QUECHAN TRIBAL CULTURAL COMMITTEE CONSULTANTS DATED NOVEMBER 23, 2000.

G22-1 Public review period for the Supplement was extended to a total of 80 days.

G23 RESPONSES TO COMMENTS FROM THE WESTERN ENVIRONMENTAL LAW CENTER DATED NOVEMBER 16, 2000.

G23-1 See Response to Comment G20-1.

G23-2 The question of the amount of total chromium and hexavalent chromium found in the indigenous groundwater in the project area has been addressed in the Final EIR/EIS. Please see Master Response "Water Quality" and Response to Comment F3-11.

G23-3 Public review period for the Supplement was extended to a total of 80 days.

G24 RESPONSES TO COMMENTS FROM THE DESERT TORTOISE COUNCIL DATED DECEMBER 3, 2000.

G24-1 Mitigation Measures B-8 through B-31 provide substantial protection for desert tortoise and their preferred habitats. These measures were presented for public review and comment in the Draft EIR/EIS and are included in this Final EIR/EIS.

G25 RESPONSES TO COMMENTS FROM THE CALIFORNIA INDIAN ARTS DATED DECEMBER 28, 2000.

G25-1 Comments noted. The purpose and need for the Cadiz Project is set forth in Section 2 of the Final EIR/EIS, Volume I. Impacts of the project have been fully evaluated pursuant to CEQA and NEPA as presented in Section 5. For clarification, Metropolitan does not receive water from the Owens Valley.

G26 RESPONSES TO COMMENTS FROM THE CHEROKEE WATERSHED GROUP DATED JANUARY 3, 2001.

G26-1 Comments noted. Extensive technical studies were conducted for the Cadiz Project and all project reports are available for public review at Metropolitan's office in Los Angeles and at BLM's office in Needles.

G26-2 BLM and Metropolitan believe the Final EIR/EIS serves the purposes and meets the requirements of CEQA and NEPA. For a discussion of water resources issues, see Section 5.5 of the Final EIR/EIS, Volume I, the Management Plan (Volume IV), and the Master Response "Groundwater Monitoring and Management Plan."

G26-3 For a discussion of air quality issues, see Section 5.6 of the Final EIR/EIS, Volume I and Master Response "Air Quality."

G26-4 See Section 5.8 of the Final EIR/EIS, Volume I for a discussion of potential impacts to wildlife.

G26-5 See Master Response "Groundwater Monitoring and Management Plan" and the Management Plan (Final EIR/EIS, Volume IV).

G26-6 Mitigation measures are presented for each resource category throughout Section 5 of the Final EIR/EIS, Volume I followed by a discussion of residual impacts after mitigation. All project mitigation measures are summarized in the Executive Summary of the Final EIR/EIS, Volume I.

G26-7 See Response to Comment G2-5.

G26-8 See Master Response "Groundwater Monitoring and Management Plan" and the Management Plan (Final EIR/EIS, Volume IV).

G26-9 See Response to Comment P1-6.

G26-10 See Master Response "Formulation and Screening of Potential Projects." Also see Section 2.4.4 of the Final EIR/EIS, Volume I for a discussion of the conservation programs that are being implemented by Metropolitan and its member agencies. Also see Master Response "Water Conservation."

G26-11 See Section 1.5 of the Final EIR/EIS, Volume I for a summary of public involvement process.

G26-12 See Response to Comment G26-1.

G26-13 The comment does not raise an issue under CEQA or NEPA and thus no response is required.

G26-14 Comments noted. No response is required.

G27 RESPONSES TO COMMENTS FROM THE DESERT TORTOISE PRESERVE COMMITTEE, INC. DATED JANUARY 4, 2001.

G27-1 Comment noted. See Response to Comments G27-2 through G27-7, below.

G27-2 The Supplement to the Draft EIR/EIS provided further detail and discussion of monitoring activities that will be implemented upon project approval. Although described only generally, these activities were included in the Draft EIR/EIS as Mitigation Measure WR-1 and thus are not a new proposal. The analysis of impacts and mitigation measures presented for public review and comment in the Draft EIR/EIS fully apply to the project's monitoring facilities. The mitigation measures that specifically apply to the protection of desert tortoise and their habitats are presented as Mitigation Measures B-8 through B-31 of the Final EIR/EIS Volume I.

The monitoring facilities and activities are described in Section 4.7.4 of the Final EIR/EIS Volume I. The facilities that will be constructed in designated critical habitat are few in number and limited in scale. Furthermore, the monitoring facilities will be constructed and operated under carefully controlled conditions and are consistent with activities compatible with the recovery of the desert tortoise. Most of the facilities necessary for the monitoring system will be constructed in Category III tortoise habitat (USFWS unpublished maps, December 1989). The monitoring facilities will have little, if any, effect on desert tortoises due to their limited size and passive nature. Monitoring facilities will require limited construction and infrequent use.

The monitoring facilities will be located to avoid environmental impacts. The siting of the facilities will be coordinated with the Mojave National Preserve and Bureau of Land Management and constructed and operated pursuant to consultation with US Fish and Wildlife Service and the California Department of Fish and Game. Mitigation measures presented in the Final EIR/EIS which apply to the monitoring activities include measures B-1 through B-4 and B-7 through B-26 for construction activities and measures B-27 through B-31 for operations. The habitat compensation ratio for surface disturbance (measure B-33) will be greater for construction activities in designated habitat, for example (5:1), than that indicated for construction of project features in lower quality habitat, which is (1:1).

The new "federally-funded study" referenced in the comment is not identified or provided.

G27-3 On February 8, 1994, the US Fish and Wildlife Service published a final rule in the *Federal Register* (59 FR 5820) designating 6.4 million acres of critical habitat for the Mojave population of the desert tortoise. This designation includes primarily Federal lands in southwestern Utah, northwestern Arizona, southern Nevada, and southern California. In California, critical habitat designation totals 4,754,000 acres in Imperial, Kern, Los Angeles, Riverside and San Bernardino counties. Of this total, 3,327,400 acres are administered by the Bureau of Land Management, 242,000 acres are military lands, 132,900 acres are state lands and 1,051,500 acres are privately owned land.

The Desert Tortoise (Mojave Population) Recovery Plan (USFWS, 1994) anticipated activities would continue within desert tortoise habitat areas and desert wildlife management areas. Activities that are compatible with tortoise recovery are listed on page 57 of the recovery plan and include activities that enhance watershed protection.

- See Section 5.5.4 of the Final EIR/EIS Volume I under the sub-heading "Potential Impacts to the Desert Environment Due to Implementation of the Management Plan" for the description of the potential impacts to the desert environment due to the implementation of the monitoring facilities of the Management Plan.

G27-4 The recovery units were created to ensure genetic diversity among the desert tortoise population by avoiding focusing recovery efforts in specific locations and therefore on specific groups within the population. The low intensity activities required by the provisions of the Management Plan will be disbursed over great distances and consequently will not create an undue burden on a single segment of the population.

G27-5 The referenced "study plots" are approximately 30 to 40 miles from the project area, and will not be impacted by the Cadiz Project. The newspaper articles referred to attribute the decline in tortoise populations in the Fenner Valley to a disease of the animal's shells. The project and monitoring facilities are not expected to contribute to this problem. The project and monitoring facilities are expected to have less than significant impacts on tortoise populations (see Response to Comments G27-1 through G27-4 above). The project impacts to biological resources are summarized in the Final EIR/EIS Volume I for each alternative in Section 5.8.

G27-6 This impact is discussed in Section 5.8 of the Final EIR/EIS. The conclusion that impacts are less than significant is not based upon the numbers of desert tortoises in the vicinity but upon several factors, one of which is simply that the availability of water is not the factor that limits raven populations in the east Mojave Desert.

Due to the ravens ability to travel long distances the proximity to any particular feature is largely irrelevant. In addition, a substantial farming operation (approximately 1,600 acres) has been operational in the vicinity the project area for approximately 15 years. This farming operation has provided a continuous source of water and fruit to the raven population.

While ravens as a species are known to prey on young tortoises it is not known how widespread the practice is among any particular group of ravens. In addition, not enough is known about raven populations to know what controls their numbers. Due to the mobility of these birds they can take advantage of food and water sources over a large area thereby reducing reliance on any single factor or resource.

The tortoise study plots near Goffs are closer to the Colorado River and the cities of Needles, Bullhead City and Laughlin, and the agricultural lands of the Colorado River Valley than they are to the proposed spreading basins and monitoring facilities. These urban and agricultural and water features are much more likely to affect raven numbers than an isolated seasonal source of water. Additional water availability at the spreading basins is unlikely to cause an increase in the regional raven population which in turn has an unknown probability of increased predation on desert tortoise.

G27-7 BLM and Metropolitan believe the Final EIR/EIS serves the purposes of and complies with CEQA and NEPA.

G27-8 Comment noted. No response is required.

G28 RESPONSES TO COMMENTS FROM THE LAW OFFICE OF GARRY L. HAYES DATED JANUARY 4, 2001.

G28-1 Comment noted. No response is required.

G28-2 See Section 7.1 of the Management Plan, Final EIR/EIS Volume IV, for a description of the specific provisions that will be established under the Management Plan to protect groundwater levels beneath the Mojave National Preserve and springs located both within the Preserve and on BLM managed lands in proximity to the project area. Figure 4 of the Management Plan shows the proposed locations of the S-Series observation wells as well as observation wells at Essex, Fenner and Goffs. These observation wells are located between the proposed project wellfield and the Mojave National Preserve and will be regularly monitored in order to provide early warning of potential impacts to groundwater levels beneath the Preserve. At this time, additional monitoring features beyond those described are not thought necessary to meet the Management Plan objective of assuring no adverse project-related impacts to critical resources. However, provisions have been included in the Management Plan to accommodate changes to the number or location of monitoring features based on the review and interpretation of information as it is collected. See Section 9.4 of the Management Plan.

With implementation of the Management Plan and its provisions for revisions and refinements as it is implemented, it is not anticipated that there will be a discernable impact to groundwater use on the properties described in the attachment to this comment letter.

G28-3 Comment noted. No response is required.

G29 RESPONSES TO COMMENTS FROM THE LEAGUE OF WOMEN VOTERS ENVIRONMENTAL ACTION COMMITTEE (ENACT) DATED JANUARY 5, 2001.

G29-1 Comment noted. No response is required.

G29-2 The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other federal agencies and the County through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

Management Plan governance includes provisions for public involvement and comment. Management Plan reports (described in Section 6 of the Management Plan) will be of public record and available to any interested party. This includes but is not limited to annual and five-year monitoring reports. Project information will be made available through an electronic network (e.g. web page) or other appropriate means to enable regular updates on Cadiz Project operation and management activities. In addition, the BLM, at its discretion, may conduct public meetings.

G29-3 See Master Response "Water Quality" and Response to Comment F3-11. The project is not anticipated to affect ability or costs to meet applicable drinking water standards.

G29-4 Comment noted. See Master Response "Groundwater Monitoring and Management Plan." Because the project will be operated subject to the provisions of the Management Plan, it may or may not include water transfer.

G29-5 See Response to Comment G2-5.

G29-6 Potential impacts of the project including construction impacts have been addressed in Chapter 5 of the Final EIR/EIS Volume I. Mitigation measures identified in the Final EIR/EIS to reduce impacts of the project will become mandatory components of the project upon certification of the Final EIR/EIS. Wildlife and desert habitats are assessed in Section 5.8 of the Final EIR/EIS. Potential impacts of construction and operation of the project on desert tortoise have been reviewed with USFWS and CDFG. The mitigation measures have been developed through discussions with USFWS, CDFG and BLM biologists.

The role and responsibilities of the TRP are discussed in Sections 9 of the Management Plan. Metropolitan, as the Cadiz Project CEQA lead agency, is required to monitor and enforce compliance with all mitigation measures, including all measures to protect the desert tortoise.

G29-7 See Master Response "Formulation and Screening of Potential Projects." With regard to other Colorado River supply projects, the Final EIR/EIS has been revised to clarify that Metropolitan is proceeding on several fronts to meet its target for dry-year needs on the Colorado River Aqueduct. See Section 2.6 and 2.7 of the Final EIR/EIS, Volume I. Metropolitan is proceeding with implementation of the Hayfield Valley Groundwater Project noted by the commentor. With the Cadiz Project and other projects which are already being implemented, including the Hayfield Project, Metropolitan will still need an additional 20,000 to 90,000 acre-feet of dry-year supply to meet its target. This remaining need may be met by one or a combination of other potential projects under various stages of study.

G29-8 See Response to Comment G29-2, above.

G30 RESPONSES TO COMMENTS FROM THE LAW OFFICES MORISSET, SCHLOSSER, AYER & JOZWIAK DATED JANUARY 5, 2001.

G30-1 The Cadiz Project will not affect Metropolitan's rights to water from the Colorado River and thus will not affect other parties' rights to water on the Colorado River, including those of the Quechan Indian Tribe.

G30-2 Comment noted. The Draft and Final EIR/EIS correctly conclude that there would be no impacts to Indian trust assets or surface water resources. The Cadiz Project will enhance Metropolitan's management of Colorado River water.

G30-3 The Cadiz Project does not change Metropolitan's entitlement to water from the Colorado River, nor does it affect other parties' rights to water on the Colorado River.

G30-4 See Response to Comment G30-3, above.

G30-5 The discussion of cumulative impacts as presented in the Draft EIR/EIS has been expanded in the Final EIR/EIS to include other water uses within the Bristol , Cadiz, Fenner, and Orange Blossom Wash watersheds and other projects within the BLM Northern and Eastern Colorado Desert Coordinated Management Plan area, as is the Cadiz Project. This

appropriately considers projects and activities that are related to the Cadiz Project through a physical element of the environment or a physical impact to the environment. It is not appropriate to consider in the cumulative impacts analysis for the Cadiz Project all other projects that directly or indirectly use water from the Lower Colorado River. As suggested by the comment, the only "cumulative impact" from such projects would be the combined use of Colorado River water. However, the Cadiz Project does not effect how much Colorado River water may be used by California or by Metropolitan. It is not the availability of surplus Colorado River water to the Cadiz Project that might cause potential impacts to the environment. Rather, the question for the cumulative impacts analysis for the Cadiz Project is, assuming the availability of such surplus water which the project would store and later transfer, what are the cumulative impacts of such activity when combined with other projects and water users which also cause environmental impacts in the general area. It is this analysis that is appropriately considered in the Final EIR/EIS . Commentor repeatedly states that "BOR" has failed to sufficiently consider the effects of certain programs listed in the comment. Such comments to the Bureau of Reclamation and/or the FEIS for Interim Surplus Criteria adopted by the Bureau, should be directed to the appropriate agency and project. It is not the place of the Cadiz Project to correct any perceived inadequacies in the FEIS for the Interim Surplus Criteria.

G30-6 Comment noted.

G31 RESPONSES TO COMMENTS FROM THE MORONGO BASIN CONSERVATION ASSOCIATION DATED JANUARY 5, 2001.

G31-1 Comment noted. See Response to Comments G31-2 through G31-8, below.

G31-2 The Final EIR/EIS concludes that all potential environmental impacts of the project on water resources will be reduced to below a level of significance. Moreover, the Management Plan will provide continuous monitoring and collection of data throughout the term of the project to further ensure that potential significant adverse effects are avoided. A pilot spreading basin test was performed to determine the feasibility of storing water in and retrieving water from in the aquifer system underlying the project area and to assess the potential environmental impacts of such an operation.

G31-3 The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

Management Plan governance includes provisions for public involvement and comment. Management Plan reports (described in Section 6 of the Management Plan) will be of public record and available to any interested party. This includes but is not limited to annual and five-year monitoring reports. Project information will be made available through an electronic network (e.g. web page) or other appropriate means to enable regular updates on Cadiz Project operation and management activities. In addition, the BLM, at its discretion, may conduct public meetings.

G31-4 See Response to Comment G31-3.

G31-5(a)See Response to Comment G31-3.

G31-5(b)In most cases in the Draft EIR/EIS and Supplement to the Draft EIR/EIS, the word "would" was used to indicate that an action would be taken after project approval. As suggested by the commentor, language has been revised throughout the Final EIR/EIS with the use the term "will" or "shall" in place of "would" where appropriate.

G31-6 Metropolitan regularly samples and tests its Colorado River water supply. Test results are of public record and are available upon request.

G31-7 Authority over the Management Plan will be maintained by BLM. The project does not propose that any agency be granted emergency authority status over the project in event of an earthquake or other emergency.

G31-8 As discussed in Section 2 of the Final EIR/EIS, Volume I, the Hayfield Groundwater Storage Project has been adopted by Metropolitan's Board of Directors and is being implemented. The Coachella Conjunctive Use Project and Entitlement Exchange is a project currently being developed by the Coachella Valley Water District with participation by Metropolitan. Metropolitan is also initiating feasibility studies of a groundwater storage and conjunctive use programs. Metropolitan's Board of Directors has not approved such programs at the date of this writing. These programs and the Cadiz Project are needed to meet Metropolitan's water supply reliability objectives. Information regarding these programs, including environmental and technical information is of public record and is available upon request to Metropolitan to any interested party.

G32 RESPONSES TO COMMENTS FROM THE DESERT TORTOISE COUNCIL DATED JANUARY 6, 2001.

G32-1 Comment noted. See Response to Comments G27-1 through G72-8.

G33 RESPONSES TO COMMENTS FROM DESERT SURVIVORS DATED JANUARY 10, 2001.

G33-1 Comment noted. No response is required.

G33-2 Comment noted. See Response to Comments G33-3 to G33-31, below.

G33-3 Comment noted. BLM and Metropolitan believe the Final EIR/EIS serve the purposes of and complies with CEQA and NEPA. See Master Response "Formulation and Screening of Potential Projects."

G33-4 Extensive studies of recharge to the aquifer system have been done in connection with the project. However, as discussed in Section 5.5 of the Final EIR/EIS, there is disagreement among experts as to the amount of natural recharge to the project area. Despite this disagreement, all of the agencies who participated in the preparation of the Final EIR/EIS agreed that the overriding objective is to ensure the protection of critical resources in the vicinity of the project area. The parties further agreed that this objective would best be accomplished through the development and implementation of the Management Plan (Final EIR/EIS Volume IV), which will protect these resources. See Master Response "Groundwater Monitoring and Management Plan."

G33-5 See Response to Comment G33-4, above. Since the project will be operated in accordance with the Management Plan, the project will not adversely impact critical resources. Thus,

precise quantification of a recharge rate is not essential to the analysis of project impacts. BLM and Metropolitan believe the Final EIR/EIS serves the purposes of and complies with CEQA and NEPA.

G33-6 The project will take advantage of Metropolitan's existing rights to water from the Colorado River and does not depend on "surplus" Colorado River water to which Metropolitan is not already entitled. See Section 2 of the Final EIR/EIS.

G33-7 See Master Response "Formulation and Screening of Potential Projects."

G33-8 Elimination of the power lines paralleling the pipeline or pipeline/canal alignments was considered by using a natural gas powered system is discussed in Section 5.9.4 of the Final EIR/EIS Volume I.

G33-9 A generalized aquifer cross-section from Fenner Valley to Bristol Dry Lake is presented in Figure 5.5-10 of the Final EIR/EIS Volume I. The principal aquifer systems shown in this figure are described in Section 5.5.1 of the Final EIR/EIS. Existing agricultural production wells produce groundwater from both the upper and lower levels of the alluvial aquifer. No barriers to groundwater flow have been recognized between the two levels, and they are distinguished only by a general increase in fine-grained sediments with depth. Additional data regarding the aquifer system will be acquired, as outlined in the Management Plan, during construction and testing of monitoring wells and the project wellfield. The carbonate bedrock aquifer underlies the alluvial aquifer. The Cadiz Project will not drill production wells into this carbonate basement aquifer.

G33-10 The environmentally preferred project alternative is identified in Section 11 of the Final EIR/EIS Volume I. The alternative suggested by commentor appears to be the result of a misconception of the project as proposed. The commentor's statement that "all pumping is from the lower aquifer, all storage is in the upper aquifer" is incorrect. The proposed project wellfield has been designed to efficiently extract the mound of stored water and indigenous groundwater that would form as a result of spreading operations. As described in Section 5.5.4 of the Final EIR/EIS Volume I, individual wells will be constructed to facilitate selective removal of stored water.

G33-11 Studies completed for the project support the Final EIR/EIS's assessment of potential impacts and its conclusions. See Response to Comment G33-4 and G33-5.

G33-12 Governance of the Management Plan as presented in the Draft EIR/EIS has been finalized in the Final EIR/EIS. The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other federal agencies and the County through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

G33-13 Comments are noted. See Master Response "Air Quality." Under the Clean Air Act (CAA) Amendments of 1977, all existing national parks and national wilderness and wilderness areas greater than 5,000 acres in size were designated as Class I areas. Class I areas are afforded greater protection of air quality and air quality related values (e.g. visibility). All other areas in the U.S. were designated as Class II areas under these amendments. Procedures were also provided in the CAA for states and Indian Tribes to reclassify Class II areas to either Class I or Class III (areas that will be provided less protection than Class II) status. The Mojave National Preserve and the wilderness areas referenced by commentor

are Class II areas. It is the stated goal of the NPS in its draft General Management Plan for the Mojave National Preserve (NPS, July 2000) to seek re-designation of the preserve as a Class I area. However, as of this time, neither the NPS or the BLM have undertaken to change these classifications.

The possible effects of lowering of groundwater levels below the dry lake beds and any subsequent effects on the lake bed surface characteristics depend on many factors. If the brine layer below the lake beds is not connected to the alluvial aquifer system, a lowering of the groundwater level would not affect the lake bed surfaces. However, it has been conservatively assumed that a lowering of the groundwater level could increase the susceptibility of dust mobilization at the dry lake beds. Therefore, the Management Plan includes provisions to monitor and avoid the potential for increased susceptibility for dust mobilization that could be caused by lowering of the groundwater level as a result of project operations, thereby preventing increased dust mobilization from the lake beds.

See Final EIR/EIS, Volume I Section 5.6 for a description of air quality analysis related to mobilization of lakebed dust.

Action criteria, the decision-making process and corrective measures relating to air quality impacts are described in Section 7.4 of the Management Plan, Final EIR/EIS, Volume IV.

G33-14 See Master Response "Water Quality."

G33-15 The Management Plan governs all project operations, regardless of contractual relations between Metropolitan and Cadiz Inc.

The actual quantity of water to be transferred is not known at this time. The amount of indigenous groundwater that could be transferred is conditioned by the requirements of the Management Plan.

G33-16 See Response to Comment G33-15.

G33-17 See Response to Comment G33-15.

G33-18 See Response to Comment G6-10.

G33-19 See Response to Comment G6-11.

G33-20 Regarding Cadiz Dunes see Response to Comment G6-12. Regarding the use of Class L lands see Response to Comment G6-14.

G33-21 See Response to Comment G6-17.

G33-22 See Response to Comment G6-18.

G33-23 Due to a numbering error, there is no comment 'G33-23'.

G33-24 See Response to Comment G6-19.

G33-25 See Response to Comment G6-20.

G33-26 See Response to Comment G6-6.

G33-27 As discussed in Section 1 of the Final EIR/EIS, Volume I, the USGS became a cooperating agency pursuant to NEPA for purposes of providing scientific and technical support and advice to the BLM on the design of the Management Plan presented in the Supplement to the Draft EIR/EIS and as Volume IV of the Final EIR/EIS. However, USGS and NPS experts will be involved in the implementation of the Management Plan as discussed in Sections 9 and 10 of the Management Plan. See Master Response "Governance."

G33-28 Regarding the Federal Land Policy and Management Act, this legislation is recognized and considered in the Final EIR/EIS in Volume I, Section 5.1. The remaining comments do not raise and issue under CEQA or NEPA and thus no response is required.

G33-29 BLM has complied with NEPA requirements in the preparation of the Final EIR/EIS and will retain control over the enforcement of the Management Plan is through the terms and conditions of the right-of-way grant(s) it issues. See Master Response "Governance."

G33-30 BLM and Metropolitan believe the Final EIR/EIS serves the purposes of and complies with CEQA and NEPA, including adequately informing the public and decision-makers of project effects.

G33-31 Comment noted. No response is required.

G34 RESPONSES TO COMMENTS FROM THE SIERRA CLUB DATED JANUARY 8, 2001.

G34-1 Comment noted

G34-2 See Response to Comment G33-15.

G34-3 See Response to Comment G33-15.

G34-4 Due to a numbering error, there is no comment 'G34-4'.

G34-5 See Response to Comment G33-15.

G34-6 Comments noted. All information regarding estimates of recharge and the consultants preparing these estimates is contained in the Final EIR/EIS. See Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163), and Final EIR/EIS Volume I, Sections 14 and 15.

G34-7 Water treatment is not required to comply with present water quality standards; therefore, speculative future treatment facilities are not identified. With regard to total chromium and hexavalent chromium found in the indigenous groundwater underlying the proposed project wellfield and spreading basins please see Master Response "Water Quality" and Response to Comment F3-11.

G34-8 See Response to Comment F3-11 and Master Response "Water Quality."

G34-9 The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a

Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

Management Plan governance includes provisions for public involvement and comment. Management Plan reports (described in Section 6 of the Management Plan) will be of public record and available to any interested party. This includes but is not limited to annual and five-year monitoring reports. Project information will be made available through an electronic network (e.g. web page) or other appropriate means to enable regular updates on Cadiz Project operation and management activities. In addition, the BLM, at its discretion, may conduct public meetings.

G34-10 The Management Plan governs all project operations, regardless of contractual relations between Metropolitan and Cadiz Inc. The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV). Members of the TRP do not have contractual interests in the project and would maintain a neutral and unbiased manner in reviewing compliance with the Management Plan.

G34-11 BLM and Metropolitan believe the Final EIR/EIS serve the purposes of and comply with CEQA and NEPA.

G34-12 Comment noted.

G35 RESPONSES TO COMMENTS FROM ENVIRONMENTAL DEFENSE DATED JANUARY 8, 2001.

G35-1 Comment noted.

G35-2 The financial aspects of the Cadiz Project are not an issue under CEQA or NEPA. Analysis of the finances of the program is reported to Metropolitan's Board of Directors and that public record is available upon request.

G35-3 Section 1.8 of the Final EIR/EIS Volume I describes the decisions that BLM and Metropolitan will consider for project approval as well as the permits and other approvals that will be necessary to implement the project. Metropolitan has not applied for any State funding for the Cadiz Project.

G35-4 Comment noted. The meeting to consider certification of the Final EIR/EIS by Metropolitan's Board will be open to the public.

G35-5 This letter was submitted on the Draft EIR/EIS and is responded to in Response to Comments G16-1 through G16-6.

G36 RESPONSES TO COMMENTS FROM CLEAN WATER ACTION DATED JANUARY 8, 2001.

G36-1 Comment noted. See Response to Comments G36-2 through G36-8, below.

G36-2 This standard of not violating any drinking water standards or waste discharge requirements presented in Section 5.5.2 of the Final EIR/EIS Volume I is a widely accepted standard for

determining significance under CEQA. Even though no significant water quality impacts are anticipated, anticipated changes to water quality are fully discussed in the Final EIR/EIS. See Master Response "Water Quality."

G36-3 See Master Response "Water Quality" for a further discussion of water quality of the indigenous groundwater. The project is not anticipated to affect the ability to meet applicable water quality regulations.

G36-4 The commentor is correct that the referenced 18 µg/L level for perchlorate is an action level and not a maximum contaminant level. The text of the Final EIR/EIS reflects this revision.

G36-5 Regarding the characteristics of the "deeper aquifer, " See Response to Comment G33-9. Regarding the presence of chromium, see Response to Comment F3-11 and Master Response "Water Quality."

G36-6 Section 5.5.4 of the Final EIR/EIS Volume I describes impacts to water quality. MTBE has not been detected in the groundwater underlying the project area or in the Colorado River Aqueduct supplies. Hexavalent chromium is present at levels below both state and federal drinking water standards. See Response to Comment F3-11 and Master Response "Water Quality."

G36-7 Contrary to this comment, additional water treatment facilities are not anticipated to be required for the project.

G36-8 As discussed in Section 2.6 and 2.7 of the Final EIR/EIS, Volume I, Metropolitan is proceeding on several fronts to meet its target for dry-year needs on the Colorado River Aqueduct. With the Cadiz Project and other projects which are already being pursued, Metropolitan will still need an additional 20,000 to 90,000 acre-feet of dry-year supply to meet its target.

G37 RESPONSES TO COMMENTS FROM THE MONO LAKE COMMITTEE DATED JANUARY 8, 2001.

G37-1 Comment noted. See Response to Comments G37-2 through G37-7.

G37-2 As discussed in Section 2 of the Final EIR/EIS Volume I, reliability of Metropolitan's Colorado River supply has been a basic strategy under the IRP. Implementation of programs such as the Cadiz Project will assist Metropolitan in fulfilling the policy of maintaining a full Colorado River Aqueduct. With regard to comments on the contract, these do not raise a comment under CEQA or NEPA and thus no response is required.

G37-3 A number of programs are needed to meet the objectives of California's Colorado River Water Use Plan. See Response to Comment G36-8. Implementation of the Cadiz Project will not lessen the need to pursue local storage programs in Metropolitan's service area.

G37-4 Metropolitan's IRP provides an optimum strategy to meet future water supply reliability needs for southern California and includes targeted amounts for locally-developed water reuse projects within southern California, as discussed in Section 2 of the Final EIR/EIS Volume I. Implementation of the Cadiz Project will not lessen the need to pursue local reuse programs in Metropolitan's service area.

G 37-5 See Master Response "Water Conservation." Implementation of the Cadiz Project will not lessen the need to pursue local reuse programs in Metropolitan's service area.

G37-6 The comment does not raise an issue under CEQA or NEPA and thus no response is required.

G37-7 Comment noted. No response is required.

G38 RESPONSES TO COMMENTS FROM THE CALIFORNIA NATIVE PLANT SOCIETY DATED JANUARY 8, 2001.

G38-1 Comment noted. No response is required.

G38-2 See Response to Comment G10-5.

G38-3 Springs, including the "28+" springs referenced by the commentor are to be monitored as described in Section 6.1 of the Management Plan, Final EIR/EIS, Volume IV. The inventory of the "28+" springs will be performed for the purpose of acquiring and documenting information about these important watershed features and to understand the connection, if any, between spring flow and the groundwater aquifer system. Provisions have been included in the Management Plan to accommodate changes to the number or location of monitoring features based on the review and interpretation of information as it is collected. See Section 9.4 of the Management Plan.

G38-4 Section 7.1.1 of the Management Plan, Final EIR/EIS Volume IV, describes the action criteria, decision-making process and corrective measures relating to the protection of springs. S-Series observation wells, designed to ensure protection of the springs by measuring groundwater level impacts from project operations will be monitored continuously throughout the term of the Cadiz Project.

The action criteria referenced by the commentor (1 foot in any S-Series Observation well) has been recommended by NPS water resources experts as a conservative action level. Such a change in water level will likely occur as a result of naturally occurring fluctuation of groundwater levels. If it were determined that project operations triggered this action criterion, it would, in the worst case, represent an early warning precursor of a potential impact to a spring. If it were determined that such changes were attributable to project operations, on the basis of analysis of groundwater level distributions throughout the entire observation well network, corrective measures would be employed as outlined in the Management Plan.

Although no adverse impact to springs is anticipated with action criteria and corrective measures as proposed, provisions have been included in the Management Plan to accommodate changes to action criteria based on the review and interpretation of information as it is collected. See Section 9.4 of the Management Plan.

G38-5 Governance of the Management Plan as presented in the Draft EIR/EIS has been revised in the Final EIR/EIS. The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). Provisions have been made for public input. See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

G38-6 BLM and Metropolitan believe that the environmental analysis for the project contained in the Final EIR/EIS serve the purposes of and complies with CEQA and NEPA. Regarding the suggested alternative, see Master Response "Alignment Alternatives."

G38-7 See Response to Comment G10-4.

G38-8 Comment noted. No response is required.

G39 RESPONSES TO COMMENTS FROM THE DESERT PROTECTIVE COUNCIL INC. DATED JANUARY 8, 2001.

G39-1 Comments noted. The comment is too general to permit a response.

G39-2 See Master Response "Formulation and Screening of Potential Projects" and Master Response "Water Conservation." Regarding use of Colorado River water, the Cadiz Project will take advantage of Metropolitan's existing rights to water from the Colorado River and is consistent with the California Colorado River Water Use Plan. See Section 2 of the Final EIR/EIS.

G39-3 Comment noted. No response is required.

G39-4 Metropolitan would enter into an agreement with Cadiz Inc. to implement the Cadiz Project should it be approved.

G39-5 Metropolitan has no vested interest or commitment relative to NAWPA or Ralph M. Parsons.

G39-6 It is assumed the commentor is referring to the Quantification Settlement Agreement, which remains in draft form, for the allocation of Colorado River water among Imperial Irrigation District, Coachella Valley Water District and Metropolitan. The most recent draft of the Quantification Settlement Agreement does not identify the Cadiz Program. If executed, the Quantification Settlement Agreement would govern the apportionment of Colorado River water to the signatories under Priorities 3a, 4, 5, and 6a of the California Seven-Party Agreement dated August 18, 1931 which is incorporated in the Secretary's water delivery contracts with the three agencies.

G39-7 NPS and USGS became cooperating agencies pursuant to NEPA for purposes of assisting in the preparation of the Supplement to the Draft EIR/EIS and the Final EIR/EIS.

G39-8 Metropolitan has approved the Hayfield Groundwater Storage Program. The water you observed at Hayfield Dry Lake was stored in the groundwater basin beneath Hayfield Dry Lake. Metropolitan expects to store up to 800,000 acre feet of Colorado River Aqueduct water in the Hayfield aquifer during the next few years. This project, the Cadiz Project, and other proposals will enable Metropolitan to assist California in meeting the terms and conditions of California's Colorado River Water Use Plan. See Section 2 of the Final EIR/EIS.

G39-9 See Response to Comment F3-11 and Master Response "Water Quality."

G39-10 Sections 9 and 10 of the Management Plan summarize the oversight and enforcement provisions of the Management Plan. The BLM is responsible for all final decisions related

to the enforcement of the terms and conditions of any right-of-way grant(s) it issues. See Master Response "Governance."

G39-11 Comment noted.

G39-12 Comment noted.

G39-13 Comment noted.

G39-14 See Master Response "Groundwater Monitoring and Management Plan."

G40 RESPONSES TO COMMENTS FROM PEOPLE AGAINST RADIOACTIVE DUMPING DATED JANUARY 8, 2001.

G40-1 BLM and Metropolitan believe the Final EIR/EIS serves the purposes of and complies with CEQA and NEPA. Water quality impacts of the project are addressed in the Final EIR/EIS as summarized in Master Response "Water Quality." Regarding radioactive elements, none of the radiological constituents listed in Title 22 have been detected in Colorado River water at concentrations that exceed federal and/or state maximum contaminant levels for drinking water.

G40-2 See Response to Comment G40-1.

G40-3 USEPA has reviewed the Draft EIR/EIS and Supplement and have provided comments. See responses to letters F1 and F3. The Cadiz Project would store water by use of spreading basins, which is distinct from groundwater injection. The Cadiz Project will comply with all applicable water quality regulations. See Master Response "Water Quality."

G40-4 Comment noted. The Cadiz Project is not associated with any nuclear materials or nuclear waste.

G41 RESPONSES TO COMMENTS FROM THE SIERRA CLUB CAL/NEV REGIONAL CONSERVATION COMMITTEE BLM LANDS COMMITTEE DATED JANUARY 4, 2001.

G41-1 The BLM is responsible for all final decisions related to the enforcement of the Management Plan through enforcement of the terms and conditions of any right-of-way grant(s) it issues in connection with the project. This is consistent with the description of the role and responsibility of the BLM as is described in Section 3.10.3 of the Supplement.

Management Plan governance has been revised in the Final EIR/EIS and includes provisions for public involvement and comment. Management Plan reports (described in Section 6 of the Management Plan, Final EIR/EIS Volume IV) will be of public record and available to any interested party. In addition, the BLM, at its discretion, may conduct public meetings. See Master Response "Governance."

G41-2 Governance of the Management Plan as presented in the Draft EIR/EIS has been revised in the Final EIR/EIS. The TRT and BMG have been removed from the Management Plan. Instead, BLM will receive technical support and recommendations from other public agencies through a Technical Review Panel (TRP). See Master Response "Governance" and Section 9 of the Management Plan (Final EIR/EIS, Volume IV).

G41-3 The purpose and need for the project are addressed in Section 2 of the Final EIR/EIS Volume I. As discussed in that section, Metropolitan is proceeding on several fronts to meet its target for dry-year needs on the Colorado River Aqueduct. With the Cadiz Project and other projects which are already being pursued, Metropolitan will still need an additional 20,000 to 90,000 acre-feet of dry-year supply to meet its target. Thus, other projects currently under study are not alternatives to the Cadiz Project. Conservation is a basic element of Metropolitan's long-term water management strategy. The Cadiz Project is needed even with the aggressive conservation and reclamation that Metropolitan is implementing. See Master Response "Formulation and Screening of Potential Projects" and Master Response "Conservation."

G41-4 See Response to Comment F3-11 and Master Response "Water Quality." Colorado River water must already be treated prior to domestic use. The project is not anticipated to require additional treatment or affect the ability to meet applicable water quality regulations.

G41-5 Comment noted.

G42 RESPONSES TO COMMENTS FROM THE WESTERN ENVIRONMENTAL LAW CENTER DATED JANUARY 11, 2001.

G42-1 Comment noted. Referenced comments and attachments are included as a part of the administrative record.

G42-2 Comment noted. Extraction of indigenous groundwater will be subject to the provisions of the Management Plan. The amount of indigenous groundwater that may be extracted is not known at this time.

G42-3 Comment noted.

G42-4 Comment incorrectly characterizes the project effects and the amount of groundwater that could be extracted during the Cadiz Project. The withdrawal of water from the aquifer will be limited by the Management Plan to ensure avoidance of impacts to the dry lakes, springs, and other critical resources. See Master response "Groundwater Monitoring and Management Plan." The potential attraction of ravens to the spreading basins is discussed in Section 5.8.4 of the Final EIR/EIS Volume I; mitigation measures (B-21 and B-24) will be adopted to reduce the likelihood of this occurrence.

G42-5 BLM and Metropolitan believe that the Final EIR/EIS serves the purposes of and complies with the requirements of CEQA and NEPA.

G42-6 Comment noted.

G42-7 Comment noted

G42-8 BLM and Metropolitan believe that the assessment of project need and purpose in Section 2 of the Final EIR/EIS meets the requirements of CEQA and NEPA.

G42-9 Section 2.3.4 of the Final EIR/EIS details Metropolitan's current and projected conservation programs. See also Master Response "Water Conservation."

G42-10 As discussed in Section 2 of the Final EIR/EIS, Metropolitan is evaluating the Cadiz Project, and other groundwater storage projects, in accordance with its Integrated Resources Plan (IRP). The IRP places emphasis on both local and imported water resource development. Conservation is treated as a core local supply, on a par with recycling and other water resources. The IRP establishes targets for water conservation, additional dry year supply, water storage and transfers, and other available water resource development opportunities. The need for the Cadiz Project has been determined in light of existing and projected water conservation accomplishments.

G42-11 Because operation of the project will be subject to the provisions of the Management Plan, the Cadiz Project will not result in overdraft of the groundwater basin. Adequate safeguards established by the Management Plan assure that the Cadiz basin will not be "overdrafted" as the result of the operation of this project. See Master Response "Groundwater Monitoring and Management Plan."

As discussed in Section 4.8.3 for the consequences of the No Action Alternative, groundwater overdrafting is a likely outcome within Metropolitan's service area if the Cadiz Project is not implemented. This is because 1) overdrafting in Metropolitan's service area is not prevented in the same way as overdrafting in the Cadiz basin is prevented by the project, and 2) the lack of other practicable alternatives to meet shortfalls in water supply. Metropolitan is already aggressively pursuing greatly increased conservation within its service area; however, this does not diminish the need for the Cadiz Project. See Master Response "Water Conservation."

G42-12 As noted in Section 2 of the Final EIR/EIS, Volume I, Metropolitan uses SCAG and SANDAG population projections in its water management planning. Metropolitan coordinates closely with both SCAG and SANDAG staff and has a representative assigned to all SCAG agency meetings. However, Metropolitan does not have the authority to regulate or control growth within its service area. Metropolitan's legal obligation is to provide supplemental water to its service area.

Regarding per capita water uses, it is noted in the Final EIR/EIS that per capita water use varies within Metropolitan's service area. The coastal areas, where per capita water use is lower, is colder and wetter; inland areas, where per capita water use is higher, are drier and hotter. See the report, referenced in Section 15 of the Final EIR/EIS Volume I, Regional Urban Water Management Plan for the Metropolitan Water District of Southern California (December 2000), for a detailed discussion of Metropolitan's water demand forecasting process.

Metropolitan uses a public process in planning to meet projected demands. The Integrated Resources Plan (IRP) was developed in an open and participatory process involving member agencies, water resource agencies, and the general public. Metropolitan's Regional Urban Management Plan was also adopted with full public review. Metropolitan's Board of Directors meetings are open to the public. The Cadiz project itself, is subject to full and open public review. Metropolitan is equally committed to both water conservation and dry year storage and transfer programs in accordance with its IRP.

G42-13 Contrary to the statements of the commentor, there is no contradiction between the statement that Metropolitan's total demand includes 10% for agricultural use (Section 2.4.5 of the Final EIR/EIS Volume I) and the statement that there is a 30% increase in summer irrigation use (Section 2.4.3) within its service area. The commentor confuses the discussion of seasonal

trends in total water use (Section 2.3.3) with the discussion of agricultural water use (Section 2.3.4).

G42-14 The Final EIR/EIS assess potentially adverse impacts resulting from the Cadiz Project, including a thorough discussion of the need for the Project. The establishment of disincentives to "discretionary" water use is not considered a feasible alternative to the Cadiz Project and thus is beyond the scope of this EIR/EIS. Although Metropolitan supports the elimination of wasteful water use by any of Metropolitan member agency customers, Metropolitan is not a retail water agency and does not set the rate at which water is sold to households.

Nonetheless, Metropolitan is currently revisiting the rates charged to member agencies as part of its strategic planning process. Metropolitan's water rates currently vary by classes of service. Metropolitan maintains its Local Projects Program, Groundwater Recovery Program, Conservation Credits Program and Seasonal Storage Program to encourage member agencies to maximize its use of local resources, to increase local storage of imported supplies, and to implement long term conservation programs. However, these activities do not diminish the need for the Cadiz Project.

G42-15 Metropolitan's low-flow toilet and low-flow showerhead programs are only two of many water conservation BMP's to which Metropolitan and its member agencies are committed. See Master Response to Comment "Water Conservation." An expanded discussion of Metropolitan's commitment to water conservation is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-16 See Master Response to Comment "Water Conservation." An expanded discussion of Metropolitan's commitment to water conservation is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-17 See Master Response to Comment "Water Conservation." An expanded discussion of Metropolitan's commitment to water conservation is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-18 Metropolitan concurs that there is an opportunity to promote low-flow toilet installation to bring the entire region up to the standard set by Los Angeles. This opportunity currently exists through Metropolitan's Ultra-Low-Flush Toilet (ULFT) Program (BMP 1). As of January 2000, the region had achieved an estimated 32 percent overall saturation of ULFT's. More than half of this saturation has been achieved through agency-sponsored retrofit programs. More than 200,000 ULFT's are installed each year through programs sponsored by Metropolitan and its member agencies. This level of activity is expected to continue for at least the next five years, resulting in increased saturation of ULFT's within Metropolitan's service area. It is reasonable to anticipate additional water conservation throughout southern California as a result of Metropolitan's financial support for BMP 1. See Responses to Comments G37-1 through G37-7.

G42-19 As with the ULFT program discussed in response to your previous comment, Metropolitan concurs that there are additional opportunities for increased saturation for low-flow showerheads within its service area. Metropolitan has distributed 2,856,836 low-flow

showerheads throughout its service area as of June 30, 2000. Metropolitan and its member agencies remain committed to this program (BMP 2) through its financial support. It is reasonable to anticipate additional water conservation throughout southern California as a result of Metropolitan's financial support for BMP 2.

G42-20 Metropolitan recognizes and considers potential water conservation from High Efficiency Clothes Washers (HECW) (BMP 6). The major incentive for this program has come from the energy utilities in the region. The Los Angeles Department of Water and Power, one of Metropolitan's member agencies, initiated a major HECW rebate program. The San Diego County Water Authority, another of Metropolitan's member agencies, has also sponsored rebates for HECW's installed within their service areas. Metropolitan has contributed $640,000 toward implementing BMP 6.

Landscape Evapotranspiration Controllers (BMP 5) also show high promise for increasing the amount of water saved in southern California. Commercial, Industrial and Institutional Programs (BMP 9), also show high promise for additional water conservation savings in southern California. Metropolitan concurs that these BMP's should be financially supported. For example, Metropolitan has already contributed over $3 million as of June 2000, toward implementing BMP 9 within its service area. See Responses to Comments G37-1 through G37-7.

G42-21 See Master Response "Water Conservation." An expanded discussion of Metropolitan's commitment to water conservation is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-22 BMP 3 (Home Water Audits and Leak Detection Programs) and BMP 5 (Landscape Water Audits) to which referenced by the commentor are currently supported financially by Metropolitan. Research and development in this area of water conservation will continue to identify cost effective "programs" which will assist Metropolitan and its member agencies in achieving water conservation savings in the future. For a more detailed discussion of Metropolitan's support for the BMP's, see The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-23 See Response to Comment R42-22.

G42-24 Metropolitan's Water Supply and Drought Management (WSDM) Plan, referenced in Section 15 of the Final EIR/EIS Volume I, has considered water supply shortages and has been adopted to allocate water resources during shortage conditions. The Cadiz Project and other groundwater storage and conjunctive use programs will enable southern California to avoid the economic consequences of severe water supply shortages. Metropolitan considers the limited form of 'rationing' as suggested by the commentor as a form of conservation that could be implemented at the retail level. However, Metropolitan does not have the authority to enforce specific water use prohibitions at the retail level.

G42-25 Metropolitan's projections for water conservation savings are based on the adopted IRP. These projections were approved and adopted by Metropolitan and the majority of its member agencies. Metropolitan's planning efforts are ongoing and projected water conservation savings and other information will be reevaluated over time. Regarding the conservation numbers presented in the Draft EIR/EIS, Section 2.4.4 of the Final EIR/EIS Volume I has been revised to clarify that 500,000 acre-feet per year in new conservation is

anticipated from projected programs and that an additional 164,000 acre-feet of conservation is anticipated form programs yet to be developed.

G42-26 As stated in Section 2.4.4 of the Final EIR/EIS Volume I, total savings from continuation of existing conservation programs and implementation of new conservation programs will result in a reduction in average daily per capita water use from 220 gpcd to 192 gpcd, a reduction of 13 percent in per capita use. An expanded discussion of Metropolitan's commitment to water conservation is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000.

G42-27 There is no inconsistency in the discussion of the State Water Project supplies that may be available to Metropolitan.. The 1.14 maf cited is correctly described in Section 2.5.2 of the Final EIR/EIS Volume I as the current dependable SWP supply in an average year. The 450,000 acre-feet cited is correctly described as the current dependable SWP supply in a dry-year. This figure of 450,000 acre-feet per year was not used in the projection of need for the Cadiz Project. Rather, as discussed in Section 2.6.1 of the Final EIR/EIS, Metropolitan is planning programs that will increase the dry-year yield of the SWP supply by 200,000 acre-feet, thus to 650,000 acre-feet in a dry year.

G42-28 The existing and potential yield from water recycling and groundwater recovery programs was considered in the analysis of project need. See Final EIR/EIS Section 2.6.1. This discussion reflects Metropolitan's support for such programs and the projection that they will yield 500,000 acre-feet of water annually by 2020. An expanded discussion of Metropolitan's commitment to water reuse is included in the report referenced in Section 15 of the Final EIR/EIS Volume I, The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2000. This report includes a discussion of the Southern California Comprehensive Water Reclamation and Reuse Study which was considered and incorporated in Metropolitan's water supply planning. Metropolitan is one of seven local agencies that, along with the U.S. Bureau of Reclamation and California Department of Water Resources, are participating in the Southern California Comprehensive Water Reclamation and Reuse Study.

G42-29 Section 2.5.4 of the Final EIR/EIS Volume I includes a discussion of the availability of local groundwater supplies to meet demand. Local groundwater basins are currently being used for 90 percent of the local water supply. The commentor confuses the availability of groundwater *storage* capacity, and the actual groundwater supply. The water to be stored in underground aquifers must come from local precipitation or be imported and percolated into the ground. Storage capacity, without the water to fill it, does not represent a reliable supply of water.

As discussed in the Final EIR/EIS, Metropolitan supports the efforts of local agencies to increase the use of local groundwater supplies through treatment of contaminated supplies and improved groundwater management. Metropolitan is also considering four projects to put water in storage within local basins for use during dry years. These projects were discussed and included in the analysis of the need for the Cadiz Project. See Table 2-7 of the Final EIR/EIS Volume I

G42-30 The discussion of groundwater storage projects is not inconsistent. The annual dry-year supply provided by each project is based on the delivery capacity of each project's facilities, not simply by taking one-third of the project's capacity. The delivery capacity of the

extraction wells and pipelines for the Cadiz and Hayfield projects is 150,000 acre-feet per year. The storage capacity of each basin is considerably larger that the capacity that can be extracted over the three-year period used for comparison purposes.

G42-31 See Response to Comment G42-30.

G42-32 See Response to Comment G42-30.

G42-33 Mr. Safely did not state that the Cadiz Project would withdraw "300,000 acre-feet per year" as stated in this comment. A transcript of the public meeting held at Metropolitan's offices in Los Angeles, and comment referenced are included in this document. See page 9 of the December 18, 2000 transcript at lines 21 to 24 and page 10 at lines 4 to 7. BLM and Metropolitan believe that the purpose and need for the Cadiz Project as set forth in Section 2 of the Final EIR/EIS, Volume I serves the purposes of and meets the requirements of CEQA and NEPA.

G42-34 Metropolitan's planning process is ongoing and reflects changes that have occurred since the 1996 IRP. These changes are reflected in the analysis presented in the Final EIR/EIS.

G42-35 Metropolitan encourages its member agencies to provide cost-effective and reliable water supplies to its customers. Metropolitan has adopted a rate structure to encourage it member agencies to accomplish this goal. However, any new rate structure is not anticipated to diminish the need for Metropolitan to continue to pursue the core supply targets identified in its IRP and in its Regional Urban Water Management Plan. Thus, it is not premature for Metropolitan to implement groundwater storage and conjunctive use programs, such as the Cadiz project, or any other core supply projects as identified through Metropolitan's long-range planning process. The Cadiz Project is one of the projects identified as having the potential to both meet IRP storage and dry-year supply targets and assist in enabling California to implement the California Colorado River Water Use Plan. G42-36 Comment noted. No response is required.

G42-37 Extensive studies of recharge to the aquifer system have been done in connection with the project. However, as discussed in Section 5.5 of the Final EIR/EIS, Volume I, there is disagreement among experts as to the amount of natural recharge to the project area. Despite this disagreement, all of the agencies who participated in the preparation of the Final EIR/EIS agreed that the overriding objective is to ensure the protection of critical resources in the vicinity of the project area. The parties further agreed that this objective would best be accomplished through the development and implementation of the Management Plan (Final EIR/EIS Volume IV), which will protect these resources. See Master Response – "Groundwater Monitoring and Management Plan". Since the project will be operated in accordance with the Management Plan, the project will not adversely impact critical resources. Thus, precise quantification of a recharge rate is not essential to determine system performance or to perform an analysis of project impacts. BLM and Metropolitan believe the project description contained in the Final EIR/EIS serves the purposes of and complies with CEQA and NEPA.

G42-38 See Response to Comment G42-37. Section 5.5 of the Final EIR/EIS Volume I states that average amount of water available to the project area ranges between 15,000 and 37,000 acre-feet per year. The County of San Bernardino hydrology manual is in fact a tool that may be used to develop estimates of groundwater recharge, as it yields results for both surface runoff and infiltration of water into the ground. However, this information was not

used in the Final EIR/EIS to describe the project, evaluate system performance, or assess project impacts.

G42-39 See Response to Comment G42-37. The document prepared by Dr. Bredehoeft does not reflect the Cadiz Project as it would be operated under the Management Plan. See Response to Comments G42-127 to G24-206.

G42-40 The Cadiz Project will be operated in accordance with the provisions of the Management Plan and thus quantification of recharge is not essential to determine system performance or to perform an analysis of project impacts for the Cadiz Project. See Response to Comment G42-37. However, for clarification, it is noted that the "1996 study by Boyle Engineering," which was commissioned by Rail-Cycle, L.P., alleged "that water levels in the vicinity of the project area were declining due to existing pumping for irrigation of Cadiz's agricultural operations." The court in *Cadiz Land Co. v. Rail Cycle*, 99 Cal Rptr 2nd 378 (2000) did not indicate that the system underlying the project area is already in a state of overdraft. Rather, the court noted that the Rail Cycle EIR's responses to comments said that increased irrigation "might result in overdraft of the basin" and that the County had concluded that the basin was in overdraft. Id. at 389, 392.

G42-41 The comment is not correct in stating that the Management Plan will "control adverse impacts as they are observed." Rather, the Management Plan is designed to monitor groundwater levels in locations where any changes will be identified and, if certain indicators are reached, corrective actions will be taken before the occurrence of adverse impacts to critical resources. See Master Response, "Groundwater Monitoring and Mitigation Plan."

G42-42 As discussed in Section 1 of the Final EIR/EIS, the project conveyance pipeline and electrical distribution system will cross federal lands administered by the BLM; thus, the BLM must consider whether to amend the California Desert Conservation Area Plan for an exception to the utility corridor requirement and right-of-way grant(s) to Metropolitan for construction and operation of the project. The environmental impacts of these actions have been addressed in the Final EIR/EIS. Accordingly, after all public comments have been considered by BLM and, if BLM determines to approve the above actions, BLM would publish Records of Decision, in accordance with applicable law. By law, the terms and conditions for right-of way grant(s) and language of the CDCA Plan amendment must be consistent with the project as described in the Final EIS and Record(s) of Decision. Thus, inclusion of terms and conditions and amendment language is not needed to characterize the project for CEQA and NEPA purposes.

G42-43 As noted in Planning and Conservation League v. Department of Water Resources, "[a]n EIR must `[d]escribe a range of reasonable alternatives to the project . . . which would ***feasibly*** attain most of the basic objectives of the project.'" 83 Cal. App. 4th at 917 (quoting CEQA Guidelines § 15126.6(a)) (emphasis added). "An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially ***feasible*** alternatives." (CEQA Guidelines § 15126.6(a) (emphasis added). In addition, "[t]he sufficiency of the information contained in an EIR is reviewed in light of what is reasonably ***feasible***." Planning and Conservation League (emphasis added). The alternatives analysis contained in the Final EIR/EIS complies with these mandates.

See Master Response "Formulation and Screening of Potential Projects." Section 3 of the Final EIR/EIS assesses the feasibility of the Cadiz Project.

G42-44 Comment noted.

G42-45 Comment noted.

G42-46 Comment noted.

G42-47 There is a difference in opinion among experts regarding the amount of natural recharge to the groundwater basin. Other experts than Dr. Bredehoeft estimated that the sustainable groundwater yield available to the project wellfield is 30,000 acre-feet per year. Draft EIR/EIS, Section 5.5, p. 5-80. Notwithstanding these differences of opinion, the project involves the transfer of only the amount of groundwater that may be extracted without causing adverse impacts to critical resources. This amount of groundwater will be limited through the Management Plan (Final EIR/EIS, Volume IV). In addition, it is feasible to store water in the basin for future use, and storage of Colorado River water is part of the project.

G42-48 Comment noted. The Cadiz Project will not interfere with any water rights reserved for federal property.

G42-49 Comment noted. BLM and NPS protected any federal water rights through development of the Management Plan as part of the Cadiz Project.

G42-50 The Final EIR/EIS, Volume I, Section 7.2.4, identifies the water usage on federal lands surrounding the project area. In addition, the potential impacts to springs located on federal lands are identified and avoided through the provisions of Sections 6.1 and 7.1 of the Management Plan (Final EIR/EIS, Volume IV).

G42-51 The Management Plan includes sufficient monitoring and management measures to protect groundwater-related resources located on federal lands from adverse impacts. Final EIR/EIS, Volume IV, Sections 6.1 and 7.1. The BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project. Final EIR/EIS, Volume IV, Section 10.

G42-52 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

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G42-56 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or

NEPA. It should be noted that additional costs resulting from the revised standards would apply to all water supplies that do not meet the standards, not just those from the Cadiz Project.

G42-57 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-58 The Secretary of the Interior currently makes the annual determination of water supply conditions in consultation with the seven Basin States, Indian Tribes and other parties, as required by Federal law, also known as the "Law of the River." California's rights to water from the Colorado River are determined by the Law of the River, which includes an international treaty, interstate compacts, federal and state laws, court decrees, contracts and regulations. For a more detailed analysis of the Law of the River, please refer to the Final Environmental Impact Statement for the Colorado River Interim Surplus Guidelines (December 2000) prepared by the U.S. Bureau of Reclamation and the Record of Decision published in the Federal Register on January 25, 2001 (Vol. 66, pp. 7772-7782). The Secretary's authority as the Colorado River "watermaster" will continue beyond 2016, when the proposed Interim Surplus Guidelines terminate.

The commentor is incorrect in stating that surplus Colorado River water cannot be stored. On the contrary, the Interim Surplus Guidelines recognize Metropolitan's right to divert such water for underground storage and use in subsequent years. The Interim Surplus Guidelines are not a barrier to storage, but are intended to provide a more reliable source of water for storage during the interim period in which California reduces its use of Colorado River water.

G42-59 The comment is not correct that State bond funds are necessary for the Cadiz Project. Furthermore, the operation of the project in accordance with the Management Plan (Final EIR/EIS, Volume IV) will comply with the referenced state law provisions.

G42-60 The comment concerning the financial status of Cadiz Inc. does not state a concern or question regarding the environmental effects of the project; therefore, a response is not required under CEQA or NEPA.

G42-61 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-62 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-63 See Master Response "Formulation and Screening of Potential Projects."

G42-64 As explained in the Final EIR/EIS, Volume I, Section 3.5.3, Ward Valley was eliminated from detailed analysis as a potential project alternative due to operational and environmental reasons, not because the site was proposed for a waste disposal facility. Among the operational reasons why this alternative was eliminated were engineering difficulties with the alignment of the necessary pipelines through Danby Dry Lake. Environmental considerations included that the probable spreading basins would be located

within critical habitat for desert tortoise, would be adjacent to and visible from designated wilderness areas, and could interrupt wildlife movement. Accordingly, it was not "unreasonable" to eliminate this potential alternative from further review.

G42-65 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-66 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-67 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-68 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-69 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA.

G42-70 Comment mischaracterizes the Cadiz Project, the provisions of the Management Plan to protect critical resources and the analysis of potential impacts. See Responses to Comments G42-71 through G42-87.

G42-71 The analysis of environmental impacts has not been deferred, but has been fully addressed. The Draft EIR/EIS, Supplement and Final EIR/EIS thoroughly discuss the potential impacts to springs, the aquifer system and Bristol and Cadiz dry lakes. (Draft EIR/EIS, Section 5.5; Supplement Section 6; Final EIR/EIS Section 5.5). The Management Plan described in Volume IV of the Final EIR/EIS provides a basis for operating the project in a manner that identifies when these impacts might occur so that corrective action can be taken in advance to ensure that adverse impacts are avoided.

G42-72 See Response to Comment G42-71.

G42-73 The formulation of mitigation programs has not been deferred. The Management Plan constitutes an extensive program of monitoring and adaptive management of project operations so that defined corrective actions can be undertaken prior to adverse impacts occurring.

G42-74 See Response to Comment G42-71.

G42-75 See Response to Comment G42-73.

G42-76 The basis for the comment is incorrect. The "estimate" reflects one opinion and is based on an operating scenario in which no remedial actions are taken and the project is operated without stopping for 50 years (see comment G42-144). In fact, the project will be operated under the Management Plan that includes an extensive monitoring system and predictive

modeling to identify groundwater changes that may portend an adverse impact. Corrective actions are required to prevent adverse impacts to critical resources.

G42-77 See Response to Comment G42-76. See Master Response "Groundwater Monitoring and Management Plan. The referenced study does not analyze the Cadiz Project. The "proposed pumping" assumed by the commentor is not a part of the Cadiz Project, and is not a valid premise for concluding "the monitoring and management system will not work." The project will be operated for storage and for extraction of available groundwater. All project operations, including transfers of indigenous groundwater, will be subject to the provisions of the Management Plan (Final EIR/EIS, Volume IV). Although there are differences of opinion regarding natural recharge to the project area, the Management Plan incorporates specific monitoring, modeling, and management requirements to ensure that project operations will not result in any adverse impacts to critical resources in the vicinity of the project area, regardless of the amount of natural groundwater recharge.

To provide further protection of critical resources following the operational phase of the project, a Closure Plan will be developed to ensure that no residual effects of project operations would result in future adverse impacts. This Closure Plan is described in Section 8.1 of Volume IV of the Final EIR/EIS.

G42-78 Sections 6.1 and 7.1 of the Management Plan (Final EIR/EIS, Volume IV) describes specific provisions to provide early warning of any potential adverse impacts to springs in the vicinity of the project. As a result of such early warning, a selection of corrective measures will be implemented to prevent adverse impacts from occurring.

It should be noted that no springs have been mapped by the U.S. Geological Survey on its 7.5' topographic quadrangles (scale 1:24,000) covering the Marble Mountains. In the event that any springs are identified in the Marble Mountains, they will be added to the inventory of known springs as described in Section 5 of the Management Plan (Final EIR/EIS, Volume IV).

Section 5.5.4 of the Final EIR/EIS, Volume I, analyzes the potential impacts to water resources within the Mojave National Preserve, including spring flow within the Preserve; within designated BLM wilderness areas; and within other BLM-managed lands. The closest spring (Bonanza Spring located on BLM-managed land) is located in the Clipper Mountains approximately 12 miles north of and up-gradient of the project spreading basins and wellfield. Other springs in the region are located in the Granite and Old Woman mountains. These springs range in distance from 15 to 20 miles from, and are up-gradient of, the project area. Springs located within the Mojave National Preserve, federally designated wilderness areas, and Bonanza Spring, are identified as critical resources in the Management Plan (Final EIR/EIS, Volume IV, Section 2.1).

G42-79 With regard to potential impacts to springs please see Responses to Comments G42-76, G42-77, and G42-78. It should be noted that no springs have been mapped by the U.S. Geological Survey on its 7.5' topographic quadrangles (scale 1:24,000) covering the Cadiz Dunes Wilderness Area. In the event that any springs are identified in the Cadiz Dunes Wilderness Area, they will be added to the inventory of known springs as described in Section 5 of the Management Plan, Final EIR/EIS, Volume IV.

G42-80 The Management Plan was developed to provide an extensive monitoring network in conjunction with predictive modeling to provide an early warning of potential project effects

on groundwater resources. The Plan does not rely solely on monitoring of project effects, but incorporates a number of models to approximate how operations will affect the groundwater, and to modify operations as necessary to avoid impacts. Monitoring data will be utilized to calibrate the groundwater models. Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. In addition, BLM will retain the authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project as described in Section 10, Final EIR/EIS, Volume IV.

G42-81 The issue raised by this comment has been addressed by finalizing the Management Plan. The Basin Management Group has been removed, and the authority to require changes in project operations will be retained by the BLM. The BLM Authorized Officer may receive comments and recommendations from members of the TRP, whether or not they have reached a consensus. The BLM Authorized Officer is not required to delay action pending receipt of such comments and recommendations. These modifications remove the potential for delay without affecting the opportunity to have a factually accurate and scientifically-based decision-making process. See Master Response "Governance."

G42-82 The issue raised by this comment has been addressed by finalizing the Management Plan. The BLM retains the authority to require changes in project operations. In making its decision, it will have the opportunity to consult with the TRP, consisting of experts from federal, State and local agencies, including the U.S. Geological Survey, National Park Service, Environmental Protection Agency, California Department of Water Resources, the California Regional Water Quality Control Board and the County of San Bernardino. Neither Metropolitan nor Cadiz Inc. will be members of the TRP. See Master Response "Governance."

G42-83 Contrary to the comment, the corrective measures defined in Section 7 of the Management Plan, Final EIR/EIS, Volume IV, are responsive to the specific circumstances and purpose they address and are not "vague." For example a corrective measure such as "stoppage of groundwater extraction for a duration necessary to correct the predicted impact" could not be more explicit.

G42-84 The commentor is not correct. The "moving of extraction wells" has not been proposed as a corrective measure "to alleviate the environmental impacts from depletion of the aquifer."

G42-85 Contrary to this comment, the referenced corrective measure is not presented in the Management Plan as an "ultimate solution." Where it is included, it is one of several available corrective actions. In all cases, it is qualified as being contingent on the availability of Colorado River water.

G42-86 Comment misstates the facts concerning the amount of indigenous groundwater that will be extracted, the provisions of the Management Plan that will protect critical resources and the facts concerning governance of the Management Plan. Metropolitan will operate the Cadiz Project in compliance with the provisions of the Management Plan in accordance with its obligations under CEQA. This will include the monitoring of a network of features that will detect changes in groundwater, refinement and calibration of predictive models, and modeling to determine potential future significance of any measured changes. For a complete description of the water resources models and predictive analyses see Section 3, the monitoring network see Section 5 of the Management Plan, Final EIR/EIS, Volume IV. For a description of Management Plan action criteria, decision-making process and corrective measures see Section 7. The BLM will retain control over the enforcement of the

Management Plan through the terms and conditions of any right-of-way grant(s) that it issues. All information collected and all Management Plan reports will be of public record and will be made available to any interested member of the public.

G42-87 BLM and Metropolitan respectfully disagree with the commentor's characterization of the Management Plan.

G42-88 For the reasons stated in the previous responses to this commentor, BLM and Metropolitan respectfully disagree with the commentor's characterization of the Draft EIR/EIS and Supplement.

G42-89 Regarding referenced "review by Dr. John Gillies," see Responses to Comment G42-162 through G42-184. Regarding the potential increased mobilization of dust related to "drawdown of the brine layer," see Master Response "Air Quality." Regarding the potential for dust mobilization related to the spreading basins and "impacts to sand dunes," see the Final EIR/EIS Section 5.6.

G42-90 See Master Response "Groundwater Monitoring and Management Plan." See Responses to Comments G42-162 through G42-184.

G42-91 The issue of dust mobilization from Bristol and Cadiz dry lakes was identified and discussed in Section 6.3.2 of the Supplement, and is included in Sections 2.4, 4, and 7.4 of the Management Plan, Final EIR/EIS, Volume IV. Additional study of the surface characteristics and the brine water chemistry might lead to the conclusion that lowering of the groundwater below the lake beds would not lead to increased susceptibility to dust mobilization. However, it has been conservatively assumed that a lowering of the groundwater level could increase the susceptibility of the lakebeds to dust mobilization. Therefore, the Groundwater Monitoring and Management Plan was developed to detect and mitigate the potential for increased susceptibility of the lakebeds to dust mobilization caused by lowering of the groundwater level as a result of project operations, thereby preventing increased dust mobilization from the lake beds.

A comparison between the conditions at Owens Lake and the conditions at Bristol and Cadiz dry lakes is not appropriate. Bristol and Cadiz dry lakes have been intermittent dry lakes for thousands of years, while Owens Lake was a surface body of water that was drained (over a short period of years) by removal of surface water recharge. Dust mobilization from the surfaces of Bristol and Cadiz dry lakes already exists. The intent of the Management Plan is to prevent any increase in dust mobilization due to the operation of the Cadiz Project.

G42-92 Estimates of the dust emissions from the maintenance of the spreading basins to remove accumulated sediment have been made and are included in the Final EIR/EIS, Volume I, Section 5.6.

Sediments are anticipated to accumulate on the spreading basins while they contain water. Although traps remove sand from the water flowing through the Colorado River Aqueduct, deposition onto the spreading basins of particulate matter from the atmosphere is anticipated to occur. (see the Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163) Vol I., p.11). This deposited particulate matter will remain on the surface of the basins when they empty through percolation of the water. This accumulated sediment reduces the percolation rate, so it will be removed prior to refilling of the basins. In this process, sediments will be

removed by heavy equipment to a depth of approximately 0.5 inch just prior to refilling of a basin. The removed material will be loaded into haul trucks by a front-end loader for transport and spreading at the Cadiz agricultural holdings or disposed of at an appropriate landfill. PM_{10} emissions during these operations include:

- Scraper exhaust
- Fugitive emissions from the scraper operation
- Front-end loader exhaust
- Fugitive emissions from dumping material into the haul trucks
- Haul truck exhaust, brake and tire wear
- Fugitive emissions from entrained unpaved road dust during haul truck travel
- Fugitive emissions when the material is unloaded from the haul trucks

As distinguished from dust suppression techniques that will be used during the construction of the water conveyance facilities (dust suppression during construction will involve primarily using soil binders) watering will be used to reduce PM_{10} emissions by an estimated 50 percent of uncontrolled emissions during sediment removal by the scraper. Additionally, the unpaved roads used by the haul trucks will be watered once each hour during truck travel to reduce fugitive PM_{10} emissions by an estimated 73 percent from uncontrolled emissions. The haul trucks will be covered when they transport material, so emissions from loss of material are not anticipated to occur.

It is currently anticipated that sediment will not be removed from the spreading basins every year. A significant increase in PM_{10} emissions from current levels is not anticipated to occur through wind erosion of the spreading basins, because of the formation of the crust on the surface when the basins dry out after emptying. PM_{10} emissions from the sediment removal activities are estimated to be 4.8 tons per year, which is below the Mojave Desert Air Quality Management District's CEQA significance criterion of 15 tons per year listed in Section 5.6.2 of the Final EIR/EIS, Volume I.

G42-93 The Cadiz Project pilot spreading basin tests have shown that the sediment forms a crust on the surface because of the presence of algae and other materials. This crust reduces the susceptibility of the spreading basin surfaces to mobilization by wind to levels comparable to or lower than that of the surrounding desert land. See the Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163) Volume I, p.10.

G42-94 The project conveyance facilities will not "temporarily or permanently disturb significant areas within the Cadiz Dunes" as stated by commentor. The preferred alternative is located outside of the Cadiz Dunes Wilderness Area.

Section 5.8 of the Final EIR/EIS discloses the acreage impacts to dune habitat of the temporary construction right-of-way and the permanent operations access road. Mitigation measures are identified to control dust emissions during construction.

G42-95 Comment misstates the provisions of the Management Plan related to preventing an increase in the mobilization of dust due to the operation of the Cadiz Project. The air quality monitoring is not intended to measure particulate matter concentrations but to detect the occurrence of wind-raised particulate matter from the dry lakebeds. Such wind mobilization is anticipated to lead to high particulate matter concentrations, which will cause large

increases in the light scattering coefficient measured by the open-air nephelometers. It is expected that the continuous nephelometer readings will be a better indicator of any project-related incremental increase to these emissions than a mass measurement would be.

G42-96 Saltation may be one of the primary mechanisms for generating particulate matter mobilization from the dry lakebeds. However, the intent of the monitoring program is to detect increases in the susceptibility of the lake bed surfaces to wind-raised particulate matter mobilization that is attributable to project operations. The Management Plan, which was developed jointly by the BLM, USGS, NPS, Metropolitan, San Bernardino County and Cadiz, will be adequate to detect such increases. Although measurements of saltation activity might help distinguish locally generated particulate matter from transported particulate matter, the use of nephelometers on opposite sides of each dry lakebed will serve the same purpose.

G42-97 Comment misstates and misrepresents the facts regarding the Management Plan and its provisions to monitor and protect air quality. The air quality provisions of the Management Plan will operate for the entire duration of the project. The five-year period described in Section 4.2 of the Management Plan, Final EIR/EIS, Volume IV, refers to the first stage of monitoring to evaluate the potential for transport of dust mobilized from Bristol or Cadiz dry lakes to the surrounding Mojave desert region. Wind speed and direction will be measured for at least five years using 10-meter meteorological towers at three locations. Five years is a reasonable period to identify existing meteorological and air quality conditions. Analyses of these data, along with the air quality measurements at the dry lakebeds, will be conducted to evaluate if this potential for transport from the dry lakebeds to the Mojave Desert region exists. This five-year period may be extended, should it be deemed warranted. If the potential for transport exists, then additional monitoring will be conducted once groundwater extraction commences to collect data for determination if the related air quality action criteria are met.

Commentor suggests that the El Nino Southern Oscillation is entering a wet phase, when in fact it appears that the dry phase is continuing. It is possible that natural effects of the dry phase will result in increased dust mobilization that is unrelated to the operation of the Cadiz Project.

G42-98 See Master Responses "Groundwater Monitoring and Management Plan" and "Air Quality" regarding the protection of air quality as it relates to the potential to increase dust mobilization from Bristol and Cadiz dry lakes. See also Responses to Comments G42-162 to G42-180.

Contrary to this comment, the corrective measures proposed in the Management Plan, Final EIR/EIS, Volume IV, are not intended to provide short-term intermittent responses to weather-driven processes. Instead, they are intended to prevent significant increases in wind-raised particulate matter emissions from the dry lakebeds caused by project operations.

The distribution of observation wells, as outlined in the Management Plan, is sufficient to provide early warning of potential project-related impacts to brine levels underlying Bristol and Cadiz dry lakes. Based on this early warning, appropriate corrective measures will be undertaken to ensure that the natural hydraulic gradient is restored. In this way, the Management Plan will avoid project-related impacts to air quality.

The commentor is incorrect in suggesting that the corrective measures are implausible due to demands for water. Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. The BLM will retain authority over the enforcement of the Management Plan through the terms and conditions of any right-of-way grant(s) it issues.

G42-99 Information provided regarding "Owens Lake" is not applicable to the Cadiz Project. Owens Lake is unique in the respect that it was a surface body of water that was transformed into a dry lake through diversions of surface water. By contrast, Bristol and Cadiz dry lakes have been intermittent dry lakes for thousands of years. Dust mobilization from the surfaces of Bristol and Cadiz dry lakes already exist and the area is designated to be in non-attainment for PM_{10}. The Management Plan will prevent any increase in this potential for dust mobilization due to project operations.

G42-100 The proposed Management Plan is designed to detect increases in dust mobilization related to project operations for the Mojave desert region. Based on topography, the potential transport corridor from the dry lake beds to Joshua Tree National Park is much more direct (down a valley) than that to the Mojave National Preserve (over a mountain range).

G42-101 See Responses to Comments G42-95 through G42-100.

G42-102 See Responses to Comments G27-1 through G27-7. The Endangered Species Act allows for the take of listed species incidental to lawful activities through consultation with USFWS pursuant to Section 7 and prohibits unauthorized take in Section 9. BLM initiated the Section 7 consultation process with USFWS on December 7, 1999.

G42-103 See Responses to Comments G27-1 through G27-7.

G42-104 The springs that occur within the region surrounding the proposed project wellfield and spreading basins are identified in the Final EIR/EIS, Volume IV, Section 2.1 and Figure 4, as critical resources. This designation is due primarily to the important value of these springs to wildlife and plant species. One of the species that depends upon these springs is the bighorn sheep. The first three feature types in the Management Plan are designed specifically to protect these resources. These features include the installation of observation well clusters between the project area and the springs in the nearby mountains. This monitoring will be used in conjunction with predictive modeling to detect adverse trends before they can cause an adverse impact to critical resources. Operation of the project in accordance with the Management Plan will avoid adverse impacts to the springs, and further avoid any indirect effects to bighorn sheep.

G42-105 See Responses to Comments G42-127 through G42-161 regarding comments from John Wehausen. Regarding potential impacts to springs, see Master Response "Groundwater Monitoring and Management Plan" and Responses to Comments G42-78 and G38-4. Operation of the project in accordance with the Management Plan will avoid adverse impacts to the springs, and further avoid any indirect effects to bighorn sheep.

G42-106 The environmental documents for the project meet the requirements of CEQA and NEPA. Analysis of the potential impacts to air quality due to dust mobilization from the surfaces of Bristol and Cadiz dry lakes are fully discussed, see Sections 6.4 and 7.4 of the Final EIR/EIS, Volume IV, and Sections 5.5.4 and 5.6.4 of the Final EIR/EIS, Volume I.

Commentor misstates the facts concerning the Management Plan and its provisions to protect water levels underlying Bristol and Cadiz dry lakes and thereby prevent the potential for an increase in the mobilization of dust due to the operation of the project. As stated in the Response to Comment G42-91, the Management Plan was developed to detect and mitigate the potential for lowering of the groundwater level as a result of project operations, thereby preventing increased dust mobilization from the dry lakebeds. The Management Plan's provision of additional data collection and analysis is not in place of such information and analysis in the Final EIR/EIS, but is in addition to it.

The monitoring network and predictive modeling are comprehensive and action criteria are conservative. These efforts include groundwater monitoring, data collection and analysis, as well as air quality and meteorological monitoring, data collection and analysis. See for example Final EIR/EIS, Volume IV, Section 7.4.1, "Potential Impacts to Air Quality due to Dust Mobilization from Water-Level Declines Beneath Bristol and Cadiz Dry Lakes." To monitor groundwater levels a network of "Cluster Type" observation wells will be established between the project wellfield and Bristol and Cadiz dry lakes. The groundwater levels of these wells will be monitored on a continuous basis throughout the term of the project. The action criterion is a change of 6 inches (from pre-operational static levels). If during project operations the predictive modeling determined that a corrective measure was needed to avoid potential significant impacts, such measure will be implemented in a timely manner. Section 3 of the Management Plan describes the modeling, Section 6 describes monitoring, testing and reporting procedures. Section 7 of the Management Plan describes action criteria, decision-making process and corrective measures.

See Master Response "Air Quality."

G42-107 Operation of the project in accordance with the Management Plan will avoid significant adverse impacts to water resources in wilderness areas and park units. Regarding potential water resource impacts to "park units," see Master Response "Groundwater Monitoring and Management Plan" and Responses to Comments G42-78 and G38-4. Regarding impacts to "wilderness areas," see Response to Comment G33-20.

G42-108 Neither the DEIR/EIS, the Supplement, nor the Final EIR/EIS state that mixing of indigenous groundwater and imported Colorado River water "will not occur." However, it is noted that the zone of mixing would be limited to the area of groundwater mounding resulting from the project spreading operations, and that this zone would not extend significantly outside the vicinity of the project wellfield (See Draft EIR/EIS, p. 5-94, Supplement, p. 6-3, and Final EIR/EIS, Volume I, Section 5.5.4).

The proposed project wellfield has been designed to efficiently extract the mound of stored water and indigenous groundwater that will form as a result of project spreading operations. As described in Section 5.5.4 of the Final EIR/EIS, Volume I, selected wells will be constructed to facilitate selective removal of stored water concentrated in the upper portion of the saturated section. For additional information, see Master Response "Water Quality."

G42-109 Metropolitan and BLM acknowledge that the Regional Water Quality Control Board has the authority to enforce the Porter-Cologne Water Quality Control Act to protect the quality of California's surface and groundwater. Compliance with applicable statutory and regulatory requirements governing water quality are an element of the Management Plan. See Final EIR/EIS, Volume IV, Section 7.2.1. Section 13 of the Final EIR/EIS, Volume I, has been revised to show this additional permit that may be required.

G42-110 See Response to Comment G42-109.

G42-111 Comment noted.

G42-112 Comment noted.

G42-113 Comment noted.

G42-114 The cumulative impacts analysis fully considers other water uses in the area, including water use in the Mojave National Preserve and other federal lands administered by the BLM in the vicinity of the Cadiz Project. See Final EIR/EIS, Volume I, Section 7. The documentation shows that such use is quite small, and that such use is not expected to increase substantially in the foreseeable future.

G42-115 The Final EIR/EIS, Volume I, Section 7.2.4, includes a discussion of water uses on private land. See Response to Comment P1-3. Comment does not provide any evidence that the information, which was included in Section 7.1.3 in the Supplement, that approximately 20 people live in the community of Chambless and that such water use is unlikely to increase significantly in the future, is incorrect. Moreover, at the time of the preparation of the Draft EIR/EIS and the Supplement, there was no public information available regarding any plans of the owner of Chambless Station as represented by the commentor. Indeed, the comment letter from an attorney representing the owner of Chambless Station does not disclose any plans to "establish a local water company and residential complex" as asserted by the commentor. See Comment Letter B10. In fact, no land use application has been submitted or is being processed for this location (personal communication, Ms. Julie Rynerson, Division Chief, Current Planning Division, San Bernardino County Land Use Services Department, February 14, 2001). Accordingly, it was not possible to include information about such planned projects in the Final EIR/EIS. Regarding water rights in Chambless, please see responses to comment letter B10.

G42-116 With regard to total chromium and hexavalent chromium in the indigenous groundwater underlying the proposed project area, see Master Response "Water Quality" and Response to Comment F3-11.

G42-117 The comment period on the Draft EIR/EIS and Supplement were extended and substantially exceeded the review periods required by NEPA and CEQA. See Section 1.5 of the Final EIR/EIS Volume I for a summary of the public involvement process.

G42-118 Table 3-3 in Section 3 of the Final EIR/EIS identifies 17 possible alignments that were evaluated and screened to arrive at the shortlist of alternative alignments that were evaluated in detail in the Final EIR/EIS. This effort provided an adequate review of possible alternative alignments. See also Master Response "Alignment Alternatives."

G42-119 Comment noted.

G42-120 Comment noted.

G42-121 There are no existing utility corridors or rights-of-way that connect the Iron Mountain Pumping Plant with the project spreading basins and wellfield. The preferred alternative follows existing rights-of-way to the extent reasonably possible. See Master Response "Alignment Alternatives."

G42-122 Comment noted.

G42-123 Comment noted.

G42-124 BLM and Metropolitan respectfully disagree. The Final EIR/EIS thoroughly analyzes the reasonable alternatives and potential environmental impacts in accordance with federal law and policy.

G42-125 The wilderness areas in the vicinity of the project were considered. (See Final EIR/EIS, Volume I, Section 5.17, "Wilderness/Recreation"). Other relevant discussions are included in Section 5.2 "Land Use, Planning and Policies," Section 5.11 "Noise" and Section 5.14 "Aesthetics." The analysis considers wilderness values and provides mitigation for potential impacts to designated wilderness areas in accordance with federal law and policy.

G42-126 See Responses to Comments G42-1 through G42-125. The Final EIR/EIS complies with CEQA and NEPA. Contrary to the commentor's assertion, there is no "clear weight" of expert opinion regarding recharge in the Cadiz Project area. As explained in the Final EIR/EIS, there is disagreement among the experts on this issue. Therefore, the Management Plan has been designed to prevent adverse impacts to critical resources, regardless of the amount of recharge, through project operations that include ongoing monitoring of effects. The Final EIR/EIS discusses and analyzes all potential adverse environmental impacts, including cumulative impacts. Finally, the Cadiz Project will comply with all applicable state and federal laws.

Please see Responses to Comments G42-127 through G42-161 and Master Response "Groundwater Monitoring and Management Plan."

G42-127 See Response to Comment T2-46

G42-128 The comment is based on an operating scenario that has never been considered. The project will be operated in accordance with the Management Plan and any groundwater use under the project must comply with the Management Plan provisions. See Master Response "Groundwater Monitoring and Management Plan."

G42-129 Comments noted.

G42-130 Comments noted. The Management Plan was developed as the basis for operating the project without causing adverse impacts to critical resources regardless of the amount of recharge to the basin.

G42-131 Comment noted. As the project is located in California, the comparison to Nevada's groundwater law is irrelevant. A variety of methods have been used to model the groundwater recharge in the basin. BLM and Metropolitan acknowledge that there are different opinions among experts regarding the amount of recharge. Due to these conflicting opinions, the Management Plan was developed as the basis for operating the project without causing adverse impacts to critical resources. The Management Plan will provide a systematic, site-specific investigation of the natural recharge as suggested in the comment.

G42-132 The Supplement to the Draft EIR/EIS, Section 1.1, acknowledged that there are differences in the opinions of experts with respect to natural recharge. This concern was addressed in the Supplement through the development of the Management Plan for purposes of governing

project operations to avoid adverse impacts to critical resources. See Master Response "Groundwater Monitoring and Management Plan."

G42-133 See Response to G42-132. The County of San Bernardino Hydrology Manual is an appropriate tool to estimate recharge to the groundwater basin, as it yields values for both surface runoff and infiltration into the ground.

G42-134 See Response to G42-132.

G42-135 See Response to G42-132.

G42-136 See Response to G42-132.

G42-137 See Response to G42-132. The Management Plan (Section 6.1.1) provides for sampling and isotopic analysis of water samples from springs in the area to help determine the age and source of water.

G42-138 See Response to Comment G42-132.

G42-139 See Response to G42-132.

G42-140 See Response to G42-128 and G42-132.

G42-141 BLM and Metropolitan respectfully disagree with the assertion that the Management Plan is flawed. Potential adverse impacts to critical resources will be avoided by monitoring the response of the groundwater basin to project operations and implementing corrective measures as necessary.

The monitoring facilities are conservatively located to ensure that the response of the groundwater basin is identified prior to the effects on the basin becoming significant enough to adversely affect critical resources. See Master Response "Groundwater Monitoring and Management Plan."

G42-142 See Response to Comment G42-128.

G42-143 The comment is based on an operating scenario that has never been considered. Section 8 of the Management Plan, Final EIR/EIS, Volume IV requires project operations be limited to allow a decline of no more than an average of 100 feet in static groundwater levels in the vicinity of the project wellfield, or such a level as will not cause a predicted adverse impact to critical resources at any point in the future.

G42-144 The comment is based on an operating scenario that has never been considered. The Management Plan generally defines four corrective measures that could be implemented, at any point in time of project operations, to address potential adverse impacts to critical resources. See Section 7 of the Management Plan, Final EIR/EIS, Volume IV.

G42-145 See Response to Comment G42-132.

G42-146 See Response to Comment G42-128.

G42-147 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-148 See Responses to Comments G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-149 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-150 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-151 See Response to Comment G42-80.

G42-152 See Responses to Comments G42-132 and G42-128.

G42-153 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-154 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-155 See Response to Comment G42-132

G42-156 See Responses to Comments G42-132 and G42-128.

G42-157 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-158 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-159 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-160 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-161 See Response to Comment G42-128. The results of the simulation do not reflect the project as it will be implemented.

G42-162 The Final EIR/EIS acknowledges the possibility that a lowering of the groundwater levels under the dry lake beds could potentially lead to an increase in wind-mobilized particulate matter from the lakebed surfaces. Therefore, Section 7.4.1 of the Management Plan (Final EIR/EIS, Volume IV) specifies an action criterion to initiate review of a six-inch change in groundwater levels from pre-operational static levels in the cluster wells on the dry lake beds. Corrective action would be taken to restore the natural hydraulic gradient and avoid any project-related impacts.

G42-163 The Management Plan (Final EIR/EIS, Volume IV) requires monitoring of groundwater levels, surface soil moisture, and evapotranspiration at the dry lake beds. Additionally, data

will be collected on dust mobilization, wind speed and direction, and weather. Together this data will be used to identify and avoid significant adverse air quality impacts due to dust mobilization from the dry lake beds. Further analysis of the chemical composition of the surface crust and brine at the dry lake beds would not appreciably contribute to the assessment of potential impacts beyond the information provided by the data already designated for collection and measurement under the Management Plan.

G42-164 See Response to Comment G42-163.

G42-165 The Management Plan requires that monitoring of groundwater and air quality at the dry lake beds continue through the term of the project, with additional monitoring continuing during the post-operational phase. Final EIR/EIS, Volume IV, Sections 6.3 and 6.4. Additional monitoring of saltation activity on the dry lakebeds would not appreciably contribute to the measures required under the Management Plan.

G42-166 See Response to Comment G42-165.

G42-167 See Response to Comment G42-165.

G42-168 The only potential effect the project may have on the dry lake beds is the raising and/or lowering of groundwater levels. The Final EIR/EIS addresses the issue of the potential for increased dust mobilization that could result from less moisture at the surface due to drops in the groundwater. The measures developed and incorporated in the Management Plan (Final EIR/EIS, Volume IV) will ensure that the groundwater levels below the dry lake beds are not lowered to levels that allow increased dust mobilization.

G42-169 The measures required in the Management Plan (Final EIR/EIS, Volume IV) are not intended to provide short-term intermittent responses to weather-driven processes. Instead, they are intended to prevent possible increases in wind-raised particulate matter emissions from the dry lakebeds caused by project operations. An important aspect of the Management Plan is to detect and mitigate changes in groundwater levels beneath the dry lakebeds that are caused by project operations and that could lead to air quality impacts. The intent is not to reduce or prevent adverse impacts to air quality that already exist or are not caused by the project operations. The approach described in the comment suggests that project operations should be designed to reduce wind-raised particulate matter emissions below levels that are currently occurring.

G42-170 See Response to Comment G42-168.

G42-171 See Responses to Comments G42-172 and G42-173.

G42-172 Use of nephelometers in conjunction with weather stations collecting wind speed and direction data is sufficient to identify the existing air quality conditions at the dry lake beds, and to identify any measurable changes that may occur during project operations. Further measurements of particulate matter concentrations and saltation will not appreciably contribute to the assessment of potential impacts beyond the information provided by the data already designated for collection and measurement under the Management Plan.

G42-173 The Management Plan does not limit air quality monitoring at the dry lake beds to five years. Three meteorological towers to measure wind speed and direction will be operated for the five year period to assess regional wind patterns. In addition, there is ongoing

monitoring of particulate matter and meteorological conditions at the dry lakes throughout the operational and post-operational phases of the project. Management Plan, Final EIR/EIS, Volume IV, Section 6.4.1.

G42-174 As discussed in Response to Comment G42-92, estimates of the dust emissions from the maintenance of the spreading basins to remove accumulated sediment were made by the air quality technical experts retained by Metropolitan and are included in the Final EIR/EIS, Section 5.6 and Appendix C. These estimates were based on emission factors in the U.S. EPA's *Compilation of Air Pollutant Emission Factors* (AP-42). The statement in the Executive Summary of the Draft EIR/EIS stating that such emissions "would exceed standards" did not accurately summarize the analysis of such impacts. The text of the Final EIR/EIS has been revised to clarify that PM_{10} emissions from spreading basin maintenance will not exceed the applicable yearly threshold.

Sediments are anticipated to accumulate on the spreading basins while they contain water. Although traps remove sand from the water flowing through the Colorado River Aqueduct, deposition onto the spreading basins of particulate matter from the atmosphere is anticipated to occur. See the Cadiz Groundwater Storage or Dry-Year Supply Program Environmental Planning Technical Report—Groundwater Resources Report (Report No. 1163) Volume I, p. 11. The deposited particulate matter would remain on the surface of the basins when they empty through percolation of the water. This accumulated sediment reduces the percolation rate, so it will be removed prior to refilling of the basins. In this process, sediments will be removed by heavy equipment to a depth of approximately 0.5 inch just prior to refilling of a basin. The haul trucks will be covered when they transport material, and the unpaved roads will be watered during these operations. The sediments will be applied and integrated into the cultivated Cadiz agricultural landholdings where it will be no more susceptible to wind entrainment than the existing agricultural land.

PM_{10} emissions from the sediment removal activities are estimated to be 4.8 tons per year, which is below the Mojave Desert Air Quality Management District's CEQA significance criterion of 15 tons per year listed in Section 5.6.2 of the Final EIR/EIS. The calculation of emissions from these operations is set forth in Appendix C.

See Response to Comment G42-93 regarding emissions from the spreading basins when they are not being used for water recharge and are not undergoing maintenance.

G42-175 See Responses to Comments G42-92 and G42-174.

G42-176 See Responses to Comments G42-93 and G42-177.

G42-177 The Final EIR/EIS, Volume I, Section 5.6 addresses these air quality comments. More specifically, Section 5.6.5 includes Mitigation Measures AQ-8 and AQ-9 that specifically address spreading basin maintenance and the protection of air resources.

The spreading basins are only a potential source of dust when they are not in use. After use, the basins will have a layer of algal material that forms in the water and settles on the basin bottom as the basin drains. (GeoScience 1999, Section 9.6.1 {Report No. 1163}). Together with vegetation that will grow in the spreading basins, this algal mat will reduce potential dust during periods when the basins are dry.

The vegetation, algal mat, and fine-grained sediment will be removed only when the basins are to be put to use. This will limit the period of time in which the basins are exposed to wind erosion and dust emissions. The Final EIR/EIS, Volume I, Section 5.6.4, has been revised to clarify that basin maintenance will be performed only as necessary prior to use of the basins.

G42-178 As stated in Response to Comment G42-94, the project conveyance facilities will not "temporarily or permanently" disturb significant areas within the Cadiz Dunes Wilderness Area as stated by commentor. The preferred alternative is located outside of the Cadiz Dunes Wilderness Area.

Section 5.8 of the Final EIR/EIS, Volume I, discloses the acreage impacts to dune habitat of the temporary construction right-of-way and the permanent operations access road. Mitigation measures are identified to control dust emissions during construction.

G42-179 Sand is not anticipated to become mobilized and blow onto the Cadiz and Danby dry lakebeds after completion of construction, because contouring, compaction and reestablishment will be used to stabilize any areas disturbed during construction.

Similarly, mitigation measures that will be used to control dust emissions during construction are anticipated to minimize any transport of sand from the construction area onto the Cadiz and Danby dry lakebeds.

G42-180 See Responses to Comments G42-162 through G42-179.

G42-181 See Responses to Comments G42-163 to G42-164.

G42-182 See Responses to Comments G42-165 to G42-170.

G42-183 See Responses to Comments G42-171 to G42-173.

G42-184 See Responses to Comments G42-174 to G42-177.

G42-185 Attached letter is included in this document as letter G27. See Response to Comment G27-1.

G42-186 Attached letter is included in this document as letter G27. See Response to Comment G27-2.

G42-187 Attached letter is included in this document as letter G27. See Response to Comment G27-3.

G42-188 Attached letter is included in this document as letter G27. See Response to Comment G27-4.

G42-189 Attached letter is included in this document as letter G27. See Response to Comment G27-5.

G42-190 Attached letter is included in this document as letter G27. See Response to Comment G27-6.

G42-191 Attached letter is included in this document as letter G27. See Response to Comment G27-7.

G42-192 Attached letter is included in this document as letter G27. See Response to Comment G27-8.

G42-193 Comment noted.

G42-194 Comment noted.

G42-195 The Management Plan (Final EIR/EIS, Volume IV) includes the monitoring of springs as well as groundwater levels at locations between the project wells and the springs. See Section 5, Figure 4, of the Management Plan. The data collected will ensure that corrective measures are implemented if necessary to avoid any significant adverse impacts to spring flows.

G42-196 The comment concerning water costs does not state a concern or question regarding the environmental effects of the project, therefore, a response is not required under CEQA or NEPA. Commentor should note that the financial terms between Metropolitan and Cadiz Inc. are no longer those stated in the August 1998 Principles document relied on for the comments stated in this letter. Financial terms will be included in contracts to be executed only upon completion of the environmental review of the project.

G42-197 See Response to Comment G42-196.

G42-198 See Response to Comment G42-196.

G42-199 See Response to Comment G42-196.

G42-200 See Response to Comment G42-196.

G42-201 See Response to Comment G42-196.

G42-202 See Response to Comment G42-196.

G42-203 See Response to Comment G42-196.

G42-204 See Response to Comment G42-196.

G42-205 See Response to Comment G42-196.

G42-206 See Response to Comment G42-196.

G43 RESPONSES TO COMMENTS FROM THE SAN FERNANDO VALLEY SIERRA CLUB DATED JANUARY 2, 2001

G43-1 Comment misstates the facts concerning the Cadiz Project, the amount of indigenous groundwater, if any, that will be transferred and the provisions of the Management Plan to protect critical resources. See Master Responses "Groundwater Monitoring and Management Plan" and "Air Quality."

G43-2 See Response to Comment G43-1.

G43-3 See Response to Comment G43-1.

G43-4 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

G43-5 Comment noted.

P18 RESPONSES TO COMMENTS FROM JOHN HILL DATED OCTOBER 30, 2000.

P18-1 Comment noted.

P18-2 See Section 7.1.1 of the Management Plan (Final EIR/EIS, Volume IV) for a description of explicit provisions to monitor and protect springs. Implementation of the Management Plan is a component of the Cadiz Project to ensure the project will not "make the water table disappear."

P18-3 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

P19 RESPONSES TO COMMENTS FROM CATHY DANZEISEN DATED NOVEMBER 2, 2000.

P19-1 The Management Plan (Final EIR/EIS, Volume IV) provides specific actions and corrective measures that address concerns raised in comments on the Draft EIR/EIS and Supplement, and ensures protection of critical resources, including groundwater related resources.

P20 RESPONSES TO COMMENTS FROM KATE BLAIR DATED NOVEMBER 21, 2000.

P20-1 Section 8 of the Management Plan requires operation of the project in a manner that avoids projected impacts to groundwater resources, even after the project is ended. This plan ensures continued beneficial use of the basin. The project is not analogous to the use of water from the Mono Valley by the Los Angeles Department of Water and Power.

P20-2 Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

P20-3 See Master Response "Water Conservation." See Response to Comment F3-11 regarding hexavalent chromium.

P21 RESPONSES TO COMMENTS FROM ROGER ARMSTRONG DATED NOVEMBER 29, 2000.

P21-1 The Cadiz Project does not propose to drain pristine water from the aquifers beneath the Mojave National Preserve. Section 7.1.1 of the Management Plan (Final EIR/EIS, Volume IV) provides for the monitoring and management of project operations to avoid causing groundwater level declines at the boundary of the Mojave National Preserve.

P21-2 See Master Responses "Groundwater Management Plan" and "Air Quality." The Management Plan (Final EIR/EIS, Volume IV, Section 7.1) includes provisions to protect the springs, aquifer system, and other critical resources that support the desert ecosystem, including bighorn sheep and desert tortoise. The project would not create a "dustbowl effect". Section 7.4 of the Management Plan provides for protection of air quality related to potential dust mobilization from water level declines beneath Bristol and Cadiz dry lakes caused by project operations.

P21-3 The USGS and NPS expressed concerns regarding some elements of the project as proposed in the Draft EIR/EIS. As a result, they became cooperating agencies pursuant to NEPA and participated in the preparation of the Supplement, the Final EIR/EIS, and the Management Plan.

Additionally, water conservation is an important component of Metropolitan's strategic planning. See Master Response "Water Conservation." The Cadiz Project, and other Colorado River groundwater storage programs, will enable the State of California to reduce its dependence on the Colorado River. See Section 2.5.3 of the Final EIR/EIS, Volume I, regarding existing Colorado River water allocations.

P21-4 The comment does not identify a new environmental effect that has not been addressed in the Final EIR/EIS. BLM and Metropolitan have provided a good faith effort at full disclosure in the Final EIR/EIS of potentially significant impacts, alternatives, and mitigation measures.

P22 RESPONSES TO COMMENTS FROM BARBARA PASCHKE CITIZEN OF THE WORLD DATED DECEMBER 4, 2000.

P22-1 See Response to Comment F3-11 and Master Response "Water Quality" regarding hexavalent chromium.

P22-2 The project will not affect the ability of Metropolitan to meet applicable water quality standards. There is no conclusive evidence that hexavalent chromium causes cancer when ingested in water. Further study is being done by the California Department of Health Services and the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment.

P22-3 The Cadiz Project, and other Colorado River groundwater storage programs, will enable the State of California to reduce its dependence on the Colorado River, thereby conserving this resource. See Section 2.5.3 of the Final EIR/EIS, Volume 1, regarding existing Colorado River allocations. Also, see Master Response "Water Conservation."P22-4 See Responses to Comments P22-2 and P22-3.

P23 RESPONSES TO COMMENTS FROM JAMES BRYANT CURATOR OF NATURAL HISTORY RIVERSIDE MUNICIPAL MUSEUM DATED NOVEMBER 16, 2000.

P23-1 Comments noted. With regard to chromium in the groundwater at the project site, see Response to Comment F3-11. Water conservation is a basic element of Metropolitan's long-term water management strategy. See Master Response "Water Conservation."

Regarding water supply, see Master Response "Growth Inducement."

P24 RESPONSES TO COMMENTS FROM WILLIAM MCCARVILL DATED NOVEMBER 24, 2000.

P24-1 The commentor misconstrues the facts concerning the Cadiz Project. The capacity of project facilities will be 150,000 acre-feet per year to allow extraction of that amount in any year of project operations, but not every year will be operated at full capacity for either storage or retrieval operations. All Cadiz Project operations, including transfer of indigenous groundwater (if any), will be governed by the provisions of the Management Plan, Final EIR/EIS, Volume IV.

P24-2 See Master Responses "Growth Inducement" and "Water Conservation."

P24-3 The project makes no change in the amount of water that Metropolitan receives from the Colorado River, nor in the operation of Metropolitan's diversion facilities at Lake Havasu.

P24-4 Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan pursuant to the terms and conditions of its right-of-way grant(s) for the project.

P24-5 See Master Response "Groundwater Monitoring and Management" and Response to Comment G42-37.

P24-6 See Master Response "Governance."

P24-7 Comment noted. See Master Response "Groundwater Monitoring and Management Plan."

P25 RESPONSES TO COMMENTS FROM AUBREY JOHNSON DATED DECEMBER 20, 2000.

P25-1 See Response to Comment P21-4.

P25-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P25-3 Metropolitan places emphasis on both water conservation and other water resource options in its strategic planning. Metropolitan's commitment to water conservation is further described in its recently adopted Regional Urban Water Management Plan for the Metropolitan Water District of Southern California. See Master Response "Water Conservation".

See Master Response "Growth Inducement."

P25-4 See Master Response "Air Quality."

P25-5 Analysis of the potential impacts of the Cadiz Project associated with wilderness values is provided in Section 5.17 (Wilderness/Recreation) in the Final EIR/EIS, Volume I. Analysis of potential impacts related to wildlife species and native habitats are provided in Section 5.8 (Biological Resources).

P26 RESPONSES TO COMMENTS FROM CAROL ARONOWSKY DATED DECEMBER 21, 2000.

P26-1 See Response to Comment P21-4. Analyses of potential impacts related to wildlife species and native habitats are provided in Section 5.8 (Biological Resources). See Master Responses "Groundwater Monitoring and Management Plan" and "Water Quality" regarding water quality issues. For additional information regarding existing water quality see the Final EIR/EIS Section 5.5 and see the Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report (Report No. 1163). With respect to governance of proposed project operations, see Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV).

P27 RESPONSES TO COMMENTS FROM KIRK D. MAYES DATED DECEMBER 26, 2000.

P27-1 Analysis of the potential impacts of the Cadiz Project associated with wilderness values is provided in Section 5.17 (Wilderness/Recreation) in the Draft EIR/EIS. Analysis of potential impacts related to wildlife species and native habitats are provided in Section 5.8 (Biological Resources). See Master Response "Master Response "Groundwater Monitoring and Management Plan."

Metropolitan places emphasis on both water conservation and other water resource options in its strategic planning. Metropolitan's commitment to water conservation is further described in its recently adopted Regional Urban Water Management Plan for the Metropolitan Water District of Southern California. See Master Response "Water Conservation."

P27-2 Metropolitan will implement the project in accordance with the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

P27-3 Demand for new water supplies has been substantially reduced through implementation of water conservation in Southern California. See Master Response "Water Conservation."

Regarding alternatives to the project, see Master Response "Formulation and Screening of Potential Projects."

P27-4 See Master Response "Air Quality."

P27-5 Written responses to the comment letters are included in this Final EIR/EIS, Volumes II and III.

P28 RESPONSES TO COMMENTS FROM MARSHA WESTROPP DATED DECEMBER 27, 2000.

P28-1 See response P21-1.

P28-2 Regarding alternatives to the project, see Master Response "Formulation and Screening of Potential Projects."

Regarding conservation measures being implemented in Metropolitan's service area, see Master Response "Water Conservation."

P28-3 The Cadiz Project will not result in "draining of aquifer." For additional information regarding water quality, see the Final EIR/EIS, Volume I, Section 5.5 and see the report Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report. Also see Master Response "Water Quality" and Response to Comment F3-11.

P28-4 The Cadiz Project will not result in "draining of aquifer." Implementation of the Management Plan will ensure that the project will not "endanger the health of the desert ecosystem". See Master Response "Groundwater Monitoring and Management Plan."

P28-5 Comment noted.

P29 RESPONSES TO COMMENTS FROM SUSAN ZWINGER DATED DECEMBER 29, 2000.

P29-1 The Cadiz Project will not cause significant adverse impacts to the water resources of the Mojave National Preserve, the Joshua Tree National Park, or the Mojave desert environment. Potential impacts to wildlife and natural habitats are discussed in Section 5.8 of the Final EIR/EIS, Volume I.
Regarding the water quality issues, see Section 5.5 of Volume I and Section 7 of Volume IV of the Final EIR/EIS.

Regarding alternatives, see Master Response "Formulation and Screening of Potential Projects."

P30 RESPONSES TO COMMENTS FROM MARY WESTLAKE DATED DECEMBER 25, 2000.

P30-1 See Response to Comment P21-4.

P31 RESPONSES TO COMMENTS FROM JEFFREY BLAKE DATED DECEMBER 28, 2000.

P31-1 The Management Plan provides adequate baseline monitoring. The pre-operational phase of the project will be used to gather baseline data and is expected to last approximately 15-24 months during the period of construction of facilities necessary to store water. Other groundwater level data are available for wells located within and adjacent to the proposed project wellfield and spreading basins. These groundwater level data are available in numerous reports referenced in Section 15 of the Final EIR/EIS, Volume I. Examples include Shafer (1964), Moyle (1967), Freiwald (1984), GEOSCIENCE (1995), and Metropolitan (1999). As many as 15 years of groundwater pumping and water level data are available for the Cadiz Inc. agricultural wells.

P31-2 Metropolitan will operate the project in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid adverse impacts to critical resources.

P31-3 See Master Response "Groundwater Monitoring and Management Plan." The Management Plan ensures protection of critical resources regardless of whether water is first stored or extracted.

P31-4 See Section 3 of the Management Plan for a description of the use of groundwater models. Under the Management Plan, a series of water resource models will be developed and calibrated using available data during the pre-operational and operational phases of the Cadiz Project. As the comment suggests, these models will be used to help guide decisions on project operations.

P32 RESPONSES TO COMMENTS FROM RICHARD KNOX DATED DECEMBER 28, 2000.

P32-1 The project will be operated in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid adverse impacts to critical resources. See Master Response "Groundwater Monitoring and Management Plan."

P32-2 The Management Plan includes specific measures to avoid adverse impacts to groundwater-related critical resources. See Section 7 of the Management Plan (Final EIR/EIS, Volume IV). The BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

P32-3 See Response to Comment P32-2.

P32-4 See Response to Comment P21-4.

P32-5 The Cadiz Project would not involve "foisting contaminated water on innocent citizens." See Response to Comment F3-11.

P32-6 The Cadiz Project does not involve the delivery of water for agricultural use, nor does it involve federal tax dollars. Regarding conservation as an alternative, see Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P32-7 Comment noted.

P33 RESPONSES TO COMMENTS FROM LAURIE BATTIN DATED DECEMBER 28, 2000.

P33-1 Comment noted

P33-2 The project does not involve "draining a desert ecosystem of its water supply." The project will be operated in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid impacts to groundwater related critical resources. Regarding alternatives, see Master Response "Formulation and Screening of Potential Projects."

P33-3 See Response to Comment P32-1.

P34 RESPONSES TO COMMENTS FROM LILLIAN HANNHAN DATED DECEMBER 28, 2000.

P34-1 See Response to Comment P32-1.

P34-2 BLM will retain authority to enforce the Management Plan (Final EIR/EIS, Volume IV) through the terms and conditions of the right-of-way grant(s) for the project.

P34-3 Conservation is a basic element of Metropolitan's long-term water management strategy. See Master Response "Water Conservation." Regarding alternatives, see Master Response "Formulation and Screening of Potential Projects."

P34-4 See Master Response "Air Quality."

P34-5 Comment noted.

P35 RESPONSES TO COMMENTS FROM KRISTINA GOLDEN DATED DECEMBER 29, 2000.

P35-1 The project will be operated in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid groundwater related impacts to critical resources, including those within the Mojave National Preserve and BLM wilderness areas.

P35-2 See Master Response "Groundwater Monitoring and Management Plan". Additionally, see Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV) which provide for independent oversight and enforcement of the provisions of the Management Plan.

P35-3 Contrary to the comment, southern California has been a leader in water conservation both statewide and nationally. Conservation is a basic element of Metropolitan's long-term water management strategy. See Master Response "Water Conservation." Also, contrary to this comment, no federal funds have been allocated for the Cadiz Project.

The need for the Cadiz Project is discussed in the Final EIR/EIS, Volume I, Section 2.

P35-4 Comment noted.

P36 RESPONSES TO COMMENTS FROM JOSEPH OLSON DATED DECEMBER 29, 2000.

P36-1 See Response to Comment P29-1.

P36-2 See Response to Comment P32-1.

P36-3 See Master Response "Air Quality."

P36-4 Sections 9 and 10 of the Management Plan discuss independent review and enforcement of the provisions of the Management Plan.

P36-5 See Response to Comment P21-4.

P37 RESPONSES TO COMMENTS FROM MARCUS LIBKIND DATED DECEMBER 29, 2000.

P37-1 Comment noted.

P37-2 See Response to Comment P21-4.

P37-3 Regarding "(1) the effects on plant and animal life," Section 5.8 of the Final EIR/EIS, Volume I, evaluates the impacts of construction and operation activities on biological resources.

Regarding groundwater quality, Section 5.5 of Volume I and Sections 6.2 and 7.2.1 of Volume IV of the Final EIR/EIS, discusses the potential project impacts and the measures that will be implemented to avoid those impacts. See also, Master Response "Water Quality."

Regarding monitoring and mitigation for impacts to groundwater related resources, see Management Plan, Final EIR/EIS, Volume IV, and Master Response "Groundwater Monitoring and Management Plan."

P37-4 Section 7 of the Management Plan provides measures to suspend or modify operations if necessary. Sections 9 and 10 of the Management Plan provide oversight of operations and enforcement of such provisions by the BLM.

P38 RESPONSES TO COMMENTS FROM ANDREW ROTH DATED DECEMBER 31, 2000.

P38-1 Comment noted.

P38-2 The Final EIR/EIS provides full public disclosure of potentially significant environmental impacts and identifies means to avoid or minimize these impacts. Such documents are not meant to address financial considerations.

P38-3 Cadiz Project will not result in significant adverse impacts to the National Parks, wilderness areas in the region or the Mojave National Preserve. Significant impacts will be avoided through implementation of the Management Plan. The Cadiz Project will not significantly impact wildlife in the region. Sections 6.1 and 7.1 of the Management Plan, Final EIR/EIS, Volume IV, includes provisions to protect the springs in such areas.

P38-4 See Response to Comment P32-3.

P38-5 Comment noted.

P39 RESPONSES TO COMMENTS FROM ANDREW ROTH AND ELIZABETH BOYD DATED DECEMBER 31, 2000.

P39-1 Comment noted.

P39-2 Water conservation is an important component of Metropolitan's strategic planning. See Master Response "Water Conservation."

P39-3 See Response to Comment F3-11.

P39-4 See Master Response "Air Quality."

P39-5 Comment noted.

P40 RESPONSES TO COMMENTS FROM TONY DE BELLIS DATED DECEMBER 31, 2000.

P40-1 Comment noted.

P40-2 See Response to Comment P21-4.

P40-3 See Master Response "Water Quality."

P40-4 See Response to Comment P21-4.

P40-5 See Master Response "Groundwater Monitoring and Management Plan."

P40-6 Conservation is a basic element of Metropolitan's long-term water management strategy. See Master Response "Water Conservation."

P40-7 California law recognizes that surplus groundwater may be appropriated for non-overlying uses, including exportation for use outside the groundwater basin.

P41 RESPONSES TO COMMENTS FROM DR. THOMAS MCNICHOLS DATED DECEMBER 30, 2000.

P41-1 See Response to Comment P28-4.

P41-2 In compliance with CEQA and NEPA, the Final EIR/EIS adequately evaluates the potential adverse impacts to the environment that could result from the Cadiz Project. The project incorporates the Management Plan set out in Volume IV to ensure the avoidance of adverse impacts to groundwater related resources.

See Master Responses "Formulation and Screening of Potential Projects."

P41-3 Comment noted.

P42 RESPONSES TO COMMENTS FROM SETH SHTEIR DATED DECEMBER 30, 2000.

P42-1 The project will be operated in accordance with the Management Plan to avoid impacts to springs that are used by wildlife. See Final EIR/EIS, Volume 4, Sections 6.1 and 7.1.

Regarding the need for water treatment of indigenous groundwater, see Master Response "Water Quality" and Response to Comment F3-11.

Regarding sustainable alternatives and water conservation, see Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

The Cadiz Project would not cause significant adverse impacts to Joshua Tree National Park, wilderness areas in the region or the Mojave National Preserve. See Master Response "Groundwater Monitoring and Management Plan."

P42-2 See Response to Comment P21-4.

P43 RESPONSES TO COMMENTS FROM STEPHEN BROWN DATED JANUARY 1, 2001.

P43-1 See Response to Comment P21-4.

P43-2 The project involves both storage of Colorado River water and extraction of indigenous groundwater. All project operations will be implemented in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid adverse impacts to critical resources.

P43-3 The project will be implemented by Metropolitan, a public agency, in accordance with its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

P43-4 BLM will perform its responsibilities in accordance with the Federal Land Policy and Management Act (FLPMA) and National Environmental Policy Act (NEPA).

P44 RESPONSES TO COMMENTS FROM WILL CONNELL DATED JANUARY 1, 2001.

P44-1 Comment noted.

P44-2 The comment is correct that southern California has achieved significant water savings through conservation programs. See Section 2.4.4, Final EIR/EIS, Volume I. The comment is also correct that storage in groundwater basins avoids the significant evaporation losses that occur in surface reservoirs. See Section 5.5.4, Final EIR/EIS, Volume I.

P44-3 Comment noted.

P44-4 In response to the differences of opinion regarding the scientific support for groundwater-related issues, BLM and Metropolitan developed the Management Plan that is incorporated in the Final EIR/EIS, Volume IV. This Management Plan includes monitoring and modeling that will provide a sound scientific basis for operating the project to avoid adverse impacts to critical resources.

P44-5 Comment noted.

P44-6 The monitoring and modeling that are required under the Management Plan (Final EIR/EIS, Volume IV) are based on operating the project in accordance with sound science.

P44-7 Comment noted.

P45 RESPONSES TO COMMENTS FROM JACK ROBBINS DATED JANUARY 1, 2001.

P45-1 See Response to Comment P21-1.

P45-2 Construction and operation of the Cadiz Project will not result in significant adverse impacts to the ecosystem, as discussed in Section 5 of the Final EIR/EIS, Volume I.

P45-3 All Colorado River water to be stored in the basin will be routinely tested to ensure that it meets the Basin Plan adopted by the California Regional Water Quality Control Board,

Colorado River Basin Region. Section 7.9, Final EIR/EIS, Volume IV. The project will not affect the ability of Metropolitan to meet applicable water quality standards. See Master Response "Water Quality" and Response to Comment F3-11.

P45-4 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P45-5 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park, and wilderness areas in the region or the Mojave National Preserve. Adverse impacts would be avoided through implementation of the Management Plan. See Master Response "Groundwater Monitoring and Management Plan."

P46 RESPONSES TO COMMENTS FROM ORSON MORGAN DATED JANUARY 1, 2001.

P46-1 See Response to Comment P37-3.

P47 RESPONSES TO COMMENTS FROM BRUCE WEEKLEY DATED JANUARY 2, 2001.

P47-1 Comment noted.

P47-2 Comment noted.

P48 RESPONSES TO COMMENTS FROM MICHAEL CRANDALL DATED JANUARY 2, 2001.

P48-1 Comment noted.

P48-2 Comment noted.

P48-3 See Response to Comment P44-4.

P48-4 Comment noted.

P49 RESPONSES TO COMMENTS FROM RALPH LANDERS DATED JANUARY 2, 2001.

P49-1 Comment noted.

P49-2 See Master Response "Water Quality" and Response to Comment F3-11. For additional information, see the Final EIR/EIS, Volume I, Section 5.5 and see the report Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report – Groundwater Resources Report.

P49-3 Metropolitan will operate the project in accordance with its obligations under CEQA. The Cadiz Project will not have significant effects on rare plants, or endangered animals, as discussed in Section 5.8 of the Final EIR/EIS, Volume I.

P49-4 See Master Response "Formulation and Screening of Potential Projects."

P50 RESPONSES TO COMMENTS FROM EVE WATSON DATED JANUARY 3, 2001.

P50-1 The referenced statement from National Park Lines was not included with comment letter. The comments do not identify a new significant effect that has not already been addressed in the Final EIR/EIS. No further response is required.

P50-2 See Master Response "Water Conservation".

P51 RESPONSES TO COMMENTS FROM PAUL LAWISON DATED JANUARY 3, 2001.

P51-1 Comment noted.

P51-2 Comment noted.

P51-3 Comment noted.

P52 RESPONSES TO COMMENTS FROM MARYANN LOCKHART DATED JANUARY 3, 2001.

P52-1 See Section 2 of the Final EIR/EIS, Volume I, regarding the purpose and need for the Cadiz Project. Also see Master Response "Formulation and Screening of Potential Projects." Comment is apparently referring to the Hayfield Program. The Final EIR/EIS describes this project, and notes that it is being implemented. Section 2.6.2, Final EIR/EIS, Volume I.

P52-2 See Master Response "Water Conservation."

P52-3 See Master Response "Water Quality."

P52-4 Metropolitan, a public agency, will operate the project in accordance with its obligations under CEQA. BLM will retain authority to enforce the Management Plan (Final EIR/EIS, Volume IV) through the terms and conditions of the right-of-way grant(s) for the project.

P52-5 Comment noted.

P53 RESPONSES TO COMMENTS FROM BOB BRISTER DATED JANUARY 3, 2001.

P53-1 See Response to Comment P28-4.

P53-2 Construction and operation of the Cadiz Project would not result in a significant adverse impact to the ecosystem of the region. The Management Plan (Final EIR/EIS, Volume IV) will monitor groundwater levels to ensure that springs and wildlife dependent on the spring water will not be impacted. See Master Response "Groundwater Monitoring and Management Plan" and see Response to Comment F2-40. Section 5.8.5 of the Final EIR/EIS, Volume I, details mitigation measures to reduce impacts to biological resources from construction and operation activities to less than significant levels.

P53-3 See Response to Comment P32-1.

P54 RESPONSES TO COMMENTS FROM STEPHEN TURNBULL DATED JANUARY 3, 2001.

P54-1 Comment noted.

P54-2 Comment noted.

P54-3 Comment noted.

P54-4 Comment noted.

P54-5 See Section 5.5.1 of the Final EIR/EIS, Volume I, which discusses the potential for faults to act as barriers to groundwater flow.

P54-6 Comment noted.

P54-7 A description of the models that will be available for use in monitoring and managing project operations is set forth in Section 3, Final EIR/EIS, Volume IV.

P54-8 Comment noted.

P54-9 Comment noted.

P55 RESPONSES TO COMMENTS FROM LISANNE FREESE AND JOHN HINKLE DATED JANUARY 3, 2001.

P55-1 Comment noted.

P55-2 The Cadiz Project will not cause significant adverse impacts to the Mojave National Preserve or wilderness areas in the region. See Response to Comment P21-4.

P55-3 See Master Response "Groundwater Monitoring and Management Plan."

P55-4 Metropolitan, a public agency, will operate the project in accordance with its obligations under CEQA.

P55-5 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P55-6 See Master Response "Water Conservation." The Management Plan will be implemented for the purpose of protecting critical resources and avoiding adverse impacts to parks and natural areas.

P55-7 Conservation is a basic element of Metropolitan's long-term water management strategy. See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P55-8 See Master Response "Air Quality."

P55-9 The Cadiz Project will not cause significant adverse impacts to the Joshua Tree National Park, the Mojave National Preserve, or wilderness areas in the region. See Response to Comment P21-4.

P55-10 Comment noted.

P56 RESPONSES TO COMMENTS FROM RUSSELL BLALACK DATED JANUARY 3, 2001.

P56-1 This comment misrepresents the Cadiz Project. The actual quantity of water to be transferred is not specified and will be limited to an amount that will not result in adverse impacts to critical resources. The amount of indigenous groundwater that would be transferred is conditioned by the requirements of the Management Plan (Final EIR/EIS, Volume IV), and therefore would be quantified during its implementation.

P56-2 Construction and operation of the Cadiz Project will not result in a significant adverse impact to rare plants and animals of the region. The Management Plan (Final EIR/EIS, Volume IV) includes monitoring of groundwater levels to ensure that springs and wildlife dependent on the spring water, including bighorn sheep, will not be impacted. See Master Response "Groundwater Monitoring and Management Plan."

P56-3 Metropolitan, a public agency, will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. The Management Plan, Section 7, incorporates the criteria for identifying and avoiding potential adverse impacts.

P56-4 BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project. See Section 10 of the Management Plan, Final EIR/EIS, Volume IV.

P56-5 The discussion of the need for the Cadiz Project is set forth in Section 2 of the Final EIR/EIS, Volume I. Also see Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P56-6 See Response to Comment P55-9.

P56-7 See Response to Comment F3-11 and Master Response "Water Quality."

P56-8 See Response to Comment P21-4.

P57 RESPONSES TO COMMENTS FROM KATHERINE RODGERS DATED JANUARY 4, 2001.

P57-1 Comment noted

P57-2 Comment noted

P57-3 Comment noted.

P57-4 Comment noted.

P58 RESPONSES TO COMMENTS FROM STEVEN GABEL DATED JANUARY 4, 2001.

P58-1 The Cadiz Project will not cause significant adverse impacts to wilderness areas in the region or the Mojave National Preserve. Adverse impacts will be avoided through

implementation of the Management Plan. See Master Response "Groundwater Monitoring and Management Plan."

P58-2 Construction and operation of the Cadiz Project will not result in a significant adverse impact to the existing ecosystem of the region, nor to endangered plants and animals. The Management Plan (Final EIR/EIS, Volume IV) includes monitoring of groundwater levels to ensure that springs and wildlife dependent on the spring water will not be impacted. Section 5.8.5 of the Final EIR/EIS, Volume I, includes mitigation measures to reduce impacts to biological resources from construction and operation activities to less than significant levels.

P58-3 See Master Response "Water Conservation."

P59 RESPONSES TO COMMENTS FROM KENTON BENTLEY DATED JANUARY 4, 2001.

P59-1 Comment noted.

P59-2 Comment noted.

P59-3 Comment noted.

P59-4 Comment noted.

P59-5 Comment noted.

P60 RESPONSES TO COMMENTS FROM CLIFFORD ANDERSON DATED JANUARY 4, 2001.

P60-1 See Response to Comment P28-4.

P60-2 The discussion of the need for the Cadiz Project is set forth in Section 2 of the Final EIR/EIS, Volume I. See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P60-3 Comment noted.

P61 RESPONSES TO COMMENTS FROM CATHERINE BEAUCHAMP DATED JANUARY 4, 2001.

P61-1 See Response to Comment P28-4.

P62 RESPONSES TO COMMENTS FROM PHIL BEYMAN DATED JANUARY 4, 2001.

P62-1 See Response to Comment P28-4.

P62-2 See Master Response "Water Conservation." Regarding the need for the project in addition to conservation measures, see Section 2 of the Final EIR/EIS, Volume I.

P62-3 Comment noted.

P62-4 Comment noted.

P63 RESPONSES TO COMMENTS FROM LARRY AND LORETTA BODIFORD DATED JANUARY 4, 2001.

P63-1 See Response to Comment P28-4. Regarding water rights see Response to Comment G2-4.

P63-2 The Cadiz Project will not cause adverse impacts to water resources in Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P64 RESPONSES TO COMMENTS FROM TERY BING DATED JANUARY 4, 2001.

P64-1 Comment noted.

P64-2 See Master Response "Water Quality."

P64-3 See Master Response "Air Quality."

P64-4 The Cadiz Project does not change the amount of water that Metropolitan receives from the Colorado River. A discussion of California's Colorado River entitlement and proposed measures to reduce usage to the amount of the entitlement is set forth in Section 2.5.3 of the Final EIR/EIS, Volume I.

P64-5 Metropolitan, a public agency, will operate the project in accordance with its obligations under CEQA. Potential impacts on plants and animals in the project area are discussed in Section 5.8.4 of the Final EIR/EIS, Volume I. Measures to ensure that there are no adverse impacts following the completion of project operations are set forth in Section 8 of the Management Plan, Final EIR/EIS, Volume IV.

P64-6 See Master Response "Water Conservation."

P64-7 The Cadiz and Fenner groundwater basins are not connected to the Mojave River watershed.

P64-8 Comment noted.

P65 RESPONSES TO COMMENTS FROM LYNN PLAMBECK DATED JANUARY 5, 2001.

P65-1 See Response to Comment P21-4.

P65-2 The Final EIR/EIS acknowledges that there are disagreements among scientists regarding the amount of natural recharge to the project area. As a result, the Management Plan was developed by Metropolitan with technical experts from the BLM, USGS, NPS and the County of San Bernardino. The Management Plan establishes a field monitoring network and modeling program to provide data and predictive management capability for the groundwater basin. Storage and extraction of Colorado River water as well as transfer of native groundwater will be subject to ongoing monitoring, modeling and management restrictions imposed by the Management Plan. As a result, the actual quantity of water to be transferred is not known at this time. The amount of indigenous groundwater that will be

transferred is conditioned by the requirements of the Management Plan, and therefore will be quantified during its implementation.

All Cadiz Project operations, including extraction of groundwater, will be governed by the provisions of the Management Plan presented in Volume IV of the Final EIR/EIS for the purpose of ensuring there will be no significant adverse impacts resulting from project operations. Potential adverse impacts to critical resources due to the transfer of indigenous groundwater will be avoided by governing (limiting) the amounts of transfer (if any) to such amounts that comply with the requirements of the Management Plan.

The Management Plan ensures that adverse impacts to the ecosystem are not caused by the proposed project groundwater operations.

P65-3 The proposed project will utilize spreading basins to allow Colorado River water to percolate into the ground. No other filtration facilities are proposed. No water treatment is required for the Cadiz Project to comply with applicable state and federal water quality requirements. The project will not affect the ability of Metropolitan to meet applicable water quality standards. See Master Response "Water Quality."

P65-4 Comment noted.

P66 RESPONSES TO COMMENTS FROM NANCY HALL DATED JANUARY 5, 2001.

P66-1 Comment noted.

P66-2 See Response to Comment P28-4. The Cadiz Project will not cause significant impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P66-3 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P66-4 See Master Response "Air Quality."

P67 RESPONSES TO COMMENTS FROM EDWARD LUBIN DATED JANUARY 6, 2001.

P67-1 See Response to Comment P28-4.

P67-2 The Cadiz Project will not cause adverse impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P67-3 Regarding "1) draining a desert ecosystem," see Response to Comment P28-4. Regarding "2) endangerment of unique plants and animals," see Response to Comment P64-5. Regarding "3) monitoring of pumping," see Section 6 of the Management Plan, Final EIR/EIS, Volume IV. Regarding "4) using Colorado River Water," see Response to

Comment G2-4. Regarding "5) water quality," see Master Response "Water Quality" and Response to Comment F3-11.

P68 RESPONSES TO COMMENTS FROM STANLEY JAMES DATED JANUARY 6, 2001.

P68-1 The Cadiz Project will not cause significant adverse impacts to wilderness areas in the region or the Mojave National Preserve. Impacts would be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan." Regarding water rights, see Response to Comment G2-4.

P69 RESPONSES TO COMMENTS FROM ALAN CARLSON DATED JANUARY 6, 2001.

P69-1 With respect to water quality, see Master Response "Water Quality" and Response to Comment F3-11. With respect to effects on wildlife, see Response to Comment P58-2. With respect to the monitoring plan, see Master Response "Groundwater Monitoring and Management Plan." With respect to "industry dominated," see Master Response "Governance." Regarding alternatives, see Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation." Commentor does not state in what manner the Supplement fails to meet the required legal standards.

P69-2 The Cadiz Project will not cause adverse impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts would be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P69-3 See Master Response "Formulation and Screening of Potential Projects."

P70 RESPONSES TO COMMENTS FROM CAROLYN JENNINGS DATED JANUARY 6, 2001.

P70-1 See Response to Comment P21-4.

P71 RESPONSES TO COMMENTS FROM JOHN HIATT DATED JANUARY 6, 2001.

P71-1 Section 5.5.1 of the Final EIR/EIS, Volume I, discusses the disagreement among experts regarding the amount of natural recharge to the aquifer. In lieu of continuing the debate regarding recharge, the experts developed the Management Plan (Final EIR/EIS, Volume IV) to ensure that project operations will not result in adverse impacts to critical resources. See Master Response "Groundwater Monitoring and Management Plan."

P71-2 No impacts to springs are anticipated to occur as result of the operation of the Cadiz Project. See Section 7.1 of the Management Plan, Final EIR/EIS, Volume IV. Corrective actions include "stoppage of groundwater extraction for a duration necessary to correct the predicted impact." Metropolitan will operate the project in accordance with its obligations under CEQA. See Master Response "Groundwater Monitoring and Management Plan."

P71-3 In response to the difference of opinion referenced in the comment, BLM and Metropolitan have developed the Management Plan to avoid adverse impacts to critical resources. The

Management Plan (Final EIR/EIS, Volume IV) will be implemented by Metropolitan pursuant to its obligations under CEQA.

P72 RESPONSES TO COMMENTS FROM ALICE TSENG DATED JANUARY 6, 2001.

P72-1 The Cadiz Project is not a "groundwater grab." See Response to Comment G2-4 regarding California groundwater law.

P72-2 Cadiz Project operations will not cause significant adverse water resources or air quality impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P72-3 Construction and operation of the Cadiz Project will not result in a significant adverse impact to the ecosystem of the region. The Management Plan (Final EIR/EIS, Volume IV) will include monitoring of groundwater levels to ensure that springs and wildlife dependent on the spring water would not be impacted. Section 5.8.5 of the Final EIR/EIS, Volume I, includes mitigation measures to reduce impacts to biological resources from construction and operation activities to less than significant levels. See Master Response "Groundwater Monitoring and Management Plan."

P72-4 See Response to Comment P72-3.

P72-5 See Response to Comment F3-11 and Master Response "Water Quality."

P72-6 Water quality is addressed in the Final EIR/EIS, Volume I, Section 5.5.4, and Volume IV, Section 7.2.1. BLM will retain authority to enforce the Management Plan (Final EIR/EIS, Volume IV) through the terms and conditions of its right-of-way grant(s) for the project.

P72-7 Metropolitan, a public agency, will operate the project in accordance with its obligations under CEQA.

P72-8 Conservation is a basic element of Metropolitan's long-term water management strategy. See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P72-9 See Response to Comment P21-4.

P73 RESPONSES TO COMMENTS FROM JIM BLOMQUIST DATED JANUARY 7, 2001.

P73-1 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park, wilderness areas, or the Mojave National Preserve. Adverse impacts to springs and groundwater levels will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P73-2 See Master Response "Water Quality." Section 5.5.4 of the Final EIR/EIS, Volume I, discusses surface water impacts in the region.

P74 RESPONSES TO COMMENTS FROM GLENN TORBETT DATED JANUARY 7, 2001.

P74-1 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts to regional springs and groundwater levels will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P75 RESPONSES TO COMMENTS FROM JEFFREY YAUN DATED JANUARY 7, 2001.

P75-1 See Master Responses "Groundwater Monitoring and Management Plan" and "Formulation and Screening of Potential Projects." Also, see Response to Comment P21-4.

P76 RESPONSES TO COMMENTS FROM JOAN HALTZ DATED JANUARY 7, 2001.

P76-1 See Master Response "Air Quality" and Response to Comment P74-1.

P77 RESPONSES TO COMMENTS FROM LORRAINE ONGER DATED JANUARY 7, 2001.

P77-1 See Master Response "Air Quality" and Response to Comment P74-1.

P78 RESPONSES TO COMMENTS FROM RUTH MUSSER-LOPEZ DATED JANUARY 15, 2001.

P78-1 The cultural resources issues associated with the Cadiz Project have been managed by the BLM Desert District Office due to staffing considerations. The BLM Needles archaeologist has since reviewed the Cultural Resources Technical Report. The report is adequate, comprehensive, and demonstrates an understanding of the prehistoric resources known to exist within the project area.

P78-2 There is no evidence for "Pleistocene Early Man" archaeological sites within the study area; therefore, there is no need to address potential project impacts to paleo-archaeology sites in the study area.

P78-3 Commentor mentions plenary studies of the Cadiz Valley by Davis et al. and Gallegos et al., however, no references are cited. E. L. Davis' seminal work in the Mojave Desert (as best exemplified in her 1978 monograph *The Ancient Californians, Rancholabrean Hunters of the Mojave Lakes Country*) was focused at Lake China, not Cadiz. Davis' methods and findings may be germane to Cadiz, if and when Pleistocene archaeological manifestations are discovered. If commentor refers to the *Cultural Resources Inventory of the Central Mojave and Colorado Desert Regions* (Gallegos et al. 1980); that report states the following for Cadiz Valley as a whole:

"Prehistoric archaeology that was noted in the study appears to have been restricted to a Pinto period of hunting/gathering. (± 4000 years BP?) and to a faint and uncertain manifestation of much earlier use. This *paleo episode is questionable* and should be carefully investigated for proof or disproof. Cultural "clues (such as they are) consist of

broken and excessively weathered pieces of fine-quality exotic rock (chalcedony and jasper) that show some (nearly obliterated) flake scars."

(Gallegos et al. 1980: 112; italics added for emphasis)

No temporal data was available to ascertain whether these "broken and excessively weathered pieces of fine-quality rock that show some flakes scars" date to the early Holocene or latest Pleistocene periods. As well, the current archaeological investigations were confined to areas of potential project impact. No visible shorelines of Pleistocene Lake Cadiz were encountered during the field surveys, and analyses of these shorelines or dating of these shorelines outside the project boundaries was not within the project scope. Furthermore, within the project impact areas, surveyors looked for, but did not find exotic rock with flake scars (weathered or otherwise), outside of the two recorded prehistoric sites and two isolated tools reported.

P78-4 The Cadiz Project will have no impact on cultural resources within the larger Lake Cadiz basin; no direct impacts are planned and the project will have no effect on surface water conditions. The existing groundwater levels in the vicinity of the proposed project spreading basins is approximately 275 feet below the ground surface (see Figure 5.5-11 of the Final EIR/EIS, Volume I). The most shallow groundwater levels anticipated during project storage operations would be approximately 80 feet below ground surface, and a criteria for evaluating potential impacts is triggered if the level reaches 50 feet below ground surface. See Final EIR/EIS, Volume IV, Section 7.2.4. As a result, the project would not contribute to any surfacing of groundwater in the area of any Pleistocene Lake Cadiz shorelines.

P78-5 See Response to Comment P78-4, above.

P78-6 "[A]n archaeological literature and records search was performed by the San Bernardino Archaeological Information Center prior to the project's archaeological field studies. The objective was to determine if the Project Area of Potential Effect (APE) had previously been surveyed for cultural resources and to identify any previously recorded cultural properties within a *one-mile radius* of the Project area." (Cultural Resources Technical Report (Report No. 1165) at page 31; italics added for emphasis). A list of all sites previously recorded within a one-mile radius is provided on page 32. A listing of all archaeological sites within the larger Lake Cadiz basin is beyond the scope of this Project. The results of the archaeological literature and records search are provided in Appendix A.

P78-7 The BLM addresses its requirements under Section 106 of the National Historic Preservation Act as stipulated in the *State Protocol Agreement between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer....* Under that *Agreement*, many standard SHPO functions are assumed by the BLM, including determinations of NRHP eligibility and findings of effect. BLM requested that procedures set forth in the *California Archaeological Resource Identification and Data Acquisition Program : Sparse Lithic Scatters* (CARIDAP, 1988) be applied to prehistoric sparse lithic scatters. In doing so, subsurface test excavations were completed at CA-SBR-9852 to verify the absence of subsurface cultural deposits and all formed tools and obsidian debitage were collected from the site surface. The BLM reviewed the significance findings for CA-SBR-9852 and determined that the site is not eligible for inclusion on the NRHP. The BLM concluded that there will be no historic properties (a term that includes sites of prehistoric and historic age) adversely affected by the project; under the State Protocol Agreement, no consultation with SHPO is required.

Also, following provisions and stipulations in the *State Protocol Agreement*, the BLM notified potentially interested Native Americans after the archaeological surveys were completed and during the Notice of Preparation and Draft EIR process. No concerns regarding cultural resources were voiced or registered.

P78-8 A Curation Agreement with the San Bernardino County Museum was issued by Dr. Adella Schroth on 8 July 1999, for the CA-SBR-9852 collection. See Response to Comment P78-7.

P78-9 Site CA-SBR-9848 is a small, isolated chipping station composed of 10 pieces of debitage from the same parent material; subsurface cultural materials are unlikely and BLM determined that subsurface testing was not necessary. The debitage was not collected; data from the site were recorded during the field assessment and the artifacts left in place. "Formed tools" is a widely accepted term for lithic materials that have been purposefully shaped by flaking.

P78-10 The BLM Needles Archaeologist has verified that no additional archaeological data are available at the BLM Office in Needles. All archaeological data available for the study area are on file at the San Bernardino County Archaeological Information Center. In regards to Davis et al. and Gallegos et al., see Response to Comment P78-3 above.

P78-11 Paleosols, "witness stands," or caliche shoreline deposits were not observed in the Project APE; therefore, there is no need to discuss them in the Final EIR/EIS. There is no evidence of archaeological sites within the study area that can be firmly or relatively dated to 12,000 years B.P.

P78-12 Applied EarthWorks, Inc. is a highly respected and competent cultural resources management firm; the three senior archaeologists who directed the Cadiz studies are certified by the Register of Professional Archaeologists. A Class III archaeological survey of the Project APE has been completed; a Class III archaeological survey of the entire Cadiz basin is beyond the scope of this project.

P78-13 A copy of the GLO Plat map showing the road to the Old Woman Mountains is provided on page 17 in the Cultural Resources Technical Report (Report No. 1165) (the map was produced by M.P. Greene in 1856). GLO Plat Map information is available on microfiche at the BLM Office in Riverside. A listing of identifiable fossils of animals that occupied the study area is set forth in Section 5.16.1 of the Final EIR/EIS, Volume I.

P78-14 Section 3.4 of the Final EIR/EIS, Volume I, discusses the other desert groundwater basins that were initially reviewed for potential storage and/or transfer projects.

P79 RESPONSES TO COMMENTS FROM ADA BAHINE DATED JANUARY 7, 2001.

P79-1 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts to regional springs and groundwater levels would be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV).

P79-2 Comment noted.

P80 RESPONSES TO COMMENTS FROM GEORGE HAGUE DATED JANUARY 8, 2001.

P80-1 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park and wilderness areas in the region or the Mojave National Preserve. Adverse impacts to regional springs and groundwater levels will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV).

P80-2 See Response to Comment G13-13.

P80-3 The Final EIR/EIS analyzes construction impacts of the project in Section 5 of Volume I, including placing the pipeline underground. Impacts are identified and mitigation measures are developed to reduce these impacts to less than significant levels where possible. Volume IV of the Final EIR/EIS describes the Management Plan which is incorporated in the project to avoid impacts to groundwater-related critical resources.

P80-4 The commentor has been added to the mailing list for this project.

P81 RESPONSES TO COMMENTS FROM RUTH LOPEZ DATED JANUARY 8, 2001.

P81-1 See Response to Comment P21-4.

P81-2 The comment relating to the use of public funds does not raise an issue under CEQA or NEPA, and therefore, no response is required. The need for storage in the Colorado River resource area is discussed in Section 2.6.2 of the Final EIR/EIS, Volume I.

P81-3 Project spreading basins are located approximately 35, not 60, miles north of the Colorado River Aqueduct, Iron Mountain Pumping Plant. The need for the Cadiz Project in addition to the existing Diamond Valley Lake reservoir is discussed in Section 2 of the Final EIR/EIS, Volume I. The Cadiz Project does not change the amount of water from the Colorado River received by Metropolitan.

P81-4 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

P81-5 The reasons for the siting of the project wellfield are discussed in Section 3.6 of the Final EIR/EIS, Volume I.

P81-6 See Response to Comment G13-3.

P81-7 See Response to Comment G13-5.

P81-8 The need for the Cadiz Project in addition to the conservation measures is discussed in Section 2 of the Final EIR/EIS, Volume I. The incidental use of Diamond Valley Lake for recreation does not diminish its primary use for water supply.

P81-9 See Response to Comment G13-7.

P81-10 The siphons on the Colorado River Aqueduct are pressurized sections of pipe. They do not divert surface or groundwater flows.

P81-11 See Response to Comment G13-10

P81-12 See Response to Comment G13-9.

P81-13 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

P81-14 No state or federal funding is anticipated for the Cadiz Project.

P81-15 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

P81-16 See Response to Comment G13-10.

P81-17 See Response to Comment G13-10.

P81-18 See Response to Comment G13-10.

P81-19 See Response to Comment G13-11.

P81-20 See Response to Comment G13-11.

P81-21 See Response to Comment G13-12.

P81-22 See Response to Comment G13-13.

P81-23 See Response to Comment G13-14.

P81-24 See Response to Comment G13-14.

P81-25 See Response to Comment G13-15.

P81-26 See Responses to Comments P81-27 through P81-31.

P81-27 A copy of the referenced report was provided to commentor, together with additional time to provide comments, which are set forth in comment letter P78.

P81-28 Comment noted.

P81-29 See Response to Comment P81-27.

P81-30 See Response to Comment P81-27.

P81-31 See Response to Comment P81-27.

P81-32 See Responses to Comment G13-13 and G14-1.

P81-33 See Responses to Comments G12-1 and G12-2.

P81-34 See Response to Comment G14-2.

P81-35 Comment noted.

P82 RESPONSES TO COMMENTS FROM LAWRENCE LIVERMORE NATIONAL LABORATORY DATED JANUARY 8, 2001.

P82-1 Comment noted.

P82-2 Comment noted.

P82-3 Comment noted.

P82-4 Comment noted.

P82-5 Comment noted.

P82-6 Comment noted.

P82-7 Comment noted.

P82-8 Comment noted.

P82-9 Comment noted.

P82-10 Comment noted.

P82-11 Comment noted.

P82-12 Comment noted.

P82-13 Comment noted.

P82-14 Comment noted.

P82-15 Comment noted.

P82-16 Comment noted.

P82-17 Comment noted.

P82-18 Comment noted.

P82-19 Comment noted.

P82-20 Comment noted.

P82-21 Comment noted.

P82-22 Comment noted.

P82-23 Comment noted.

P82-24 Comment noted.

P82-25 Comment noted.

P82-26 Since publication of the Draft EIR/EIS, the project has been revised to include operation of the project under the Management Plan. The Management Plan will allow groundwater withdrawal to the extent that critical resources will not be significantly impacted, regardless of the amount of natural recharge to the area.

P82-27 Comment noted.

P82-28 Comment noted.

P82-29 Comment noted.

P82-30 Comment noted.

P82-31 Comment noted.

P82-32 Comment noted.

P82-33 Comment noted.

P82-34 Comment noted.

P82-35 Comment noted.

P82-36 Comment noted.

P82-37 Comment noted.

P82-38 Comment noted.

P82-39 Comment noted.

P82-40 Comment noted.

P82-41 Comment noted.

P82-42 Comment noted.

P82-43 Comment noted.

P82-44 Comment noted.

P82-45 Comment noted.

P82-46 Comment noted.

P82-47 Comment noted.

P82-48 Comment noted.

P82-49 Comment noted.

P82-50 Comment noted.

P82-51 Comment noted.

P82-52 Comment noted.

P82-53 Comment noted.

P82-54 Comment noted.

P82-55 Comment noted.

P82-56 Comment noted.

P82-57 Comment noted.

P82-58 Comment noted.

P82-59 Comment noted.

P82-60 Comment noted.

P82-61 Comment noted.

P82-62 Comment noted.

P82-63 Comment noted.

P82-64 Comment noted.

P82-65 Comment noted.

P82-66 Comment noted.

P82-67 Comment noted.

P82-68 Comment noted.

P82-69 Comment noted.

P82-70 Comment noted.

P82-71 Comment noted.

P82-72 Comment noted.

P82-73 Comment noted.

P82-74 Comment noted.

P82-75 Comment noted.

P82-76 Comment noted.

P82-77 Comment noted.

P82-78 Comment noted.

P82-79 Comment noted.

P82-80 Comment noted.

P82-81 Comment noted.

P82-82 Comment noted.

P82-83 Comment noted.

P82-84 Comment noted.

P82-85 Comment noted.

P82-86 Comment noted.

P82-87 Comment noted.

P83 RESPONSES TO COMMENTS FROM PEGGY LAUER DATED JANUARY 8, 2001.

P83-1 The comment does not identify any potential health problems that may be caused by the project. No potential health effects have been identified. The comment does not identify how the project will cause the "decimation of public lands." The uses of public lands and the effects of the project on such lands is discussed in Section 5.2 of the Final EIR/EIS, Volume I. The comment does not indicate how the project is in violation of the California public trust doctrine. This doctrine provides some protection for the public interest in such natural resources as tidelands, navigable waters, and fish and wildlife. The project does not affect tidelands or navigable waters. The potential effects of the project on wildlife, and the mitigation measures that will be implemented to minimize or avoid the potential effects, are identified and discussed in Section 5.8 of the Final EIR/EIS, Volume I.

P83-2 See Master Response "Groundwater Monitoring and Management Plan." Regarding the potential for subsidence see Response to Comment F2-28. Regarding potential impacts to air quality, see the Master Response "Air Quality."

P83-3 The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park, wilderness areas, or the Mojave National Preserve. Section 5.17 of the Final EIR/EIS, Volume I, identifies potential impacts to wilderness areas in the vicinity of the project. Implementation of the identified mitigation measures will minimize potential impacts.

Adverse impacts to regional springs and groundwater levels will be avoided through implementation of the Management Plan. See Master Response "Groundwater Monitoring and Management Plan."

P84 RESPONSES TO COMMENTS FROM ROBERT E. CRISS, WASHINGTON UNIVERSITY DEPARTMENT OF EARTH AND PLANETARY SCIENCES DATED JANUARY 8, 2001.

P84-1 Comment noted.

P84-2 Comment noted.

P84-3 Comment noted.

P84-4 Comment noted.

P84-5 Comment noted.

P84-6 Comment noted.

P84-7 Comment noted.

P84-8 Comment noted.

P84-9 Comment noted.

P85 RESPONSES TO COMMENTS FROM JOE FRIEDMAN DATED JANUARY 4, 2001.

P85-1 See Response to Comment P28-4.

P86 RESPONSES TO COMMENTS FROM RICHARD SLOAN DATED JANUARY 3, 2001.

P86-1 Comment noted.

P86-2 Comment noted.

P86-3 Metropolitan, a public agency, will operate the project in accordance with its obligations under CEQA. BLM will retain authority to enforce mitigation measures through the right-of-way grant(s) for the project.

P86-4 Groundwater storage is an important component of the water supply for southern California, as discussed in Section 2.3.2 of the Final EIR/EIS, Volume I.

P87 RESPONSES TO COMMENTS FROM LAURA SHERROD DATED JANUARY 3, 2001.

P87-1 The Cadiz Project would not affect Morongo Valley water resources.

P87-2 Comment noted.

P87-3 The Cadiz Project will not promote growth in the desert. See Section 5.3 of the Final EIR/EIS, Volume I.

P88 RESPONSES TO COMMENTS FROM SETH SHTEIR DATED JANUARY 3, 2001.

P88-1 Regarding the potential impacts to water resources, see Master Response "Groundwater Monitoring and Management Plan." Regarding water quality, see Master Response "Water Quality" and Response to Comment F3-11. Regarding alternatives, see Master Response "Formulation and Screening of Potential Projects." Regarding water conservation, see Master Response "Water Conservation."

The Cadiz Project will not cause significant adverse impacts to Joshua Tree National Park, wilderness areas, or the Mojave National Preserve. Section 5.17 of the Final EIR/EIS, Volume I, identifies potential impacts to wilderness areas in the vicinity of the project. Implementation of the identified mitigation measures will minimize potential impacts. Adverse impacts to springs and groundwater will be avoided through implementation of the Management Plan.

P88-2 See Final EIR/EIS, Volume I, Section 2 for a discussion of project purpose and need.

P89 RESPONSES TO COMMENTS FROM BARRY MELIUS DATED JANUARY 4, 2001.

P89-1 Comment noted.

P89-2 Regarding springs, there are 28 locations that will be documented one time, to establish baseline conditions. Six locations will be monitored semi-annually and two will have continuous monitoring. Metropolitan will select the springs to be monitored with input from the technical experts from BLM, USGS, NPS, the County of San Bernardino.

P89-3 It is not anticipated that the Cadiz Project will impact springs. While the springs will be monitored, the Management Plan will monitor groundwater levels at locations between the project site and the springs to allow ample time to make adjustments to project operations if necessary to avoid impacts to springs. See Master Response "Groundwater Monitoring and Management Plan."

P89-4 Metropolitan, a public agency, will operate the Cadiz Project in accordance with its obligations under CEQA.

P89-5 The annual and five-year reports, including electronic data files, on project operations will be made available to the public. Section 6.8.1, Final EIR/EIS, Volume IV.

P89-6 Please see Response to Comment R3-52.

P89-7 Metropolitan, a public agency, will operate the program, including the monitoring required in the Final EIR/EIS, in accordance with its obligations under CEQA.

P89-8 Comment noted.

P90 RESPONSES TO COMMENTS FROM ALISON SWEETSER DATED JANUARY 5, 2001.

P90-1 The Cadiz Project will not cause significant adverse impacts to wildlife, water and air in Joshua Tree National Park, wilderness areas, or the Mojave National Preserve. Section 5.17 of the Final EIR/EIS, Volume I, identifies potential impacts to wilderness areas in the vicinity of the project. Implementation of the identified mitigation measures will minimize or avoid potential impacts. Adverse impacts to springs and groundwater will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P90-2 See Response to Comment P89-4.

P90-3 The "subsequent environmental problems" referred to in the comment are not described. The Closure Plan (Section 8 of the Final EIR/EIS, Volume IV) will remain in effect for a minimum of 10 years following the termination of the 50-year term of the operational-phase of the Cadiz Project. BLM's enforcement role is described in Section 10 of the Management Plan.

P90-4 See Master Response "Water Quality" and Response to Comment F3-11.

P90-5 See Master Response "Water Conservation."

P90-6 Section 7 of the Management Plan (Final EIR/EIS, Volume IV) includes conservative criteria for identifying and avoiding potential adverse impacts. Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA.

P91 RESPONSES TO COMMENTS FROM MICHAEL JARVIS DATED JANUARY 1, 2001.

P91-1 Comment noted. Commentor's name and mailing address have been added to project mailing list.

P91-2 Comment noted.

P91-3 The Cadiz Project will not "suck the aquifer dry." Project operations will be performed in accordance with the Management Plan (Final EIR/EIS, Volume IV) to avoid impacts to critical resources.

P91-4 The Management Plan requires that the potential impacts of the project be continuously monitored and assessed. Adjustments will be made to project operations, as needed, to avoid adverse impacts to critical resources. See Master Response "Groundwater Monitoring and Management Plan." The Management Plan has been prepared as the result of a coordinated effort of BLM, NPS, USGS, the County of San Bernardino, Metropolitan and Cadiz Inc. Commentor states that Management Plan is "totally insufficient" but does not state a basis for this assertion.

P91-5 Comment noted.

P92 RESPONSES TO COMMENTS FROM DONALD HOLTZ DATED JANUARY 7, 2001.

P92-1 See Response to Comment G2-4.

P93 RESPONSES TO COMMENTS FROM JERI ANDREWS DATED JANUARY 10, 2001.

P93-1 The Cadiz Project will not cause significant adverse impacts to the aquifer under the Mojave National Preserve. Adverse impacts to springs and groundwater levels would be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P94 RESPONSES TO COMMENTS FROM CONNIE GARICA DATED JANUARY 10, 2001.

P94-1 The Cadiz Project will not cause significant adverse impacts to resources in Joshua Tree National Park, wilderness areas, or the Mojave National Preserve. Section 5.17 of the Final EIR/EIS, Volume I, identifies potential impacts to wilderness areas in the vicinity of the project. Implementation of the identified mitigation measures will mitigate or avoid potential impacts. Adverse impacts to springs and groundwater will be avoided through implementation of the Management Plan (Final EIR/EIS, Volume IV). See Master Response "Groundwater Monitoring and Management Plan."

P94-2 Comment noted.

P95 RESPONSES TO COMMENTS FROM LANE LABBE DATED JANUARY 10, 2001.

P95-1 See Response to Comment P28-4.

P95-2 See Response to Comment P58-2.

P95-3 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P95-4 BLM's authority is outlined in Section 10 of the Management Plan.

P95-5 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P95-6 See Response to Comment P58-2.

P95-7 See Master Response "Water Quality."

P95-8 Comment noted.

P96 RESPONSES TO COMMENTS FROM MICHAEL RIFKIND DATED JANUARY 9, 2001.

P96-1 See Response to Comment P21-4.

P96-2 See Response to Comment P28-4.

P96-3 The project will be operated by Metropolitan for both storage of Colorado River water and extraction of indigenous groundwater. See Master Responses "Water Quality" and "Air Quality."

P96-4 See Response to Comment P58-2.

P96-5 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P96-6 See Response to Comment P95-4.

P96-7 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P96-8 See Response to Comment P58-2.

P96-9 See Master Response "Water Quality."

P96-10 Comment noted.

P97 RESPONSES TO COMMENTS FROM DR. THOMAS McNICHOLAS DATED JANUARY 4, 2001.

P97-1 See Response to Comment P28-4.

P97-2 See Master Responses "Groundwater Monitoring and Management Plan" and "Formulation and Screening of Potential Projects."

P97-3 Comment noted.

P98 RESPONSES TO COMMENTS FROM EVE LAGER DATED JANUARY 7,2001.

P98-1 See Response to Comment P28-4.

P99 RESPONSES TO COMMENTS FROM DEREK SOWERS DATED JANUARY 7, 2001.

P99-1 See Response to Comment P21-4.

P99-2 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P99-3 See Master Response "Air Quality."

P99-4 Comment noted.

P100 RESPONSES TO COMMENTS FROM CHERYL REIFF DATED JANUARY 7, 2001.

P100-1 Regarding water quality concerns, see Master Responses "Water Quality" and Response to Comment F3-11. Regarding impacts to national parks, wilderness areas, and sensitive lands and species, see Response to Comment P58-2. With respect to alternatives, see Master Response "Formulation and Screening of Potential Projects."

P101 RESPONSES TO COMMENTS FROM A. B. AMSTER DATED FEBRUARY 2, 2001.

P101-1 See response letter following comment letter.

P102 RESPONSES TO COMMENTS FROM MATTHIAS REESE DATED DECEMBER 29, 2000.

P102-1 Comment noted.

P102-2 See Response to Comment P100-1.

P102-3 Commentor has been added to the mailing list.

P103 RESPONSES TO COMMENTS FROM BONNIE MILLER DATED FEBRUARY 9, 2000.

P103-1 See Response to Comment P58-2.

P103-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P103-3 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P103-4 See Master Response "Air Quality."

P103-5 Comment noted.

P104 RESPONSES TO COMMENTS FROM MARANNA CHERRY DATED JANUARY 4, 2001.

P104-1 See Response to Comment P21-4.

P104-2 See Master Response "Water Quality."

P104-3 The Final EIR/EIS, Volume I, Section 5.8 assesses potential impacts to biological resources and identifies mitigation measures to reduce impacts to less than significant levels.

P104-4 See Response to Comment P58-2.

P104-5 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P104-6 Section 7 of the Management Plan (Final EIR/EIS, Volume IV) sets forth corrective measures to mitigate and avoid adverse impacts, including water quality impacts. See

Master Responses "Groundwater Monitoring and Management Plan" and "Water Quality." See Response to Comment P95-4.

P104-7 See d Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P104-8 Comment noted.

P105 RESPONSES TO COMMENTS FROM CAROL PRAGER DATED JANUARY 2, 2001.

P105-1 See Response to Comment P28-4.

P105-2 See Response to Comment F3-11 and Master Response "Water Quality."

P105-3 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P105-4 See Response to Comment P104-6.

P105-5 See Response to Comment P58-2.

P105-6 See Master Response "Formulation and Screening of Potential Projects."

P106 RESPONSES TO COMMENTS FROM KELLY COHEN DATED DECEMBER 22, 2000.

P106-1 See Responses to Comments P28-4 and P58-2.

P106-2 See Response to Comment P28-4.

P106-3 See Responses to Comments F3-11 and Master Response "Water Quality."

P106-4 See Response to Comment P58-2.

P106-5 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P106-6 See Response to Comment P104-6.

P106-7 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P106-8 See Response to Comment P58-2.

P106-9 Comment noted.

P107 RESPONSES TO COMMENTS FROM CELESTE MOORE DATED DECEMBER 26, 2000.

P107-1 See Responses to Comments P28-4 and P58-2.

P107-2 See Response to Comment P28-4.

P107-3 See Responses to Comments F3-11 and Master Response "Water Quality."

P107-4 See Response to Comment P58-2.

P107-5 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P107-6 See Response to Comment P104-6.

P107-7 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P107-8 See Response to Comment P58-2.

P108 RESPONSES TO COMMENTS FROM TOM CAMARA DATED JANUARY 9, 2001.

P108-1 See Responses to Comments P28-4 and P58-2.

P108-2 See Response to Comment P58-2.

P108-3 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P108-4 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P108-5 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P108-6 See Response to Comment P58-2.

P108-7 See Response to Comment F3-11 and Master Response "Water Quality."

P108-8 See Response to Comment P21-4.

P109 RESPONSES TO COMMENTS FROM JASON HASHMI DATED FEBRUARY 9, 2001.

P109-1 See Response to Comment P28-4.

P109-2 See Response to Comment P28-4.

P109-3 See Response to Comment P58-2.

P109-4 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P109-5 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P109-6 See Response to Comment P58-2.

P110 RESPONSES TO COMMENTS FROM IRIS EDINGER DATED JANUARY 3, 2001.

P110-1 Comment noted.

P110-2 See Response to Comment P28-4.

P110-3 See Response to Comment F3-11 and Master Response "Water Quality."

P110-4 See Response to Comment P58-2.

P110-5 Metropolitan, a public agency, will carry out the project, including monitoring, in accordance with its obligations under CEQA.

P110-6 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P110-7 See Response to Comment F3-11 and Master Response "Water Quality."

P110-8 Comment noted.

P111 RESPONSES TO COMMENTS FROM ANNICK WOLF DATED JANUARY 5, 2001.

P111-1 See Response to Comment P28-4.

P111-2 See Response to Comment F3-11 and Master Response "Water Quality."

P111-3 No additional treatment is anticipated to be required due to project operations.

P111-4 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P111-5 See Response to Comment P58-2.

P111-6 Comment noted.

P112 RESPONSES TO COMMENTS FROM MARK WEAVER DATED FEBRUARY 9, 2001.

P112-1 The purpose and need for the project are discussed in Section 2 of the Final EIR/EIS, Volume I. Regarding conservation measures, see Master Response "Water Conservation." Metropolitan does not have the authority to regulate or control growth. The project includes mitigation measures that will be implemented to mitigate or avoid significant environmental impacts.

P112-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P112-3 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P112-4 See Master Response "Air Quality."

P112-5 Comment noted.

P113 RESPONSES TO COMMENTS FROM PAM McMICHAEL DATED JANUARY 4, 2001.

P113-1 See Response to Comment P21-4.

P113-2 See Response to Comment P58-2.

P113-3 See Response to Comment P21-4.

P114 RESPONSES TO COMMENTS FROM SUSAN STUART DATED JANUARY 8, 2001.

P114-1 See Response to Comment P28-4.

P114-2 See Responses to Comments F3-11 and Master Response "Water Quality."

P114-3 See Response to Comment P58-2.

P114-4 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P114-5 See Response to Comment P104-6.

P114-6 See Response to Comment P104-6.

P114-7 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P114-8 See Response to Comment P58-2.

P115 RESPONSES TO COMMENTS FROM SUE BUCKLEY AND WALLY ELTON DATED JANUARY 16, 2001.

P115-1 See Response to Comment P58-2.

P115-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P115-3 See Master Response "Air Quality."

P115-4 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P115-5 Comment noted.

P116 RESPONSES TO COMMENTS FROM GLENN STEWART DATED JANUARY 24, 2000.

P116-1 See Response to Comment P21-4.

P116-2 See Response to Comment P58-2.

P116-3 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P116-4 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P116-5 See Response to Comment P58-2.

P116-6 See Responses to Comments P116-1 and P116-2.

P116-7 See Response to Comment P116-3.

P116-8 See Response to Comment P116-4.

P116-9 See Master Response "Air Quality."

P117 RESPONSES TO COMMENTS FROM DAVID AND MARSHA LOW DATED DECEMBER 31, 2000.

P117-1 See Response to Comment P21-4.

P117-2 See Master Response "Water Quality" and Master Response "Groundwater Monitoring and Management Plan."

P117-3 Comment noted.

P117-4 See Response to Comment P117-1.

P117-5 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P117-6 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P117-7 See Master Response "Air Quality."

P118 RESPONSES TO COMMENTS FROM VIVIAN NEWMAN DATED DECEMBER 31, 2000.

P118-1 See Response to Comment P58-2.

P118-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P118-3 See Master Responses "Formulation and Screening of Potential Projects" and "Water Conservation."

P118-4 See Response to Comment P118-1.

P118-5 See Response to Comment P118-2.

P118-6 See Response to Comment P118-3.

P118-7 See Master Response "Air Quality."

P118-8 Comment noted.

P119 RESPONSES TO COMMENTS FROM MELISSA BUHLER DATED DECEMBER 25, 2000.

P119-1 See Response to Comment P28-4.

P119-2 See Section 2, Final EIR/EIS, Volume I, regarding the need for the project to meet water demand in southern California.

P119-3 See Master Responses "Water Quality" and "Groundwater Monitoring and Management Plan."

P119-4 See Master Responses "Groundwater Monitoring and Management Plan" and "Air Quality."

P120 RESPONSES TO COMMENTS FROM JOAN GAMBILL DATED DECEMBER 21, 2000.

P120-1 See Response to Comment P58-2.

P120-2 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P120-3 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P120-4 See Master Response "Air Quality."

P120-5 Comment noted.

P121 RESPONSES TO COMMENTS FROM BARBARA TIDBALL DATED JANUARY 5, 2001.

P121-1 Comment noted.

P121-2 See Response to Comment P58-2.

P121-3 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

P121-4 See Master Responses "Water Conservation" and "Formulation and Screening of Potential Projects."

P121-5 See Master Response "Air Quality."

P121-6 Comment noted.

P121-7 See Responses to Comments P121-2 through P121-6.

P122 RESPONSES TO COMMENTS FROM RICHARD KNOX DATED JANUARY 3, 2001.

P122-1 See Master Responses "Groundwater Monitoring and Management Plan," "Water Quality" and "Formulation and Screening of Potential Projects."

T1 RESPONSES TO COMMENTS FROM REPORTER'S TRANSCRIPT OF PROCEEDINGS AT TWENTYNINE PALMS DATED NOVEMBER 29, 2000.

T1-1 Regarding the request for a Supplement, see Master Response to Comment "Need for Supplement/Recirculation." Analysis of potential impacts related to land use and the California Desert Conservation Area Plan are presented in Section 5.5.4 of the Final EIR/EIS Volume I. None of the alternatives considered in the EIR/EIS encroaches within the boundaries of a wilderness area. The preferred alternative would cross Class L lands for approximately five miles of its total approximate 35 mile length.

T1-2 See Response to Comment R12-2 and Master Response "Governance."

T1-3 For a discussion of management activities related to groundwater levels, see Section 7 of the Management Plan (Final EIR/EIS Volume IV) which describes action criteria, decision-making process and corrective measures. With regard to the 100 foot drop referenced in the comment, the commentor is correct that the Closure Plan contained in Section 8 of the Management Plan states that the average drawdown in the area underlying the project wellfield cannot exceed 100 feet, or a level that will cause adverse impacts to critical resources at the end of the project operations.

T1-4 Comment noted.

T1-5 Comment noted.

T1-6 Comment noted. No members of the public are proposed to be included on the TRP. The TRP shall consist of experts in various fields from the NPS, USGS and the County of San Bernardino. Additionally, staff from any other federal agency deemed to have relevant expertise, the California Department of Water Resources and/or the Regional Water Quality Control Board may be consulted, as necessary. BLM will provide for public participation as it deems appropriate. See Sections 9 and 10 of the Management Plan (Final EIR/EIS Volume IV).

T1-7 Comment noted.

T1-8 Comment noted.

T1-9 Comment noted.

T1-10 The Cadiz Project will not impact springs or bighorn sheep as suggested in this comment. See Section 7.1 of the Management Plan (Final EIR/EIS Volume IV) which describes the action criteria, decision-making process and corrective measures related to protection of springs throughout the area.

T1-11 As identified in Section 2 of the Final EIR/EIS Volume I, the project is needed even with the aggressive water conservation that is being implemented in Metropolitan's service area. For more information on Metropolitan's conservation efforts, see Master Response "Water Conservation."

T1-12 Comment noted.

T1-13 See Master Response "Growth Inducement" regarding references to Metropolitan's service area. The amount of indigenous groundwater that could be transferred under the Cadiz Project is not quantified and will be governed by the provisions of the Management Plan in order to avoid adverse impacts to critical resources. See Response to Comment T1-3 regarding groundwater levels.

T1-14 The amount of indigenous groundwater that could be transferred under the Cadiz Project is not quantified and will be governed by the provisions of the Management Plan in order to avoid adverse impacts to critical resources.

T1-15 Detailed records of the amounts of Colorado River water stored and indigenous groundwater pumped will be kept under the Management Plan and will be available for public review. Metropolitan does not anticipate continuous pumping during periods between storing of Colorado River water.

T1-16 Section 2 of the Final EIR/EIS Volume I discusses Metropolitan's Colorado River supplies. Historically, Metropolitan has diverted 1.2 million acre-feet of Colorado River water. Metropolitan anticipates a reduction in the amount of Colorado River water available for use in California, which contributes to the need to maximize the efficiency of the Colorado River Aqueduct and use of Colorado River water.

T1-17 The Technical Review Panel is intended to provide technical expertise, and it would be inappropriate and unnecessary to include members of the public. The BLM may consult with the California Department of Water Resources and other agencies, as necessary. See Section 9.1 of the Management Plan, Final EIR/EIS, Volume IV. Metropolitan will operate the project in accordance with the Management Plan as required by CEQA, and BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project.

T1-18 See Master Response "Governance."

T1-19 The 50-year project term is not considered short-term. It is not known at this time what potential projects could fill the need met by the Cadiz Project at the end of its 50-year term.

T1-20 Section 7 of the Management Plan describes the corrective actions to be considered for each potential impact of the groundwater extraction. If measured declines in the elevation of

groundwater indicated that adverse impacts could occur, one of the following actions would be taken:

a) Reduction in pumping from project wells,
b) Revisions of pumping locations within the project wellfield,
c) Stoppage of groundwater extraction for a duration necessary to correct the predicted impact, or
d) Delivery of Colorado River water, if available, to the project spreading basins.

Regarding hexavalent chromium in the groundwater, see Response to Comment F3-11.

T1-21 Comment noted. The referenced safeguards taken to avoid impacts to neighboring wells are discussed in Section 7.2.2 of the Management Plan, Final EIR/EIS, Volume IV.

T1-22 Comment noted.

T1-23 Regarding the provision of water service to "local communities" outside of Metropolitan service area, Metropolitan can not provide water outside of its service area as described by commentor. See Response to Comment F2-27 regarding "earthquakes."

T1-24 See Response to Comment F3-11.

T1-25 See Response to Comment F2-27.

T1-26 Measures to mitigate for disturbance of the ground during construction are described in Section 5.8.5. Comment noted.

T1-27 For information documenting precipitation for the project area and surrounding vicinity see Section 5.5 of the Final EIR/EIS, Volume I. Regarding "population growth" see Master Response "Growth Inducement." The discussion of the need for the Cadiz Project is clarified in the Final EIR/EIS, Section 2.

T1-28 See Responses to Comments G42-39 and G42-86. Also see Master Response "Groundwater Management and Monitoring Plan." See Sections 9 and 10 of the Management Plan, Final EIR/EIS, Volume IV, which summarize the oversight and enforcement provisions of the Management Plan. See Master Response "Governance."

T1-29 See Master Response "Growth Inducement."

T1-30 The interconnection between California's water supply, referenced in the comment, is reflected in the discussion of Metropolitan's water supply set forth in Section 2.5, Final EIR/EIS, Volume I.

T1-31 See Master Response "Water Quality."

T1-32 Comment noted.

T1-33 The Draft EIR/EIS contained public comments received at the scoping meetings. All comments on the Draft EIR/EIS and Supplement to the Draft EIR/EIS and responses to those comments are included in the Final EIR/EIS, Volumes II and III.

T1-34 See Response to Comment T1-17.

T1-35 The Cadiz, Coachella and Hayfield programs will be coordinated to ensure efficient management of Metropolitan's Colorado River supply. As a public agency, Metropolitan's records are subject to public disclosure in accordance with California law.

T1-36 See Response to Comment T1-17.

T1-37 See Master Response "Governance."

T1-38 The project wells will be drilled in the alluvial aquifer. See the Final EIR/EIS, Volume I, Section 4.6.2 and Figure 4-22.

T1-39 See Response to Comment F2-36 for clarification of the "wet" and "dry" years.

T1-40 The Hayfield Groundwater Storage Project has been approved by Metropolitan's Board of Directors and is being implemented. Colorado River water has already been stored and is located within the Hayfield basin.

T1-41 BLM will perform its obligations in accordance with the Federal Land Policy and Management Act (FLPMA) and National Environmental Policy Act (NEPA).

T1-42 See Master Response "Governance."

T1-43 BLM and Metropolitan have complied with the requirements of CEQA and NEPA in providing public notice of the environmental review process. See Section 1.5 of the Final EIR/EIS, Volume I. Regarding potential impacts to wells of neighboring landowners, see Final EIR/EIS, Volume I, Section 5.5.4, and Volume IV, Sections 7.2.2.

T1-44 Several landowners, including the commentor, have participated in the public review and comment process and have submitted formal comments. See Response to Comment T1-43.

T1-45 For information regarding historical groundwater use, see the Final EIR/EIS, Volume I, Section 5.5.1.

T1-46 See Section 4.6.2 of the Final EIR/EIS, Volume I. The project will include construction of approximately 30 extraction wells.

T1-47 Section 4.0 of the Final EIR/EIS, Volume I, describes the capacity of the project to deliver up to approximately 150,000 acre-feet per year (at a rate of approximately 200 –250 cfs) during dry years.

T1-48 Comment noted.

T1-49 See Response to Comment F2-34. Cadiz Inc. prepares and submits an annual groundwater monitoring plan to the County of San Bernardino. Please contact the County regarding the availability of this report.

T1-50 As originally proposed in Section 3.9.1 of the Supplement to the Draft EIR/EIS, the Technical Review Team included Metropolitan, Cadiz Inc., County of San Bernardino, and the U. S. Department of the Interior. The Technical Review Panel that has been

incorporated into the final Management Plan includes representatives of the National Park Service, U. S. Geological Survey, and County of San Bernardino. See section 9 of the Management Plan (Final EIR/EIS, Volume IV).

T1-51 See Response to Comment T1-50.

T1-52 Section 9.1 of the Management Plan (Final EIR/EIS, Volume IV) provides that the BLM may consult with the Regional Water Quality Control Board and other agencies, as necessary.

T1-53 All recommendations and actions will be available to the public in the annual and five year reports required under Section 6.8 of the Management Plan (Final EIR/EIS, Volume IV).

T1-54 See Section 9.3 of the Management Plan (Final EIR/EIS, Volume IV). Data will be available through an electronic network or other appropriate means.

T1-55 See Sections 6.1 and 7.1 of the Management Plan (Final EIR/EIS, Volume IV) for monitoring and management activities related to springs.

T1-56 See Section 7.1.1 of the Management Plan (Final EIR/EIS, Volume IV) for a description of corrective measures that will be implemented as appropriate to avoid adverse impacts to springs.

T1-57 See Response to Comment T1-55. The monitoring system will provide the data to calibrate the groundwater models described in Section 3 of the Management Plan (Final EIR/EIS, Volume IV). The models will identify potential impacts sufficiently early to avoid impacts to the springs and other critical resources. Monitoring and modeling will provide an "early warning" years in advance of a potential impact to a spring. Modifications to project operations would be initiated to avoid occurrence of the impacts.

T1-58 The closest identified spring is Bonanza Spring, located in the Clipper Mountains approximately 12 miles north of the proposed spreading basins and wellfield.

T1-59 The investigations for the project did not identify any spring closer than Bonanza Spring.

T1-60 See Section 5.5 of the Final EIR/EIS, Volume I, for a detailed description of the groundwater aquifer system and groundwater flow.

T1-61 Section 8 of the Management Plan (Final EIR/EIS, Volume IV) establishes an objective of the Closure Plan to ensure that any decline in static groundwater levels not exceed an average of 100 feet beneath the project wellfield at the end of project operations, or lead to a projected adverse impact to critical resources during or after the project.

T1-62 Section 5.5.4 of the Final EIR/EIS, Volume I, discusses movement of the saline groundwater interface and migration of water from other areas.

T1-63 See Response to Comment T1-61.

T1-64 See Response to Comment T1-61.

T1-65 The average 100-foot drawdown criterion at the end of project operations would be measured in the vicinity of the project wellfield. See Section 8.1 of the Management Plan, footnote 7, Final EIR/EIS, Volume IV.

T1-66 See Response to Comments T1-61 and T1-65.

T1-67 See Response to Comments T1-61 and T1-65.

T1-68 Comment noted.

T1-69 Figure 5.5-10 in the Final EIR/EIS, Volume I, illustrates a cross section of the aquifer from Fenner Valley to Bristol Dry Lake. The Management Plan requires that the drawdown in the vicinity of the production wells not exceed an average of 100 feet beneath the project wellfield (or a lesser level if there is a projection of adverse impacts to critical resources). The drawdown will become increasingly less with distance from the wellfield, until there is no effect on groundwater levels.

T1-70 There remains a disagreement among experts regarding the amount of natural recharge to the project area. The Management Plan requires the operation of the project in a manner that will monitor and manage the effects on the groundwater basin to avoid adverse impacts regardless of the amount of natural recharge. See Master Response "Groundwater Management and Monitoring Plan."

T1-71 See Response to Comment T1-70.

T1-72 See Response to Comment T1-70.

T1-73 Section 7.1.1 of the Management Plan describes the action criteria, decision-making process and corrective measures relating to the protection of springs. S-Series observation wells will ensure protection of the springs by measuring groundwater level impacts from project operations. For example, the action criteria for S-Series observation wells (1 foot change in any S-Series Observation well) has been established as a conservative, "hair-trigger" action level. If it were determined that project operations triggered this action criterion, it would be evaluated to determine whether the change was caused by the project and whether it reflected a potential impact to a spring. If the drop was determined to be project related and could lead to an adverse impact to a critical resource, appropriate corrective measures would be implemented to avoid the impact.

T1-74 The amount of allowable drawdown is based on avoiding significant adverse impacts to critical resources, not necessarily the amount of natural recharge to the project area.

T1-75 Comment noted.

T1-76 See Responses to Comments T1-61 and T1-74.

T1-77 Section 7.1.1 of the Management Plan ensures there will not be adverse impacts to springs, and therefore, that there will be no impact to any bighorn sheep that are dependent on those springs.

T1-78 See Response to Comments T1-73.

T1-79 Comment noted.

T1-80 Comment noted.

T1-81 See Responses to Comments T1-65 and T1-69.

T1-82 Potential impacts to neighboring wells will be monitored as defined in Section 7.2.2 of the Management Plan. Neighboring wells will not be immediately impacted.

T1-83 See Response to Comment T1-82.

T1-84 Section 7.2.2 of the Management Plan (Final EIR/EIS, Volume IV) requires that Metropolitan arrange for an interim supply of water to any impacted well owner pending a determination of whether the impact is project related. Metropolitan is not responsible for impacts that are not related to the project.

T1-85 Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

T1-86 See Section 10 of the Management Plan (Final EIR/EIS, Volume IV) which include the BLM decision-making process.

T1-87 See Response to Comment T1-86.

T1-88 See sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV), which sets forth the roles and responsibilities of the Technical Review Panel (TRP) and BLM.

T1-89 An appeal of the BLM Authorized Officer's decision does not require payment of a fee.

T1-90 See Response to Comment T1-89.

T1-91 The comment is too general to permit a response.

T1-92 The provisions incorporated in the Management Plan, Section 7.2.2 provides specific measures to avoid potential adverse impacts to wells owned by neighboring landowners. The Final EIR/EIS serves the purposes and complies with the requirements of CEQA and NEPA.

T1-93 Comment noted.

T1-94 The project includes both storage of Colorado River water and extraction of indigenous groundwater in accordance with the Management Plan. See Section 3.5.4 of the Final EIR/EIS, Volume I.

T1-95 The amount of indigenous groundwater that may be extracted by the project will be determined in accordance with the Management Plan so that project operations will not cause adverse impacts to critical resources. See Sections 1.2 and 1.4 of the Management Plan, Final EIR/EIS, Volume IV.

T1-96 See Response to Comment T1-95.

T1-97 The aquifer system receives natural recharge from the surrounding watershed and will receive artificial recharge from spreading Colorado River water.

T1-98 See Response to Comments T1-94 and T1-95.

T1-99 See Response to Comments T1-94 and T1-95.

T1-100 The Management Plan does not prohibit lowering of groundwater levels at the beginning of project operations. However, it does require monitoring and management of the project operations to avoid adverse impacts. Corrective measures identified in Section 7 of the Management Plan (Final EIR/EIS, Volume IV) include modifications to project operations where appropriate to avoid impacts.

T1-101 Comment noted.

T1-102 Comment noted.

T1-103 Comment noted.

T1-104 Section 1.3 of the Management Plan states that the Management Plan ensures that project operations and future irrigation under the Cadiz agricultural operation will be conducted without adverse impacts to critical resources.

T1-105 The Management Plan ensures that withdrawal of water for both the project and agricultural uses by Cadiz Inc. will be conducted without adverse impacts to critical resources. See Response to Comment R3-52.

T1-106 The monitoring features required in the Management Plan are set forth in Sections 5 and 6 (Final EIR/EIS, Volume IV).

T1-107 See Response to Comment T1-106.

T1-108 Metropolitan anticipates that it will extract stored Colorado River water and indigenous groundwater during dry years when surplus water is not available from the Colorado River. However, any use of indigenous groundwater will be subject to provisions of the Management Plan (Final EIR/EIS, Volume IV).

T1-109 Metropolitan estimates it will have a high probability of declared surplus from the Colorado River until 2016 under the Record of Decision for Colorado River Interim Surplus Guidelines.

T1-110 See Response to Comment T1-108.

T1-111 Comment noted.

T1-112 See Section 5.5 of the Final EIR/EIS, Volume I, for a detailed discussion of the natural recharge and groundwater flow in the basin. The primary sources of replenishment to the groundwater system in the project area include direct infiltration of precipitation (both rainfall and snowfall) in fractured bedrock exposed in mountainous terrain and infiltration of ephemeral stream flow in sandy-bottomed washes, particularly in the higher elevations of the watershed. The source of much of the groundwater recharge within the regional watershed occurs in the higher elevations.

T1-113 See Response to Comment T1-112.

T1-114 Comment noted.

T2 RESPONSES TO COMMENTS FROM REPORTER'S TRANSCRIPT OF PROCEEDINGS AT LOS ANGELES DATED DECEMBER 18, 2000.

T2-1 See Master Response "Water Quality."

T2-2 Comment noted.

T2-3 See Response to Comment F3-11.

T2-4 See Response to Comment F3-11. A proposal to remove hexavalent chromium from the aquifer is not being considered.

T2-5 Chromium has been detected in groundwater in Metropolitan's Semitropic and Arvin-Edison programs in the San Joaquin Valley, and the Cadiz and Hayfield programs in the Mojave Desert, at levels below state and federal drinking water standards. Metropolitan will receive water from these groundwater basins during dry years. Please contact the cities of Burbank and Glendale for information regarding analyses of their water supplies.

T2-6 See Response to Comment F3-11.

T2-7 There is no conclusive evidence that hexavalent chromium causes cancer when ingested in water. Further study is being done by the California Department of Health Services and the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment.

T2-8 Chromium is a common element found all over the world.

T2-9 The U. S. Environmental Protection Agency has concluded that there is no evidence that chromium in drinking water has the potential to cause cancer from lifetime exposures in drinking water.

T2-10 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-11 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-12 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required. See Response to Comment G6-15.

T2-13 See Section 2.3.2 of the Final EIR/EIS, Volume 1, for a description of the role of storage in a water delivery system.

T2-14 See Response to Comment T2-13.

T2-15 Drinking water supplies, including those in underground aquifers, are required to be tested for hexavalent chromium and other chemicals.

T2-16 Metropolitan and the BLM are jointly evaluating the implementation of the Cadiz Project through the public environmental review process required pursuant to CEQA and NEPA.

T2-17 The comment does not raise an issue under CEQA or NEPA and, therefore, a response is not required.

T2-18 Potential impacts to the desert environment and the water table are contained in Section 5 of the Final EIR/EIS, Volume I.

T2-19 Potential environmental impacts will not be exaggerated in wet or dry years. Project operations will be governed by the Management Plan and will be limited, as necessary, to avoid adverse impacts to critical resources.

T2-20 See Response to Comment T2-19.

T2-21 Water quality testing under the Management Plan will include testing for hexavalent chromium.

T2-22 Water quality testing under the Management Plan must be performed by a State of California certified laboratory. See Appendix D to the Management Plan, Final EIR/EIS, Volume IV.

T2-23 The Department of Water Resources (DWR) has a map of groundwater basins in California available to the public. Also see DWR Bulletin # 118.

T2-24 Please contact the State Water Resources Control Board for information regarding the quality of water in groundwater basins throughout California.

T2-25 See Sections 3.4 and 3.5 of the Final EIR/EIS, Volume I, for an evaluation of other groundwater basins considered.

T2-26 The comment does not raise an issue under CEQA or NEPA and, therefore, a response is not required.

T2-27 The comment does not raise an issue under CEQA or NEPA and, therefore, a response is not required.

T2-28 Comment noted.

T2-29 Comment noted.

T2-30 Comment noted.

T2-31 Comment noted.

T2-32 Comment noted.

T2-33 Comment noted.

T2-34 Comment noted.

T2-35 Comment noted.

T2-36 Comment noted.

T2-37 Comment noted.

T2-38 The Draft EIR/EIS, Supplement to the Draft EIR/EIS and Final EIR/EIS meet the requirements of CEQA and NEPA. The project is proposed as both a storage and transfer program. See Master Response "Groundwater Monitoring and Management Plan."

T2-39 The Cadiz Project is both a storage and transfer program.

T2-40 The project would not impact the amount of natural recharge to the groundwater basin. The U. S. Geological Survey and National Park Service are cooperating agencies under NEPA, and have assisted in the preparation of the Management Plan that is incorporated into the Final EIR/EIS.

T2-41 The Management Plan ensures protection of air quality related to the mobilization of dust on Bristol and Cadiz dry lakes. See Master Response "Air Quality."

T2-42 See Response to Comment T1-10.

T2-43 Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. The BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project.

T2-44 Comment noted.

T2-45 Section 5.5.1 of the Draft EIR/EIS stated that the range of natural recharge available to the project area was between 15,000 and 37,000 acre-feet per year. The Supplement to the Draft EIR/EIS, Section 1.1, acknowledged that there are differences in the opinions of experts with respect to natural recharge. The concerns were addressed in the Supplement and Final EIR/EIS through the development of the Management Plan for purposes of governing project operations to avoid adverse impacts. See Master Response "Groundwater Management and Monitoring Plan."

T2-46 Section 5 of the Final EIR/EIS states that the six operational scenarios presented in the Draft EIR/EIS are no longer being used to evaluate the potential impacts of the proposed project. Instead, the project will be operated in accordance with the Management Plan and any groundwater use under the project must comply with the Management Plan provisions.

T2-47 The comment is based on an operating scenario that has been removed from the Final EIR/EIS. Section 8 of the Management Plan requires project operations be limited to allow a decline of no more than an average of 100 feet in static groundwater levels in the vicinity of the project wellfield, or such level as will not cause a predicted adverse impact.

T2-48 The comment does not raise a CEQA or NEPA question or issue. See Section 8 of the Management Plan.

T2-49 See Response to Comment T2-47.

T2-50 See Response to Comment T2-47.

T2-51 See Response to Comment T2-47.

T2-52 See Response to Comment T2-47.

T2-53 See Response to Comment T2-47. Section 7.2.6 of the Management Plan (Final EIR/EIS, Volume IV), requires project operations be limited to avoid impairment of beneficial uses of groundwater due to project-induced migration of lower quality water from Bristol and Cadiz Dry Lakes.

T2-54 The Management Plan incorporates modeling of the groundwater basin to identify the potential future impacts of planned project operations. See Section 3 of the Management Plan, Final EIR/EIS, Volume IV.

T2-55 Comment noted.

T2-56 Comment noted. See Master Response "Air Quality."

T2-57 See Responses to Comments G42-91, G42-97 and G42-99.

T2-58 See Response to Comment G42-98.

T2-59 See Responses to Comments G42-95 and -96.

T2-60 See Responses to Comments G42-92 and G42-93.

T2-61 An estimate of the PM_{10} emissions from removing the accumulated sediment is provided in Table 5.6-4 of the Final EIR/EIS, Volume I. These figures are based on the use of watering during maintenance activities to reduce emissions, and are calculated in accordance with emissions factors provided by the U. S. Environmental Protection Agency (USEPA), South Coast Air Quality Management District (SCAQMD), Mojave Desert Air Quality Management District (MDAQMD), and California Air Resources Board (CARB). See Final EIR/EIS, Volume I, Sections 5.6.3 and5.6.4.

T2-62 See Response to Comment T2-61. Section 5.6.4 of the Final EIR/EIS, Volume I, also discusses the potential impacts from emissions from the spreading basins when they are dry. Due to the growth of algae during spreading operations, a crust will be formed over the basins that prevents emissions when the basins are dry. However, mitigation measure AQ-9 provides for the application of soil binders to the spreading basins if necessary to control dust.

T2-63 Comment noted.

T2-64 The potential impacts to air quality have been adequately evaluated in Section 5.6.4 of the Final EIR/EIS, Volume I. The amounts of regulated air pollutants that will be generated by construction and operation of the project are set forth in Tables 5.6-3 and 5.6-4. The construction impacts to air quality were found to be significant. See Section 8.2, Final EIR/EIS, Volume I. Mitigation measures to minimize and avoid air quality impacts are set forth in Section 5.6.5 in Volume I.

With regard to dust mobilization from Bristol and Cadiz dry lakes , this is addressed in the Management Plan in Section 7.4.1 in Volume IV, of the Final EIR/EIS. It has been conservatively assumed that a lowering of the groundwater level could increase the susceptibility of the lakebeds to dust mobilization. Therefore, the Management Plan was developed to detect and mitigate the potential for increased susceptibility of the lakebeds to dust mobilization caused by lowering of the groundwater level as a result of project operations. See Master Response "Air Quality."

T2-65 See Response to Comment T2-64.

T2-66 See Response to Comment T2-47.

T2-67 The analysis of potential impacts to groundwater related resources is set forth in Section 5.5.4 of Volume I, and Section 2 of Volume IV, of the Final EIR/EIS. The Management Plan includes measures to monitor and manage project operations to avoid the potential impacts, as described in Sections 6 and 7, Final EIR/EIS, Volume IV.

T2-68 The Management Plan adequately describes the monitoring system that will be implemented, and the management measures that will apply to project operations to avoid adverse impacts to critical resources. See Sections 6 and 7 of the Final EIR/EIS, Volume IV. Metropolitan has the legal obligation to implement the Management Plan pursuant to CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of the right-of-way grant(s) for the project.

T2-69 The Management Plan establishes a monitoring network that will track every aspect of groundwater related resources that may be affected by project operations. See Sections 5 and 6 of the Final EIR/EIS, Volume IV. Groundwater models, calibrated in accordance with collected data, will be used to evaluate and predict the potential impacts of project operations and limit those operations to avoid adverse impacts. See Sections 3 and 7 of the Final EIR/EIS, Volume IV.

T2-70 Financial aspects of the program are not CEQA or NEPA issues related to assessment of environmental impacts, and are considered separately from the environmental documents.

T2-71 See Response to Comment T2-70.

T2-72 BLM and Metropolitan believe that the Final EIR/EIS serves the purposes of and complies with the requirements of CEQA and NEPA.

T2-73 See Response to Comment T2-72.

T2-74 The Cadiz Project complies with all applicable federal and state water quality requirements. Section 7.2.1 of the Final EIR/EIS, Volume IV, requires that the project be operated to ensure compliance with the Basin Plan adopted by the Regional Water Quality Control Board, Colorado River Region.

T2-75 The project has no impact on any reserved water rights.

T2-76 Potential impacts to wildlife are addressed in Section 5.8.4 of the Final EIR/EIS, Volume I.

T2-77 Comment noted.

T2-78 Comment noted.

T2-79 See Master Response "Air Quality."

T2-80 See Section 5.8 of the Final EIR/EIS for a complete discussion of the potential impacts to desert life and Sections 9 and 10 of the Management Plan which summarize the oversight and enforcement provisions of the Management Plan.

T2-81 The Final EIR/EIS serves the purposes and meets the requirements of CEQA and NEPA.

T2-82 The project does not interfere with the rights of landowners overlying the basin to make reasonable, beneficial use of the groundwater.

T2-83 The potential impacts to wells operated by neighboring landowners have been addressed in Section 7.2.2 of the Final EIR/EIS, Volume IV. Neighboring owners have had the opportunity to comment on the project through the public environmental review process required under CEQA and NEPA.

T2-84 The measures set forth in Section 7.2.2 of the Final EIR/EIS, Volume IV, will prevent the project from causing wells operated by neighboring landowners to be adversely impacted. Corrective measures are set forth to remedy any adverse impacts that occur, including deepening wells, providing alternative water supply, or constructing a replacement well.

T2-85 Metropolitan will operate the project in accordance with the Management Plan pursuant to its legal obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project.

T2-86 Section 7.2.2 of the Final EIR/EIS, Volume IV, requires Metropolitan to provide an interim supply of water pending determination if any impact to a neighboring property owner's well is caused by the project. This obligation is initiated upon receipt of a written complaint.

T2-87 See Response to Comment T2-86. Costs to third parties of enforcing legal obligations is not an issue under CEQA or NEPA.

T2-88 The Management Plan will be implemented by Metropolitan in accordance with its obligations under CEQA. BLM will retain authority to enforce the Management Plan through the terms and conditions of its right-of-way grant(s) for the project. Costs to third parties of enforcing legal obligations is not an issue under CEQA or NEPA.

T2-89 See Response to Comment T2-88.

T2-90 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-91 Comment noted.

T2-92 Comment noted.

T2-93 Comment noted.

T2-94 Comment noted.

T2-95 Comment noted.

T2-96 Figure 5.2-2 in Volume I of the Final EIR/EIS shows BLM Multiple – Use Classes and utility corridors designated in the California Desert Conservation Area (CDCA) Plan.

The Final EIR/EIS indicates the area around Iron Mountain is designated as "Multiple-Use Class L". To quote the CDCA Plan:

"Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." Within Class L areas, "New gas, electric, and water transmission and trans-desert telecommunications facilities may be allowed only within designated corridors....New distribution systems may be allowed and would be placed underground where feasible except where this would have a more detrimental effect on the environment than a surface alignment. In addition, new distribution facilities shall be placed within existing rights-of-way where they are reasonably available."

Of the approximate 35-mile length of the preferred alternative alignment, less than five miles of the alignment would cross lands designated as "Multiple-Use Class L." The balance of the alignment would cross lands designated as "Multiple-Use Class M."

"Multiple-Use Class M (Moderate Use) is based upon a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources that permitted uses may cause."

As shown in Figure 5.2-2 a relatively short segment of a CDCA Plan designated utility corridor crosses the Cadiz Project area north of the Iron Mountain Pumping Plant. This utility corridor accommodates the aboveground utility lines (two 230 kV power lines and telephone lines) that connect the Iron Mountain Pumping Plant with Hoover Dam. This utility corridor line also crosses Class L lands.

T2-97 The establishment of a utility corridor is not being considered. Because the project conveyance pipeline and electrical distribution system will cross federal lands administered by the BLM, the BLM must consider whether to amend the California Desert Conservation Area Plan for an exception to the utility corridor requirement and grant rights-of-way to Metropolitan for construction and operation of the project. The environmental impacts of these actions are addressed in the Final EIR/EIS. The preferred alternative is a buried pipeline. Undergrounding the electric power line that parallels the pipeline or pipeline/canal options is fatally flawed on a technical basis.

T2-98 Comment noted.

T2-99 Comment noted.

T2-100 Comment noted.

T2-101 Comment noted.

T2-102 Comment noted.

T2-103 Comment noted.

T2-104 See Response to Comment F3-11. Current technology allows for detection of hexavalent chromium in water.

T2-105 The project does not propose to mix "clean water" with reclaimed water to expand the drinking water supply or distribution system. There is no causal relationship between production of groundwater and droughts. Droughts are caused by lack of precipitation.

T2-106 See Final EIR/EIS, Volumes II and III, regarding public notices related to the environmental review process. See Master Response "Alternatives" regarding the alternatives considered as a part of this environmental review process. See Master Response "Growth Inducement" regarding statement concerning growth. The project would not provide water to Twentynine Palms.

T2-107 See Master Response "Water Conservation."

T2-108 Comment noted.

T2-109 Comment noted.

T2-110 Comment noted.

T2-111 Comment noted.

T2-112 Comment noted.

T2-113 Comment noted. See sections 9 and 10 of the Management Plan which summarize the oversight and enforcement provisions of the Management Plan.

T2-114 The project will be operated by Metropolitan, a public agency. Its operations are subject to public oversight in accordance with California law.

T2-115 Comment noted.

T2-116 Comment noted.

T2-117 Comment noted. Also see comment letter P82.

T2-118 Comment noted. Also see comment letter P82.

T2-119 Comment noted. Also see comment letter P82.

T2-120 Comment noted. Also see comment letter P82.

T2-121 Comment noted. Also see comment letter P82.

T2-122 Comment noted. Also see comment letter P82.

T2-123 Comment is correct that Colorado River water would be stored in wet years and pumped in dry years.

T2-124 The Cadiz Project includes the transfer of available groundwater subject to the provisions of the Management Plan (Final EIR/EIS, Volume IV).

T2-125 Comment noted.

T2-126 See Master Response "Formulation and Screening of Potential Projects." Table III-18 of the Regional Urban Water Management Plan (RUWMP) delineates projects for management of Colorado River water supplies. These projects provide a total of 3,000,000 acre-feet of storage. Accompanying text from the RUWMP states "Once the proposed programs are instituted, Metropolitan will potentially have enough storage and withdrawal capacity to assure full aqueduct for a number of decades. However, without implementation of the proposed programs, sufficient supplies would not be available to keep the aqueduct full when surplus water is not available" (p. III-60).

T2-127 As noted in response T2-126, 3,000,000 acre-feet of storage is required to manage Colorado River water supplies for dry year demand.

T2-128 As noted in the RUWMP, all the projects are required to meet Metropolitan's needs.

T2-129 The Hayfield Program has been approved for implementation and delivery of 800,000 acre-feet of Colorado River water to the basin for storage. Metropolitan is currently in negotiations with Coachella Valley Water District regarding the Coachella Program, and with the Arizona Water Banking Authority regarding usage of the Arizona water bank.

T2-130 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-131 The Cadiz Program is subject to the same environmental review and permitting process as each of the potential Colorado River storage projects.

T2-132 Metropolitan is adequately evaluating all feasible potential programs.

T2-133 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-134 Metropolitan will operate the project in accordance with the Management Plan pursuant to its obligations under CEQA. See Sections 9 and 10 of the Management Plan which summarize the oversight and enforcement provisions of the Management Plan.

T2-135 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-136 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T2-137 The comment does not raise an issue under CEQA or NEPA and, therefore, no response is required.

T3 RESPONSES TO COMMENTS FROM TRANSCRIPT OF PROCCEDINGS OF BLM NATIONAL OFF-HIGHWAY VEHICLE MANAGEMENT STRATEGY IN BARSTOW DATED OCTOBER 21, 2000.

T3-1 Comment noted. See Master Response "Groundwater Monitoring and Management Plan."

T3-2 See Response to Comment T3-1. The preferred alternative proposes to construct nearly 35 miles of pipeline and no canal.

T3-3 The project does not affect the use of the Arizona California Railroad.

T3-4 See Section 5.14.4 of the Final EIR/EIS, Volume I, for a complete evaluation of aesthetic impacts.

T3-5 See Response to Comment T3-4.

T3-6 See Response to Comment T3-4.

T3-7 It is anticipated that Colorado River water will periodically be available for storage under the Cadiz Project even after the expiration of the Interim Surplus Guidelines for the Colorado River.

T3-8 Comment noted.

T3-9 See Section 7.2.2 of the Final EIR/EIS, Volume IV, regarding the monitoring and management measures that will be implemented to avoid or mitigate impacts to wells operated by neighboring owners.

T3-10 Landowners with property overlying a groundwater basin have the right to pump groundwater for reasonable, beneficial use on their property. The landowner's right is superior to Metropolitan's use of surplus groundwater.

T3-11 The public review period for the Supplement was extended to a total of 80 days.

T3-12 The public review period for the Supplement was extended to a total of 80 days.

T3-13 Comment noted.

T3-14 See Master Response "Groundwater Monitoring and Management Plan." See Sections 9 and 10 of the Management Plan (Final EIR/EIS, Volume IV) which summarize the oversight and enforcement provisions of the Management Plan.

T3-15 See Response to Comment T3-14.

T3-16 See Response to Comment T3-14. See Section 7.2.2 of the Final EIR/EIS, Volume IV, regarding the monitoring and management measures that will be implemented to avoid or mitigate impacts to wells operated by neighboring owners.

T3-17 The BLM has determined that a right-of-way for groundwater storage is not legally required for the Cadiz Project.

T3-18 See Response to Comment T3-14.

T3-19 The BMG has been removed from the Management Plan. There remains a Technical Review Panel which provides technical support and recommendations to the BLM. See Sections 9 and 10 of the Management Plan, Final EIR/EIS, Volume IV.

T3-20 Comment noted.

T3-21 Public comment from the desert area has been taken at three scoping meetings, three public meetings on the Draft EIR/EIS and three public meetings on the Supplement to the Draft EIR/EIS.

T3-22 See Master Response "Water Conservation."

T3-23 See Master Responses "Governance" and "Groundwater Monitoring and Management Plan."

T4 RESPONSES TO COMMENTS FROM THE ASSOCIATION OF CALIFORNIA WATER AGENCIES ON THE SUPPLEMENT TO THE DRAFT ENVIRONMENTAL REPORT/ENVIORNMENTAL IMPACT STATEMENT FOR THE PROPOSED CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM

T4-1 See Response to Comment T1-19.

T4-2 See Master Responses "Groundwater Monitoring and Management Plan" and "Water Quality."

T4-3 See Sections 9 and 10 of the Management Plan which summarize the oversight and enforcement provisions of the Management Plan.

T4-4 Regarding the provision of water service to "local communities" outside of Metropolitan service area, Metropolitan cannot provide water outside of its service area as referenced by commentor.

T4-5 See Master Response "Water Quality."

T4-6 The project includes both storage of Colorado River water and transfer of available indigenous groundwater. All project operations will be in compliance with the Management Plan to avoid adverse impacts to critical resources.

T4-7 Comment noted.

T4-8 See Master Response "Water Quality" and Response to Comment F3-11, regarding hexavalent chromium. Other comments noted.

T4-9 Comment noted.

T4-10 This letter is responded to at Responses to Comments P82-21 through P82-24.

T4-11 Comment noted.

T4-12 Comment noted.

APPENDIX A

NOTICES PUBLISHED FOR THE SUPPLEMENT TO THE DRAFT EIR/EIS

1. The Needles Desert Star, October 18, 2000. Notice of Availability of the Supplement

2. Federal Register, October 18, 2000. BLM Notice of Meeting of the California Desert District Advisory Council

3. San Bernardino Sun, October 20, 2000. Notice of Availability of the Supplement

4. Federal Register, October 20, 2000. EPA Notice of Availability of Draft Supplement

5. Federal Register, October 23, 2000. BLM Notice of Availability of Supplement for right-of-way and Plan amendment

6. News Release, November 13, 2000. Notice of Public Meeting on Supplement

7. San Bernardino Sun, November 16, 2000. Notice of Public Meeting on the Supplement

8. The Needles Desert Star, November 22, 2000. Notice of Public Meeting on the Supplement

9. News Release, November 22, 2000. Notice of Public Comment Period Extension and Public Meetings on the Supplement

10. Federal Register, December 1, 2000. BLM Notice of Extension of the Public Comment Period on the Supplement.

DECLARATION of PUBLICATION
The Needles Desert Star

STATE OF CALIFORNIA)
County of San Bernardino ss.)

I Valerie Potter say

That I am over the age of eighteen and not interested in the above entitled (matter, estate, action or proceedings as the case may be); and I am now and at all time embraced in the publication herein mentioned was, the printer (or the foreman or principal clerk of the printer) of The Desert Star, a weekly newspaper printed, published and circulated in said county, that The Needles Desert Star

of which the annexed is a true printed copy, was published in the above named newspaper on the following dates, to wit...

October 19, 2000

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 10-20-00 at Needles, California.

Valerie Potter

Signature of Declarant

NOTICE OF AVAILABILI

Supplement to the Draft E
vironmental Impact
Report/Enviornmental Im
pact Statement For the C
diz Groundwater Storag
and Dry-Year Supply
Program

This is to inform all interes
person that pursuant to
California Environmen
Quality Act (CEQA) and
National Environmental Po
Act (NEPA), the Metropol
Water District of South
California (Metropolitan)
the U.S. Department of the
terior Bureau of Land M
agement (BLM) have joi
prepared a Supplement to
Draft Environmental Imp
Report/Enviornmental Im
Statement (Supplement)
the proposed Cadiz Grou
water Storage and Dry-Y
Supply Program. Metropo
is the Lead Agency under
QA, and the BLM is the L
Agency under NEPA. Ag
cies cooperation in the pr
ration of the Supplement
U.S. Department of the In
or, National Park Service
U.S. Geological Survey.

The Draft EIR/EIS, publi
in November 1999, evalu
a range of alternatives
conveying water betwee
Colorado River Aqueduc
the aquifer underlying th
diz and Fenner Valley
plan amendment to the
fornia Desert Conserv
area Plan is also propos
allow for the proposed
line right-of-way outside
existing utility corridor.
Supplement provides
tional information rega
management of ground
resources and relate
quality issues in respon
comments on the
EIR/EIS.

The aim of the Cadiz P
is to ensure the reliabi
Metropolitan's existing
supply in the Colorado
Aqueduct. The projec
achieve this goal by s
Colorado River water
Cadiz/Fenner aquife
withdrawing the stored
along with indigenous g
water during dry year
project area is located
eastern Mojave Desert
of San Bernardino Co
the Cadiz and Fenner V
and crosses federal la
ministered by the BLM.

Copies of the Supplem
be available for 45-day
lic review from the O
20, 2000 through Dec
4, 2000 at the followin
tions:

Needles Branch Librar
1111 Bailey Ave.
Needles, CA 92363

Barstow Branch Librar

Dated: October 16, 2000.

Lori Williams,

Executive Director, National Invasive Species Council.

[FR Doc. 00–26927 Filed 10–17–00; 8:45 am]

BILLING CODE 4310–RK–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CA–610–09–0777–42]

Meeting of the California Desert District Advisory Council October 21 Meeting

SUMMARY: Notice is hereby given, in accordance with Public Laws 92–463 and 94–579, that the location for the Bureau of Land Management California Desert District Advisory Council's Saturday, October 21 meeting has been changed. The Council will meet in formal session from 8:00 a.m. to 5:00 p.m. at the Barstow Community College, located at 2700 Barstow Road, Barstow, California.

The Council and interested members of the public will participate in a field tour of BLM-administered public lands on Friday, October 20, 2000. They will assemble for the field tour at the Holiday Inn parking lot at 7:45 a.m. and depart at 8:00 a.m. The hotel is located at 1511 East Main Street in Barstow. Tour stops will include sites along Route 66, Amboy Crater, Cadiz Land Company for a discussion on the proposed Cadiz Groundwater Storage and Dry-Year Supply Program, Camp Essex (Patton Camp), and the community of Goffs. Members of the public are welcome to participate in the tour, but should plan on providing their own transportation, drinks, and lunch.

The Council will meet in formal session on Saturday. Agenda items will include comments from BLM California State Director Mike Pool, and updates/briefings on the BLM National Off-Highway Vehicle Management Strategy, Route 66, the Draft California Desert District Recreation Fee Policy, and a California Desert District Non-Profit Association.

At 2:00 p.m. discussions will focus on the proposed Cadiz Groundwater Storage Project, which will include a panel discussion and overview of the proposed project. The Council meeting also will serve as a public meeting during which BLM will accept and record public comment regarding the proposed project. Members of the public must register with the Council Chairman to speak. The time allotted each speaker will be based upon the number of people who register to speak.

All Desert District Advisory Council meetings are open to the public. Time for public comment may be made available by the Council Chairman during the presentation of various agenda items, and is scheduled at the beginning of the meeting for topics not on the agenda.

Written comments may be filed in advance of the meeting for the California Desert District Advisory Council, c/o Bureau of Land Management, Public Affairs Office, 6221 Box Springs Boulevard, Riverside, California 92507–0714. Written comments also are accepted at the time of the meeting and, if copies are provided to the recorder, will be incorporated into the minutes.

FOR FURTHER INFORMATION CONTACT: Doran Sanchez at (909) 697–5220, BLM California Desert District External Affairs.

Dated: October 12, 2000.

Douglas Romoli,

Acting District Manager.

[FR Doc. 00–26705 Filed 10–17–00; 8:45 am]

BILLING CODE 1060–HG–P

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

Bay-Delta Advisory Council's Ecosystem Roundtable Meeting and Ecosystem Roundtable Amendments Subcommittee Meeting

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice of Meetings.

SUMMARY: The Bay-Delta Advisory Council's (BDAC) Ecosystem Roundtable will meet on November 2, 2000 to discuss an initial recommendation for funding under the 2001 Ecosystem Restoration Program project selection process. The Amendments Subcommittee will also meet on November 2, 2000 to discuss proposed contract modifications for several ongoing ecosystem restoration projects. These meetings are open to the public. Interested persons may make oral statements to the Ecosystem Roundtable an Amendments Subcommittee or may file written statements for consideration.

DATES: The BDAC's Ecosystem Roundtable meeting will be held from 9:30 a.m. to 3:00 p.m. on Thursday, November 2, 2000. The Ecosystem Roundtable Amendments Subcommittee meeting will be held from 3:00 p.m. to 4:00 p.m. on Thursday, November 2, 2000.

ADDRESSES: The Ecosystem Roundtable and Amendments Subcommittee will meet at the Convention Center, 1400 J Street, Room 204, Sacramento, CA 95814.

FOR FURTHER INFORMATION CONTACT: Rebecca Fawver, CALFED Bay-Delta Program, at (916) 657–2666. If reasonable accommodation is needed due to a disability, please contact the Equal Employment Opportunity Office at (916) 653–6952 or TDD (916) 653–6934 at least one week prior to the meeting.

SUPPLEMENTARY INFORMATION: The San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta system) is a critically important part of California's natural environment and economy. In recognition of the serious problems facing the region and the complex resource management decisions that must be made, the state of California and the Federal government are working together to stabilize, protect, restore, and enhance the Bay-Delta system. The State and Federal agencies with management and regulatory responsibilities in the Bay-Delta system are working together as CALFED to provide policy direction and oversight for the process.

One area of Bay-Delta management includes the establishment of a joint State-Federal process to develop long-term solutions to problems in the Bay-Delta system related to fish and wildlife, water supply reliability, natural disasters, and water quality. The intent is to develop a comprehensive and balanced plan that addresses all of the resource problems. This effort, the CALFED Bay-Delta Program (Program), is being carried out under the policy direction of CALFED. The Program is exploring and developing a long-term solution for a cooperative planning process that will determine the most appropriate strategy and actions necessary to improve water quality, restore health to the Bay-Delta ecosystem, provide for a variety of beneficial uses, and minimize Bay-Delta system vulnerability. A group of citizen advisors representing California's agricultural, environmental, urban, business, fishing, and other interests who have a stake in finding long-term solutions for the problems affecting the Bay-Delta system has been chartered under the Federal Advisory Committee Act (FACA). The BDAC provides advice to CALFED on the program mission, problems to be addressed, and objectives for the Program. BDAC provides a forum to help ensure public participation, and will review reports and other materials prepared by

THE SUN
399 North "D" Street
San Bernardino, CA 92401
(909) 397-3986

KATHLEEN KUNYSZ
METRO WATER DISTRICT SO. CA
P.O. BOX 54153
LOS ANGELES CA 90054

CNS1804655

Proof of Publication

(2015.5 C.C.P.)

SUPPLEMENT TO DRAFT EIR CADIZ

I am a citizen of the United States, over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the representative of the printer and publisher of The Sun, a daily newspaper printed and published in the English language in the City of San Bernardino, County of San Bernardino, and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of San Bernardino, State of California, under date of June 20, 1952, Case No. 73084. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

10/20/00

EXECUTED ON : 10/20/00
AT RIVERSIDE, CALIFORNIA

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

E. Parra
.....
Signature

NOTICE OF AVAILABILITY
Supplement to the Draft Environmental Impact Report/Environmental Impact Statement For the Cadiz Groundwater Storage and Dry-Year Supply Program

The is to inform all interested persons that pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the Metropolitan Water District of Southern California (Metropolitan) and the U.S. Department of the Interior Bureau of Land Management (BLM) have jointly prepared a Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (Supplement) for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program. Metropolitan is the Lead Agency under CEQA, and the BLM is the Lead Agency under NEPA. Agencies cooperating in the preparation of the Supplement are U.S. Department of the Interior, National Park Service and U.S. Geological Survey.

The Draft EIR/EIS, published in November 1999, evaluates a range of alternatives for conveying water between the Colorado River Aqueduct and the aquifer underlying the Cadiz and Fenner valleys. A plan amendment to the California Desert Conservation Area Plan is also proposed to allow for the proposed pipeline right-of-way outside of an existing utility corridor. This Supplement provides additional information regarding management of groundwater resources and related air quality issues in response to comments on the Draft EIR/EIS.

The aim of the Cadiz Project is to ensure the reliability of Metropolitan's existing water supply in the Colorado River Aqueduct. The project would achieve this goal by storing Colorado River water in the Cadiz/Fenner aquifer and withdrawing the stored water along with indigenous groundwater during dry years. The project area is located in the eastern Mojave Desert region of San Bernardino County in the Cadiz and Fenner valleys and crosses federal land administered by the BLM.

Copies of the Supplement will be available for 45-day public review from October 20, 2000 through December 4, 2000 at the following locations:

Needles Branch Library, 1111 Bailey Avenue, Needles, California 92363

Barstow Branch Library, 304 East Buena Vista, Barstow, California 92311

Twentynine Palms Branch Library, 6078 Adobe Road, Twentynine Palms, California 92277

Norman Feldheym Central Library, 555 West 6th Street, San Bernardino, California 92410

Bureau of Land Management, Riverside Office, 6221 Box Springs Boulevard, Riverside, California 92507

Metropolitan Water District of Southern California, 700 North Alameda Street, Los Angeles, California 90012

Bureau of Land Management, Needles Office, 101 West Spike's Road, Needles, California 92363

Written comments on the Draft EIR/EIS should be sent to: Metropolitan Water District of Southern California, Post Office Box 54153, Los Angeles, California 90054-0153; Attention: Mr. Jack Safely . U.S. Bureau of Land Management, 6221 Box Springs Boulevard, Riverside, California 92507; Attention: Mr. James Williams

To be considered, comments must be received by Metropolitan or BLM on or before December 4, 2000. Further information regarding the project may be obtained from Mr. Jack Safely at (213) 217-6981 or Mr. James Williams at (909) 697-5390.

10/20/00

SBS- 164462#

Reuse, Implementation, King County, NY.

Summary: Previous concerns identified at the draft EIS were satisfactorily addressed in the final EIS, therefore EPA has no objection to the action as proposed.

ERP No. FS–NPS–E61066–FL Big Cypress National Preserve, General Management Plan, Implementation, New Information on the Special Alternative for the Off-Road Vehicle Management Plan, Collier, Dade and Monroe Counties, FL.

Summary: EPA expressed continuing concerns regarding surface water quality.

Dated: October 17, 2000.

Joseph C. Montgomery,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 00–27063 Filed 10–19–00; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–6611–8]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564–7167 OR www.epa.gov/oeca/ofa

Weekly receipt of Environmental Impact Statements

Filed October 09, 2000 Through October 13, 2000

Pursuant to 40 CFR 1506.9.

EIS No. 000347, Final EIS, NPS, ID, MT, WY, MT, WY, Yellowstone and Grand Teton National Parks and John D. Rockefeller, Jr. Memorial Parkway Winter Use Plan, Implementation, Fremont County, ID, Gallatin and Park Counties, MT and Park and Teton Counties, WY, Due: November 20, 2000, Contact: Clifford Hawkes (303) 969–2262.

EIS No. 000348, Final EIS, FHW, WV, MD, VA, US 522 Upgrade and Improvements Project, From the Virginia State Line through Morgan County to the Maryland State Line, Funding, NPDES and COE Section 404 Permit, Berkeley Springs, Morgan County, WV, Due: December 15, 2000, Contact: Thomas Smith (304) 347–5928.

EIS No. 000349, Draft EIS, AFS, ID, Curfew National Grassland Land and Resource Management Plan, Implementation, Caribou-Targhee National Forest, Oneida County, ID, Due: January 29, 2001, Contact: Jack Blackwell (801) 625–5605.

EIS No. 000350, Final EIS, NPS, KS, Tallgrass Prairie National Preserve General Management Plan, Implementation, Flint Hills Region, Chase County, KS, Due: November 20, 2000, Contact: Steve Miller (316) 273–6034.

EIS No. 000351, Final EIS, NPS, MN, WI, Lower Saint Croix National Scenic Riverway Cooperative Management Plan, Implementation, MN and WI, Due: November 20, 2000, Contact: Michael Madell (608) 441–5600.

EIS No. 000352, Final EIS, BLM, Programmatic EIS—Surface Management Regulations for Locatable Mineral Operation, (43 CFR 3809), Public Land, Due: November 20, 2000, Contact: Paul McNutt (775) 861–6604.

EIS No. 000353, Draft EIS, JUS, WA, Tacoma/Seattle Area Detention Center, Construction and Leasing, Pierce County, WA, Due: December 04, 2000, Contact: Eric Verwers (817) 978–0202.

EIS No. 000354, Draft EIS, FHW, NJ, NJ–52(1) Causeway (known as MacArthur Boulevard) Construction Project, between NJ–9 in Somers Point, Atlantic County to Bay Avenue in Ocean City, Cape May County, Funding, COE Section 404 and 10 Permits, USCG Permit, Atlantic and Cape May Counties, NJ, Due: December 05, 2000, Contact: Gene Amparano (609) 637–4234.

EIS No. 000355, Final EIS, AS, CA, 64-Acre Tract Intermodal Transit Center, Construction and Operation, Lake Tahoe Basin Management Unit, Tahoe City, Placer County, CA, Due: November 20, 2000, Contact: Joe Oden (530) 573–2653.

EIS No. 000356, Draft EIS, FHW, NY, NY–22 Transportation Improvement, from I–684 to north of County Road 65, Doansburg Road, Construction, COE Section 404 Permit, Town of Southeast, Putnam County, NY, Due: December 04, 2000, Contact: Harold J. Brown (518) 431–4127.

EIS No. 000357, Final EIS, COE, MS, TN, MS, TN, Wolf River Ecosystem Restoration, Memphis, Tennessee Feasibility Study, Marshall, Benton and Tippah Counties, MS and Shelby, Fayette and Harderman, TN, Due: November 20, 2000, Contact: Richard Hite (901) 544–0706.

EIS No. 000358, Draft Supplement, BLM, CA, Cadiz Groundwater Storage and Dry-Year Supply Program, Amendment of the California Desert Conservation Area Plan, Additional Information, Groundwater Monitoring and Management Program, Issuance of Right-of-Way Grants and Permits, San Bernardino County, CA, Due: December 04, 2000, Contact: James Williams (909) 657–5390.

EIS No. 000359, Draft EIS, USN, CA, Naval Station (NAVSTA) San Diego Replacement Pier and Dredging Improvements, Construction, Dredging and Dredged Material Disposal, San Diego Naval Complex, San Diego, CA, Due: December 04, 2000, Contact: Grace S. Penafuerte (619) 556–7773.

EIS No. 000360, Draft Supplement, NRC, Generic—License Renewal of Nuclear Plants, Arkansas Nuclear One, Unit 1, COE Section 10 and 404 Permits, Pope County, AR (NUREG–1437), Due: January 04, 2001, Contact: Thomas Kenyon (301) 415–1120.

EIS No. 000361, Draft Supplement, FTA, WA, Central Link Light Rail Transit Project, (Sound Transit), Construction and Operation, Alternative Route Considered, Tukwila Freeway Route, COE Section 10 and 404 Permits, Cities of Tukwila, SeaTac, Seattle, King County, WA, Due: December 04, 2000, Contact: John Witmer (206) 220–4463.

EIS No. 000362, Draft EIS, GSA, DC, Bureau of Alcohol, Tobacco and Firearms National Headquarters Building, Site Acquisition, Design and Construction, Washington, D.C., Due: December 04, 2000, Contact: Dawud Abdur-Rahman (202) 260–3368.

Amended Notices

EIS No. 000320, Draft EIS, AS, AK, Chugach National Forest, Proposed Revised Land and Resource Management Plan, Implementation, Glacier, Seward and Cordora Ranger Districts, Kenai Peninsula Borough, AK, Due: December 14, 2000, Contact: Dave Gibbons (907) 271–2500. Revision of FR notice published on 09/15/2000: CEQ Comment Date corrected from 10/30/2000 to 12/14/2000.

EIS No. 000333, Second Draft Supple, JUS, TX, AZ, NM, CA, Programmatic—Revised Draft Supplemental EIS US Naturalization Service (INS) and US Joint Task Force-Six (JTF–6) Activities Along the US/Mexico Border from Brownsville, Texas to San Diego, California, Due: November 13, 2000, Contact: Eric Verwers (817) 978–0202. Revision of FR notice published on 09/29/2000: Correction of Status from Revised Draft to Revised Draft Supplemental EIS and Title Correction.

Dated: October 18, 2000.

Linda A. Suydam,

Senior Associate Commissioner.

[FR Doc. 00–27228 Filed 10–19–00; 12:06 pm]

BILLING CODE 4160–01–F

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Advisory Committee; Notice of Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Public Law 92–463), announcement is made of the following National Advisory body scheduled to meet during the month of November 2000.

Name: Maternal and Child Health Research Grants Review Committee.

Date and Time: November 15–17, 2000; 8:00 a.m.–5 p.m.

Place: Ramada Inn Bethesda, 8400 Wisconsin Avenue, Bethesda, Maryland 20814.

The meeting is open to the public on Wednesday, November 15, 2000, from 9 a.m.–10:00 a.m., and closed for the remainder of the meeting.

Purpose: To review research grant applications in the program areas of maternal and child health, administered by the Maternal and Child Health Bureau, Health Resources and Services Administration.

Agenda: The open portion of the meeting will cover opening remarks by the Director, Division of Research, Training and Education, who will report on program issues, congressional activities, and other topics of interest to the field of maternal and child health. The meeting will be closed to the public on Wednesday, November 15, 2000, from 10:00 a.m. through the remainder of the meeting for the review of grant applications. The closing is in accordance with the provisions set forth in section 552b(c)(6), Title 5 U.S.C., and the Determination by the Associate Administrator for Management and Program Support, Health Resources and Services Administration, pursuant to Public Law 92–463.

Anyone wishing to obtain a roster of members, minutes of meetings, or other relevant information should write or contact Gontran Lamberty, Dr. P.H., Executive Secretary, Maternal and Child Health Research Grants Review Committee, Room 18A–55, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone (301) 443–2190.

Dated: October 16, 2000.

Jane M. Harrison,

Director, Division of Policy Review and Coordination.

[FR Doc. 00–27084 Filed 10–20–00; 8:45 am]

BILLING CODE 4160–15–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Notice of Filing of Annual Report of Federal Advisory Committee

Notice is hereby given that pursuant to section 13 of Public Law 92–463, the annual report for the following Health Resources and Services Administration's Federal advisory committee has been filed with the Library of Congress: Maternal and Child Health Research Grants Review Committee.

Copies are available to the public for inspection at the Library of Congress Newspaper and Current Periodical Reading Room, James Madison Memorial Building, Room LM–133, First Street and Independence Avenue, SE., Washington, DC. Copies may be obtained from: Gontran Lamberty, Dr. P.H., Executive Secretary, Maternal and Child Health Research Grants Review Committee, Room 18A–55, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone (301) 443–2190.

Dated: October 16, 2000.

Jane M. Harrison,

Director, Division of Policy Review and Coordination.

[FR Doc. 00–27085 Filed 10–20–00; 8:45 am]

BILLING CODE 4160–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[(610–5101–01–B109) CACA–40467]

Cadiz Groundwater Storage and Dry-Year Supply Program Proposed Pipeline and Plan Amendment, San Bernardino County, California

AGENCY: Bureau of Land Management, California Desert District.

ACTION: Notice of availability (NOA) of supplement to the draft environmental impact statement for proposed Cadiz Groundwater Storage and Dry-Year Supply Program Pipeline Right-of-Way and plan amendment.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, notice is hereby given that the Bureau of Land Management has prepared a joint Supplement to the Draft Environmental Impact Statement (Supplement) and Draft Environmental Impact Report in conjunction with the Metropolitan Water District of Southern California (MWD). The Draft EIR/EIS, published in November 1999, evaluates a range of alternatives for conveying water between the Colorado River Aqueduct and the aquifer underlying the Cadiz and Fenner Valleys across a proposed right-of-way for a pipeline. A plan amendment to the California Desert Conservation Area Plan (1980) is also proposed to allow for the proposed right-of-way for the pipeline outside of an existing utility corridor. This Supplement provides additional information regarding management of groundwater resources and related air quality issues in response to comments on the Draft EIR/EIS.

The aim of the Cadiz Project is to ensure the reliability of Metropolitan's existing water supply in the Colorado River Aqueduct. The project would achieve this goal by storing Colorado River water in the Cadiz/Fenner aquifer and withdrawing the stored water along with indigenous groundwater during dry years. The project area is located in the eastern Mojave Desert region of San Bernardino County in the Cadiz and Fenner valleys and crosses federal land administered by the BLM.

SUPPLEMENTARY INFORMATION: Copies of the Supplement will be available for 45-day public review from October 20, 2000, through December 4, 2000, at the following locations:

Needles Branch Library, 1111 Bailey Avenue, Needles, California 92363

Twentynine Palms Branch Library, 6078 Adobe Road, Twentynine Palms, California 92277

Barstow Branch Library, 304 East Buena Vista, Barstow, California 92311

Norman Feldheym Central Library, 555 West 6th Street, San Bernardino, California 92410

Bureau of Land Management, Riverside Office, 6221 Box Springs Boulevard, Riverside, California 92507

Bureau of Land Management, Needles Office, 101 West Spike's Road, Needles, California 92363

Metropolitan Water District of Southern California, 700 North Alameda Street, Los Angeles, California 90012

DATES: Comments must be received in writing by the Metropolitan Water District or by the Bureau of Land Management no later than December 4, 2000.

ADDRESSES: Written comments on the Supplement should be mailed to: Metropolitan Water District of Southern California, Post Office Box 54153, Los Angeles, California 90054–0153, Attention: Mr. Jack Safely, or U.S. Bureau of Land Management, 6221 Box Springs Boulevard, Riverside, California 92507, Attention: Mr. James Williams.

FOR FURTHER INFORMATION CONTACT: Further information regarding the project may be obtained from Mr. Jack Safely at (213) 217–6981 or Mr. James Williams at (909) 697–5390.

Dated: October 17, 2000.

Douglas A. Romoli,

Acting District Manager.

[FR Doc. 00–27119 Filed 10–20–00; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CO–930;1430–ET; COC–1661]

Notice of Meeting on Proposed Withdrawal; Browns Park Expansion; Colorado

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Public Meeting.

SUMMARY: This notice sets forth the schedule and agenda for a forthcoming meeting on the Fish and Wildlife Service proposal for expansion of the Browns Park National Wildlife Refuge. This meeting will provide the opportunity for public involvement concerning this proposed action as required by regulation. All comments will be considered when a final determination is made on whether this land should be withdrawn.

DATES: Meeting will be held on Tuesday, November 28, 2000, from 12:00 a.m. until 4:00 p.m. This will be an open house type of meeting with representatives of Fish and Wildlife Service and of the Bureau of Land Management to answer questions and accept written or oral comments or objections.

ADDRESSES: The meeting will be held at the Craig City Hall, 300 W. 4th Street, Craig, Colorado 81625.

FOR FURTHER INFORMATION CONTACT: Doris E. Chelius, BLM Colorado State Office, (303) 239–3706.

SUPPLEMENTARY INFORMATION: The Notice of Proposed Withdrawal for the Browns Park National Wildlife Expansion which was published in the **Federal Register** on July 11, 2000, (65 FR 42720, 42721), is hereby modified to schedule a public meeting as provided by 43 U.S.C. 1714, and 43 CFR 2310.

This meeting will be open to all interested persons, those who desire to be heard in person and those who desire to submit written comments on this subject. Comments can also be submitted to the Colorado State Director, Bureau of Land Management, 2850 Youngfield Street, Lakewood, Colorado 80215–7093.

Herbert K. Olson,

Acting Realty Officer.

[FR Doc. 00–27114 Filed 10–20–00; 8:45 am]

BILLING CODE 4310–JB–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[NV–930;1430–ES,N–57471,N–65782]

Notice of Realty Action; Recreation and Public Purposes (R&PP) Act Classification; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Realty Action.

SUMMARY: The following described public lands in Nye County, Nevada, have been examined and found suitable for conveyance to Nye County for recreational or public purposes under the provisions of the Recreation and Public Purposes Act, as amended (43 U.S.C. 869 *et seq.*). Nye County proposes to use the lands for a solid waste disposal site.

Mount Diablo Meridian, Nevada

T. 16 S., R. 49 E., section 25, lots 2 & 3, SW¼NE¼, SE¼NW¼, E½NW¼SW¼, E½NW¼NW¼SW¼, NE¼SW¼NW¼SW¼, S½SW¼NW¼SW¼, NE¼SW¼, NW¼SE¼.

Consisting of 243.9 acres.

The lands are not required for any Federal purpose. The conveyance is consistent with current Bureau planning for this area and would be in the public interest. Conveyance of these lands will be contingent upon Nye County obtaining an approved solid waste disposal permit from the Nevada Division of Environmental Protection. Should Nye County be denied a permit, the Bureau of Land Management (BLM) would not proceed with the conveyance of these lands. The patent or patents, when issued, will be subject to the following terms, conditions, and reservations:

1. Provisions of the Recreation and Public Purposes Act and to all applicable regulations of the Secretary of the Interior. The patentee shall comply with all Federal and State laws applicable to the disposal, placement or release of hazardous substances as defined in 40 CFR part 302, and indemnify the United States against any legal liability or future cost that may arise out of any violation of such laws.

2. A right-of-way thereon for ditches or canals constructed by the authority of the United States under the Act of August 30, 1890 (43 U.S.C. 945).

3. All minerals shall be reserved to the United States, together with the right to prospect for, mine, and remove the minerals.

4. All valid and existing rights documented on the official public land records at the time of patent issuance.

5. Any other reservations that the authorized officer determines appropriate to ensure public access and proper management of Federal lands and interest therein.

6. Provisions of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901–6987 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. 9601, and all applicable regulations.

Detailed information concerning this action is available for review at the office of the Bureau of Land Management, Las Vegas Field Office, 4765 W. Vegas Drive, Las Vegas, Nevada, 89108.

Upon publication of this notice in the **Federal Register**, the above described lands will be segregated from all other forms of appropriation under the public land laws, including the general mining laws, except for lease or conveyance under the Recreation and Public Purposes Act and leasing under the mineral leasing laws and disposal under the mineral material disposal laws. For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments regarding the proposed conveyance or classification of the lands to the Field Manager, Las Vegas Field Office, 4765 Vegas Drive, Las Vegas, Nevada 89108.

Classification Comments: Interested parties may submit comments involving the suitability of the land for a solid waste disposal site. Comments on the classification are restricted to whether the land is physically suited for a solid waste disposal site, whether the use will maximize the future use or uses of the land, whether the use is consistent with local planning and zoning, or if the use is consistent with State and Federal programs.

Application Comments: Interested parties may submit comments regarding the specific use proposed in the application and plan of development, whether the BLM followed proper administrative procedures in reaching the decision, or any other factor not directly related to the suitability of the land for a solid waste disposal site.

Any adverse comments will be evaluated by the State Director who may

News Release

U.S. Department of the Interior
Bureau of Land Management

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

For Immediate Release: November 13, 2000 CA-610-01-07

Contact: At BLM: Doran Sanchez, (909) 697-5220, or Jan Bedrosian, (916) 978-4616
At MWD: Adán Ortega, (213) 217-5786, or Bob Muir, (213) 217-6930

Public Meeting Scheduled for Proposed Cadiz Groundwater Storage Project

The Bureau of Land Management (BLM) and the Metropolitan Water District of Southern California have scheduled a public meeting to gather public comments on the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program in eastern San Bernardino County.

The meeting will be held Wednesday, Nov. 29, 2000, at 7 p.m. at Twentynine Palms City Hall, 6132 Adobe Road. BLM, as the lead Federal agency, and Metropolitan, as the lead State agency, developed the supplement in response to public and agency concerns about groundwater management and potential air quality impacts associated with the project, proposed by Metropolitan in partnership with Cadiz, Inc. Cooperating agencies in developing the supplement were the National Park Service (NPS) and the U.S. Geological Survey (USGS).

The project proposes to utilize the groundwater basins under a portion of the Cadiz and Fenner Valleys, about 60 miles southwest of Needles, Calif., to store water imported from Metropolitan's Colorado River Aqueduct during years with surplus water and extract the stored water and available indigenous groundwater for use by Metropolitan to serve its customers. Some of the necessary facilities involved would be located on Cadiz, Inc. private land, while a 35-mile-long pipeline and other facilities would be on public lands administered by BLM.

The supplement focused on a detailed groundwater monitoring and management plan prepared by BLM, NPS, USGS, Metropolitan, San Bernardino County, and Cadiz, Inc. designed to provide safeguards that protect existing underground aquifers. The key objective of the plan is to provide an "early warning" that protects critical resources and prevents adverse impacts through corrective measures. The plan includes water monitoring facilities; air monitoring facilities related to Bristol and Cadiz dry lake beds; monitoring procedures; trigger levels for action; and specified responses if trigger levels are reached. It also included a process for scientists from federal agencies, Metropolitan, San Bernardino County, and Cadiz, Inc. to review information gathered under the management plan, discuss interpretations of the data and develop scientifically based findings on the Cadiz project.

Public comments on the Supplement to the Draft EIR/EIS will continue to be accepted through December 4, 2000. Comments should be addressed to BLM (Attn: James Williams, 6221 Box Springs Blvd., Riverside, CA 92507) or Metropolitan (Attn: Jack Safely, P.O. Box 54153, Los Angeles, CA 90054).

The supplement is available online at www.ca.blm.gov/needles/nepa01.html. Review copies are available at BLM offices in Needles (101 West Spikes Rd.), and Riverside (6221 Box Springs Blvd.), Metropolitan's Los Angeles headquarters (700 North Alameda St.) as well local public libraries.

For more information regarding the project or the supplement, contact BLM (James Williams) at (909) 697-5390 or Metropolitan (Jack Safely) at (213) 217-6981.

###

THE SUN

399 North " D"Street
San Bernardino, CA 92401
(909) 397-3986

This space for filing stamp only

KATHY KUNYSZ
METRO WATER/PLANNING
BLNKT BO 1648
P. O. BOX 54153
LOS ANGELES, CA 90054

SBS#: 174974

PROOF OF PUBLICATION

(2015.5 C.C.P.)

State of California)
County of San Bernardino) ss

Notice Type: GPNSB GOVERNMENT PUBLIC NOTICE

Ad Description: DRAFT EIR CADIZ GROUNDWATER STORAGE

I am a citizen of the United States, over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the representative of the printer and publisher of The Sun, a daily newspaper, printed and published in the English language in the City of San Bernardino, County of San Bernardino, and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of San Bernardino, State of California, under date June 20, 1952, Case No. 73084. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

11/16/00

Executed on: 11/16/00
At Los Angeles, California

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

E. Parra
Signature

NOTICE OF PUBLIC MEETING
SUPPLEMENT TO THE DRAFT EIR/EIS FOR THE CADIZ GROUNDWATER STORAGE AND DRY-YEAR SUPPLY PROGRAM
SAN BERNARDINO COUNTY, CALIFORNIA

A public meeting on the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Cadiz Groundwater Storage and Dry-Year Supply Program is scheduled for November 29, 2000 at 7:00 PM in Twentynine Palms City Hall, 6132 Adobe Road, Twentynine Palms. The Cadiz Project is proposed by the Metropolitan Water District of Southern California (Metropolitan), and Cadiz Inc. Amendment to the California Desert Conservation Area Plan is proposed to allow a pipeline right-of way outside existing utility corridors and an easement is required from the Bureau of Land Management (BLM). The Draft EIR/EIS, released in November 1999, evaluates alternatives for conveying water between the Colorado River and the aquifer underlying the Cadiz and Fenner Valleys.

This Supplement was prepared in response comments about groundwater resources and related air quality issues. It provides more information and presents a Groundwater Monitoring and Management Plan (Management Plan) that is part of the proposed project. The Management Plan would govern water storage and extraction operations including the amount of indigenous groundwater that may be extracted over the project's 50-year life. Metropolitan and the BLM jointly prepared the Supplement, with the National Park Service and the U.S. Geological Survey as cooperating agencies. The 45-day public review period for the Supplement ends December 4, 2000. Copies may be reviewed at Metropolitan's headquarters in Los Angeles, BLM offices in Riverside and Needles, the Norman Feldhyme Library in San Bernardino, and the Needles, Twentynine Palms and Barstow Branch Libraries. Written comments may be submitted to Mr. Jack Safely, Metropolitan Water District, P.O. Box 54153, Los Angeles, CA 90054-0153 or Mr. James Williams, Bureau of Land Management, 6221 Box Springs Boulevard, Riverside, CA 92507-0714

11/16/00

SBS- 174974#

DECLARATION of PUBLICATION
The Needles Desert Star

STATE OF CALIFORNIA)
County of San Bernardino ss.)

I Valerie Potter say

That I am over the age of eighteen and not interested in the above entitled (matter, estate, action or proceedings as the case may be); and I am now and at all time embraced in the publication herein mentioned was, the printer (or the foreman or principal clerk of the printer) of The Desert Star, a weekly newspaper printed, published and circulated in said county; that The Needles Desert Star of which the annexed is a true printed copy, was published in the above named newspaper on the following dates, to wit...

Nov. 22, 2000

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 11-28-00 at Needles, California.

Valerie Potter

Signature of Declarant

NOTICE OF PUBLIC MEETING

SUPPLEMENT TO THE DRAFT EIR/EIS FOR TH CADIZ GROUNDWATE STORAGE AND DRY-YE SUPPLY PROGRAM SA BERNARDINO COUNT CALIFORNIA

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Publish November 2
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News Release

U.S. Department of the Interior
Bureau of Land Management

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

For Immediate Release: November 22, 2000 CA-610-01-09

Contact: At BLM: Doran Sanchez, (909) 697-5220, or Jan Bedrosian, (916) 978-4616
At MWD: Adán Ortega, (213) 217-5786, or Bob Muir, (213) 217-6930

Public Comment Period Extended
for Proposed Cadiz Groundwater Storage Project

The Bureau of Land Management (BLM) and the Metropolitan Water District of Southern California today extended for 35 days the public comment period on the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed Cadiz Groundwater Storage and Dry-Year Supply Program in eastern San Bernardino County.

Public comments on the supplement will now be accepted through Monday, Jan. 8, 2001, instead of the original close of comments on Dec. 4, 2000. BLM and MWD officials said the extension was granted in response to more than 300 public requests for more time to review the supplement and offer public input. Comments should continue to be addressed to BLM (Attn: James Williams, 6221 Box Springs Blvd., Riverside, CA 92507) or Metropolitan (Attn: Jack Safely, P.O. Box 54153, Los Angeles, CA 90054).

The extension does not change the schedule for a public meeting to be held Wednesday, Nov. 29, 2000, at 7 p.m. at Twentynine Palms City Hall, 6132 Adobe Road. Metropolitan also will host a public meeting on the supplement and the proposed Cadiz project at 6 p.m. Monday, Dec. 18, 2000 in the Boardroom at its Los Angeles headquarters, 700 N. Alameda St.

The supplement is available online at www.ca.blm.gov/needles/nepa01.html. Review copies are available at BLM offices in Needles (101 West Spikes Rd.), and Riverside (6221 Box Springs Blvd.), and Metropolitan's Los Angeles headquarters as well local public libraries.

BLM, as the lead Federal agency, and Metropolitan, as the lead State agency, developed the supplement in response to public and agency concerns about groundwater management and potential air quality impacts associated with the project, proposed by Metropolitan in partnership with Cadiz, Inc. Cooperating agencies in developing the supplement were the National Park Service (NPS) and the U.S. Geological Survey (USGS).

The project proposes to utilize the groundwater basins under a portion of the Cadiz and Fenner Valleys, about 60 miles southwest of Needles, Calif., to store water imported from Metropolitan's Colorado River Aqueduct during years with surplus water and extract the stored water and available indigenous groundwater for use by Metropolitan to serve its customers. Some of the necessary facilities involved would be located on Cadiz, Inc. private land, while a 35-mile-long pipeline and other facilities would be on public lands administered by BLM.

For more information regarding the project or the supplement, contact BLM (James Williams) at (909) 697-5390 or Metropolitan (Jack Safely) at (213) 217-6981.

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Draft Environmental Impact Statement/ Environmental Impact Report. A response to each comment received in these letters has been included in Final Environmental Impact Statement/ Environmental Impact Report.

The Draft Environmental Impact Statement/Environmental Impact Report considered five alternatives, including the Proposed Action and the No-Action Alternatives. Under the No-Action Alternative, landowners within the County would continue to apply for individual incidental take permits on a case-by-case basis, resulting in piecemeal planning that would establish isolated patches of mitigation land scattered throughout the County. This could result in cumulatively significant adverse impacts to those species which would benefit from larger tracts of interconnected habitats.

Under the Reduced Land Acquisition/ Increased Preserve Enhancement Alternative, mitigation would focus on habitat enhancement which could interfere substantially with agricultural activities, creating significant adverse impact to agricultural productivity in the County. This alternative would have questionable benefits to the covered species because habitat enhancement is unpredictable and may be unsuccessful.

Under the No Wetlands Coverage Alternative, landowners within the County would continue to apply for individual permits pursuant to the Federal Clean Water Act, which is expected to result in piecemeal planning. Mitigation lands would likely consist of smaller and more widely scattered habitat blocks than would occur with the Proposed Action, resulting in cumulatively significant adverse impacts to those wetland-dependent species which would benefit from larger tracts of interconnected habitats.

Under the Preserve Location Outside of the County Alternative, significantly less habitat within the County would be preserved than with the Proposed Action, adversely impacting some covered species by creating gaps in the species' range and potentially disrupting the genetic integrity of some populations. This alternative could also adversely impact relatively immobile species that are unable to relocate to distant newly created habitats.

The analysis provided in the Final Environmental Impact Statement/ Environmental Impact Report is intended to accomplish the following: inform the public of the proposed action; address public comments received on the Draft Environmental Impact Statement/Environmental Impact Report; disclose the direct, indirect, and cumulative environmental effects of the proposed actions; and indicate any irreversible commitment of resources that would result from implementation of the proposed action.

Dated: November 20, 2000.

John Engbring,

Acting Deputy Manager, Region 1, California/ Nevada Operations Office, Sacramento, California.

[FR Doc. 00–30080 Filed 11–30–00; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CA–690–01–5101–01–B109; CACA–CACA–40467]

Notice of Extension of the Public Comment Period on the Supplement to the Draft Environmental Impact Report/ Environmental Impact Statement for the Proposed Cadiz Groundwater Storage Dry-Year Supply Program

AGENCY: Bureau of Land Management, Interior.

SUMMARY: Notice is hereby given that the public comment period on the Supplement to the Draft Environmental Impact Report/Environmental Impact Statement for the Proposed Cadiz Groundwater Storage Dry-Year Supply Program has been extended to Monday, January 8, 2001. The original public comment was scheduled to close on Monday, December 4, 2000.

The Bureau of Land Management (BLM), Department of the Interior, the Federal lead agency, and Metropolitan Water District (MWD) of Southern California, the State lead agency, developed the supplement in response to public and agency concerns about groundwater management and potential air quality impacts associated with the project, proposed by Metropolitan in partnership with Cadiz, Inc. Cooperating agencies in developing the supplement were the National Park Service (NPS) and the U.S. Geological Survey (USGS).

The Supplement provides more information on the proposed project and includes a Groundwater Monitoring and Management Plan (Plan). The Plan would govern water storage and extraction operations, including the amount of indigenous groundwater that may be extracted over the 50-year life of the proposed project.

The project proposes to utilize the groundwater basins under a portion of the Cadiz and Fenner Valleys, about 60 miles southwest of Needles, Calif., to store water imported from Metropolitan's Colorado River Aqueduct during years with surplus water and extract the stored water and available indigenous groundwater for use by Metropolitan to serve its customers. Some of the necessary facilities involved would be located on Cadiz, Inc. private land, while a 35-mile-long pipeline and other facilities would be on public lands administered by BLM.

The supplement is available online at *www.ca.blm.gov/needles/nepa01.html.* Review copies are available at BLM offices in Needles (101 West Spikes Road) and Riverside (6221 Box Springs Blvd.), and Metropolitan's Los Angeles headquarters (700 North Alameda Street), as well as local public libraries.

Comments on the Supplement to the Draft Environmental Impact Report/ Environmental Impact Statement for the Proposed Cadiz Groundwater Storage Dry-Year Supply Program should be addressed to the Bureau of Land Management, Attn: James Williams, 6221 Box Springs Blvd., Riverside, CA 92507 or Metropolitan Water District, Attn: Jack Safely, P.O. Box 54153, Los Angeles, CA 90054.

FOR FURTHER INFORMATION CONTACT: James Williams at (909) 697–5390 or Jack Safely at (213) 217–6981.

Dated: November 27, 2000.

Bruce Shaffer,

Associate District Manager.

[FR Doc. 00–30613 Filed 11–30–00; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[WY–030–2001–1060–JJ]

Notice of Intent to Extend the Time Period for Removal of Excess and Stray Wild Horses

AGENCY: Bureau of Land Management, Interior.

SUMMARY: On June 21, 2000, notice was published in the **Federal Register** at Vol. 65, No 120, pgs 38572–38573, which stated in part, "* * * the Rawlins and Lander Field Offices of the Bureau of Land Management plan to remove 500–600 excess and stray horses from three contiguous areas of the Rawlins and Lander Field Offices known as the Lost Creek HMA, an area designated as I–80 North, and the Antelope Hills HMA * * * The removal is scheduled to begin after September 30, 2000, and conclude prior to January 1, 2001. The Appropriate Management Level for these three contiguous areas is 140. At least 140 horses will remain in the area after the removal is completed."

APPENDIX B

Q&A

THE CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM

at Is The Cadiz Groundwater Storage l Dry-Year Supply Program?

The Cadiz Groundwater Storage and Dry-Year Supply Program z Program) is a cooperative program between the Metropolitan District of Southern California (Metropolitan) and Cadiz Inc. z). This important agriculture/urban partnership is designed to Southern California meet its current and future water supply through better management of Metropolitan's Colorado River ces.

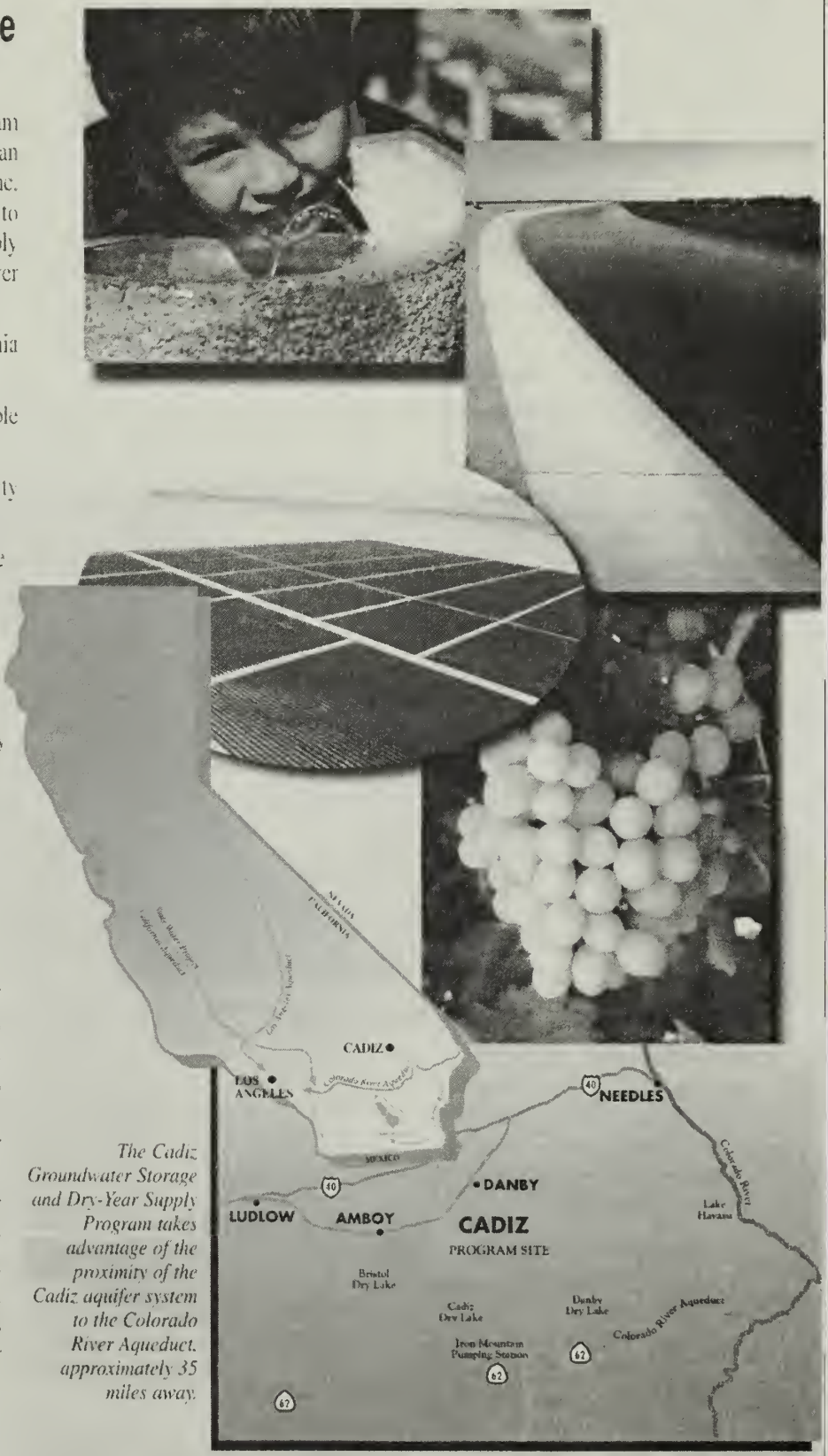
The 50-year Cadiz Program will improve Southern California supply reliability in two ways:

Storage - Store Colorado River water to better manage available vet-year supplies to meet dry-year needs.

Supply - Provide a new dry-year supply from the high-quality roundwater underlying the Cadiz property.

The Cadiz Program is designed to take wet-year water available Colorado River and deliver it to the Cadiz property for stor- the underlying aquifer system. Up to one million acre-feet of s Colorado River water will be stored at any one time. g dry years, this water will be withdrawn from storage and red to Metropolitan's service area. In addition, a portion of isting groundwater that normally evaporates from adjacent dry will also be made available to Metropolitan during dry years. oximately one to two million acre-feet of high-quality ground- will be provided to Metropolitan over the 50-year term of the ment. The actual amount of water to be stored and transferred be governed by the restrictions and conditions of a dwater Monitoring and Management Plan, which is designed tect surrounding natural resources.

Cadiz owns more than 27,000 acres in the Cadiz and Fenner s in eastern San Bernardino County, approximately 35 miles of Metropolitan's Colorado River Aqueduct. The Program's l facilities will be located entirely on Cadiz property. Studies dependent experts have determined that the Program site over- aquifer system, which is ideally suited for underground water e. The watershed that supplies water to the Program site apasses approximately 1,300 square miles, or an area larger he state of Rhode Island. The aquifer system contains approx- ly 20 million acre-feet of high-quality groundwater, which es replenishment naturally through rainfall each year. An oot of water contains approximately 326,000 gallons and is ient to meet the needs of two Southern California families for .



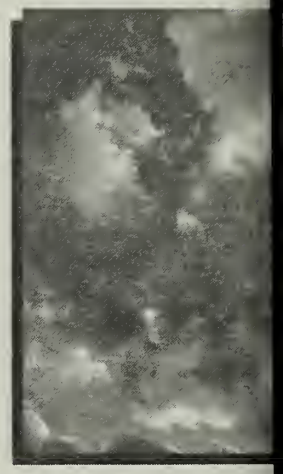
The Cadiz Groundwater Storage and Dry-Year Supply Program takes advantage of the proximity of the Cadiz aquifer system to the Colorado River Aqueduct, approximately 35 miles away.



Why Is The Program Needed?

A reliable, high quality and affordable water supply is vital to Southern California. At present, supplies are adequate during normal rainfall years, but could fall short during dry periods.

Water agencies in California need to better manage available water resources to maintain water supplies in dry years, particularly those in arid Southern California that depend primarily on imported water. Better management is also critical for California to begin living within its annual entitlement of water supplies from the Colorado River, which supplies nearly half of Southern California's imported water. The federal government and other states that rely on the river have threatened to begin withholding those water supplies if California cannot begin taking steps to curtail its usage to 4.4 million acre-feet.



Metropolitan's water conservation and recycling programs will certainly play a role in helping Southern California meet its growing needs and reduce its use of Colorado River supplies. Additional measures include the voluntary transfer of conserved agricultural water to urban areas and the beneficial use of groundwater basins for water storage. The Cadiz Program incorporates the benefits of both the storage and transfer options, which is why it is named as a key component of California's plan to reduce its draw on the Colorado River.

How Would The Program Work?

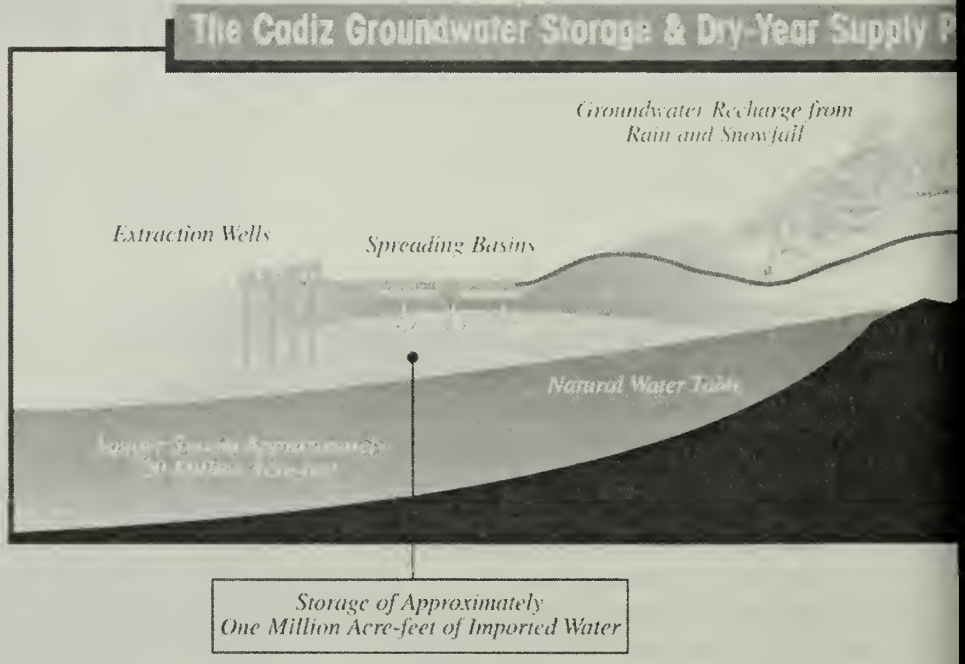
Storage Operations

During storage operations, surplus Colorado River water will be conveyed from Metropolitan's Colorado River Aqueduct, via a new water conveyance pipeline, to spreading basins that will be constructed on the Cadiz property. From these spreading basins, the water will percolate into the underlying aquifer system for storage.

Supply Operations

When needed, the stored Colorado River water and indigenous groundwater will be pumped from wells and returned to the Colorado River Aqueduct, via the transmission pipeline, for ultimate delivery to Southern California residents and businesses.

The pumping plant, wellfield and water conveyance pipeline will be sized to convey up to 150,000 acre-feet of water in any given year of the Program.



How Will The Program Meet Environmental Regulations?

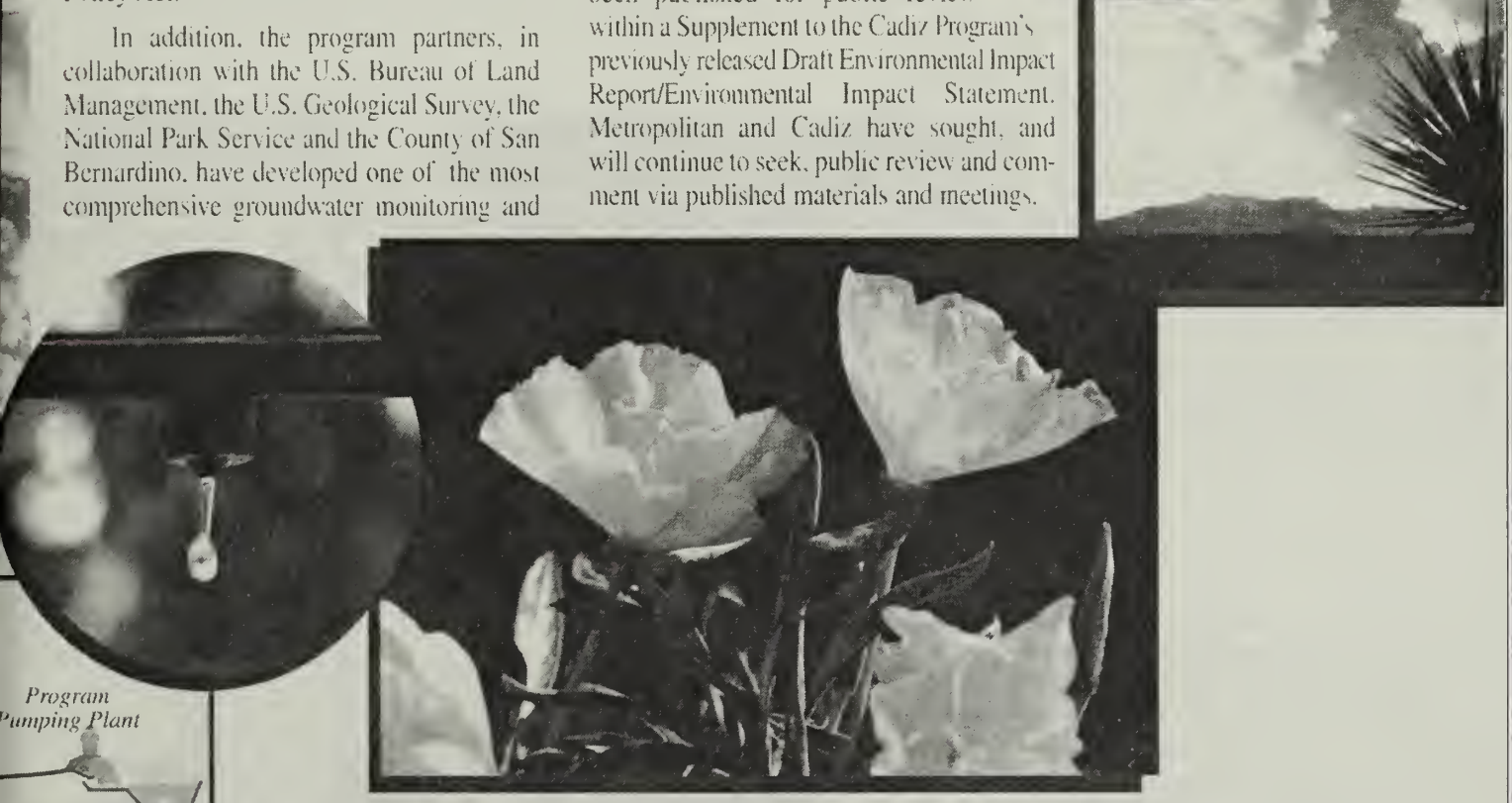
In planning the Cadiz Program, Metropolitan and Cadiz have conducted extensive investigations – including biological, geological, hydrological, paleontological, air quality, cultural and engineering studies – to ensure that surrounding environmental resources will be protected.

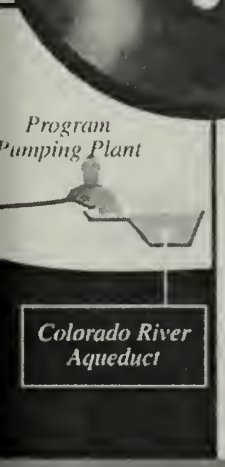
The Cadiz Program has been undergoing an extensive environmental review to ensure compliance with all federal and state laws, including the California Environmental Quality Act and the National Environmental Policy Act.

In addition, the program partners, in collaboration with the U.S. Bureau of Land Management, the U.S. Geological Survey, the National Park Service and the County of San Bernardino, have developed one of the most comprehensive groundwater monitoring and management plans in California's water history. That plan will monitor all water storage and retrieval operations and the surrounding natural resources to ensure that those resources will not be negatively impacted in any way.

The groundwater monitoring and management plan has been published for public review within a Supplement to the Cadiz Program's previously released Draft Environmental Impact Report/Environmental Impact Statement. Metropolitan and Cadiz have sought, and will continue to seek, public review and comment via published materials and meetings.









What Are The Program Benefits?

The Cadiz Program will provide numerous benefits to the people and businesses of the state of California, including:

Improved Reliability: Water supply reliability will be improved by providing much-needed water storage capacity and by augmenting existing Colorado River resources.

Environmentally Sensible: Underground water storage has less environmental impact than traditional surface reservoirs and dams. The Program will also help relieve pressure on the stressed Sacramento/San Joaquin Bay-Delta ecosystem by reducing reliance on Northern California water supplies during dry years.

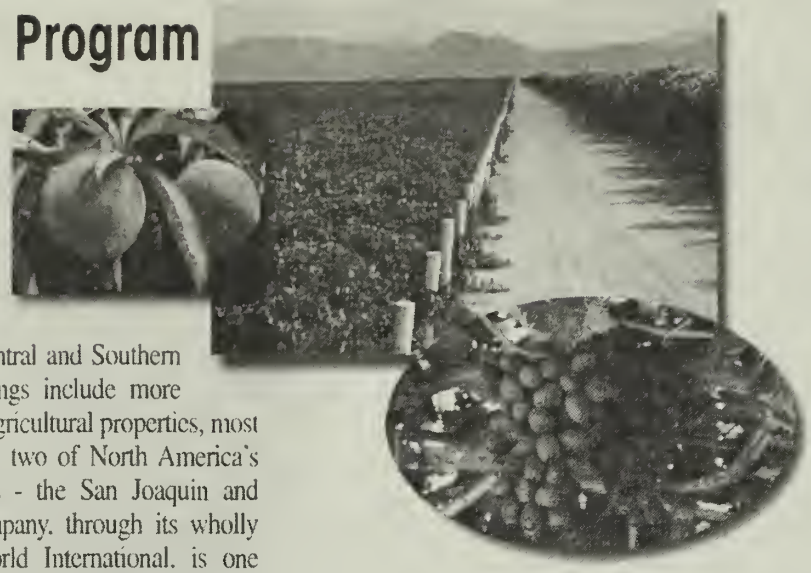
Water Quality: Imported Colorado River water quality will be improved.

Jobs and Revenue: Local jobs will be created during construction and approximately $100 million will be invested in the San Bernardino County economy. The Program would also provide significant long-term economic benefits to Southern California's business community through increased water supply, reliability, and quality.

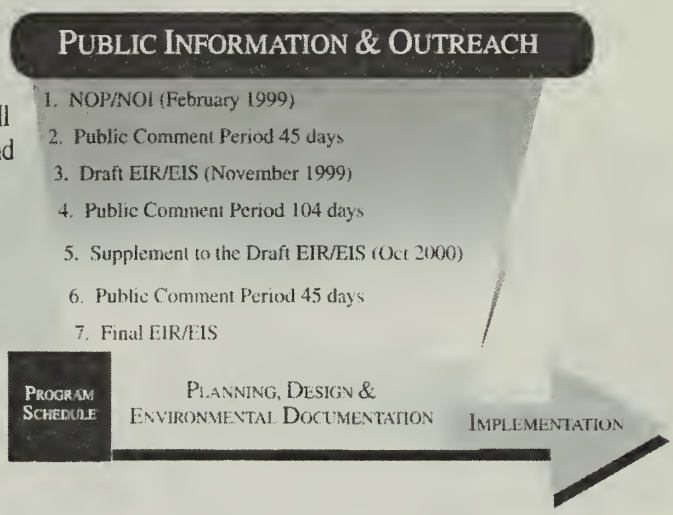
Who Are The Program Partners?

Who is Cadiz Inc.?

Founded in 1983, Cadiz Inc. is a publicly held agricultural firm that currently owns more than 58,000 acres throughout Central and Southern California. These landholdings include more than 21,000 acres of prime agricultural properties, most of which are located within two of North America's premier agricultural regions - the San Joaquin and Coachella valleys. The company, through its wholly owned subsidiary, Sun World International, is one of California's leading vertically integrated agricultural firms and is one of the nation's largest growers and marketers of table grapes, stone fruit, and specialty crops.



Cadiz also owns approximately 37,000 acres of largely undeveloped land in the eastern Mojave Desert. The majority of this land is located in the Cadiz and Fenner valleys of eastern San Bernardino County. These landholdings overlie underground aquifer systems well suited for innovative water storage and supply programs.



How Can I Get More Information About The Program?

Public comment is an important aspect of the environmental review pr
In accordance with federal and state l
draft environmental document and a
supplement have been prepared for th
Cadiz Program and are available for
review. For more information, please c
or write:

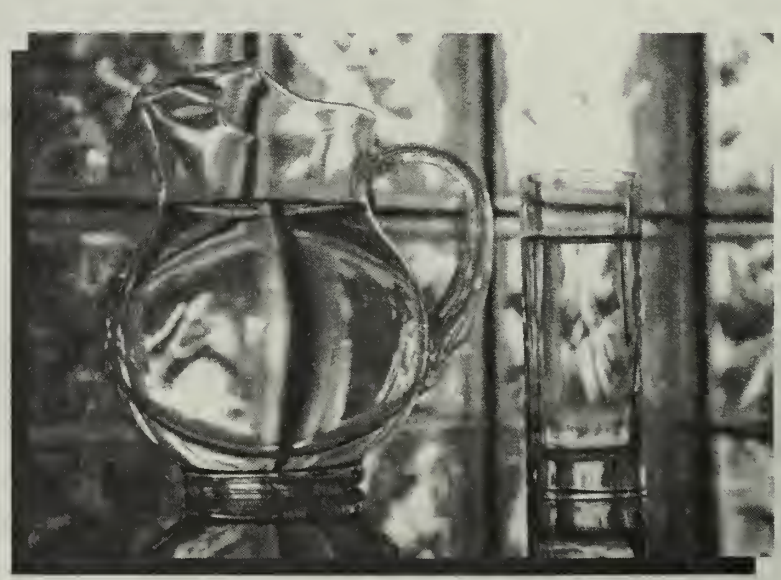
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Santa Monica, CA 90401
(310) 899-4700

Jack Safely
Metropolitan Water
District of Southern Califo
P.O. Box 54153
Los Angeles, CA 90054-1
(213) 217-6981

Who is Metropolitan Water District?

The Metropolitan Water District of Southern California was created by a vote of the people in 1928, following passage of a bill by the California Legislature, to provide supplemental water supplies for cities and communities on the southern coastal plain. Metropolitan also operates the 242-mile Colorado River Aqueduct, which was completed in 1941.

Through its 27 member public agencies, Metropolitan provides almost 60 percent of the water used by more than 17 million people living in portions of San Bernardino, Riverside, Orange, Los Angeles, San Diego and Ventura counties. The mission of Metropolitan is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.



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October 2000

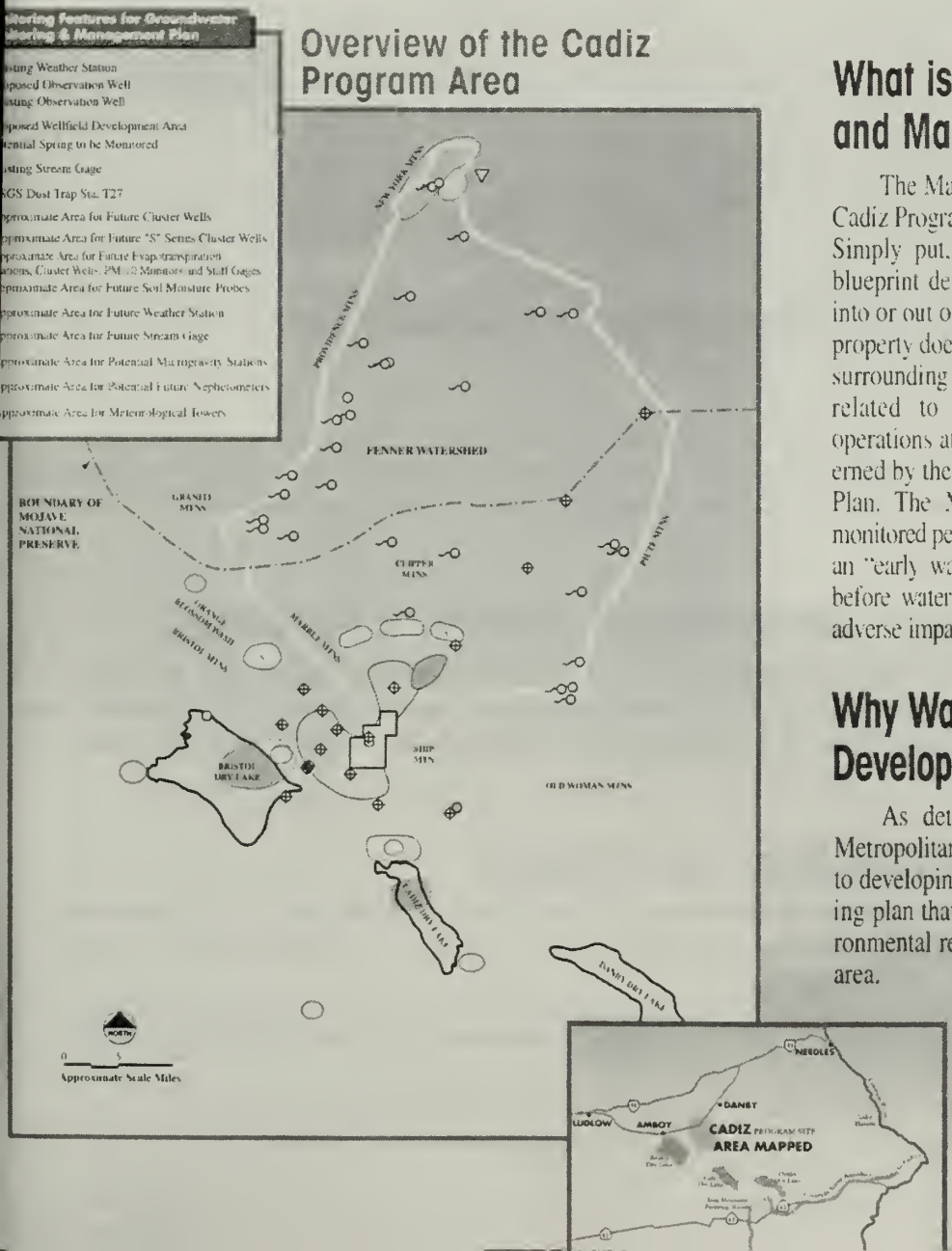
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THE CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM

The Cadiz Groundwater Storage and Dry-Year Supply Program (Cadiz Program) is a critical water management tool that will play an important role in addressing Southern California's water needs. It is also an unprecedented commitment by the program's partners to environmental stewardship and resource protection. From the beginning, the Metropolitan Water District of Southern California (Metropolitan) and Cadiz Inc., have worked together to design an innovative water storage and supply program that meets both those objectives—forward looking policy and sound science.

In cooperation with the U.S. Bureau of Land Management (BLM), the U.S. Geological Survey (USGS), the National Park Service (NPS) and the County of San Bernardino, Metropolitan and Cadiz have developed a plan that is designed to protect the natural resources in the Cadiz Program area. That plan, known as the Groundwater Monitoring and Management Plan (Management Plan), is incorporated in a Supplement to the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the Cadiz Program and has now been circulated for public review and comment.

Overview of the Cadiz Program Area



What is the Groundwater Monitoring and Management Plan?

The Management Plan is an integral component of the Cadiz Program, governing all water use in the program area. Simply put, the Management Plan is the environmental blueprint designed to ensure that either transferring water into or out of the aquifer system beneath Cadiz' agricultural property does not adversely impact the aquifer system or the surrounding natural resources. In addition, all water use related to Cadiz' existing and planned agricultural operations at the Cadiz Program site will now also be governed by the restrictions and provisions of the Management Plan. The Management Plan establishes a continuously monitored perimeter around the program area that will provide an "early warning system" for program administrators long before water storage or retrieval operations could have any adverse impact on those environmental resources.

Why Was The Management Plan Developed?

As detailed in the previously released DEIR/EIS, Metropolitan and Cadiz have been committed from day one to developing and implementing a comprehensive monitoring plan that seeks to protect the long-term health of environmental resources in and adjacent to the Cadiz Program area.

After circulating the draft environmental documentation for the Cadiz Program, further questions were raised about the water resources in the region. Specifically, the USGS and the County of San Bernardino questioned the amount of water that was naturally recharged into the Cadiz Program area on a yearly basis. While there remains disagreement among experts regarding these estimates, the BLM, USGS, NPS, County of San Bernardino, Metropolitan and Cadiz all agree that protection of critical natural resources was the overriding objective and that this could best be accomplished through implementation of the Management Plan.



What Resources Will Be Monitored And How?

Critical resources that the Management Plan will closely monitor include the aquifer system beneath and surrounding the Cadiz Program area; natural springs in the Mojave National Preserve and in BLM managed lands; brine resources at nearby dry lake beds; and regional air quality. A comprehensive network, including more than two dozen different types of advanced technology monitors such as cluster/observation wells, weather stations and computer-aided soil and moisture probes, will form a protective perimeter around the Cadiz Program area. As a further measure, additional monitoring features will be located in the Mojave National Preserve, as far as 45 miles away from the program site.

When combined with specific action or trigger levels, this precedent-setting early warning system will prevent adverse environmental impacts. As told, the Management Plan will be one of the most advanced and comprehensive in California.

Who Reviews The Monitoring Data And Will It Be Made Available To The Public?

A Technical Review Team made up of scientists and representatives from the U.S. Department of the Interior, the County of San Bernardino, Metropolitan and Cadiz will perform ongoing reviews of the monitoring data and may recommend whether changes should be made in program operations to protect critical resources.

All scientific data, including published annual reports, from the Management Plan's monitoring system will be made available to the public.

What Actions Can Be Taken Under The Management Plan To Ensure Continued Protection Of Critical Resources?

A Basin Management Group will be tasked with turning the recommendations of the Technical Review Team into actions that will ensure critical resources are not impacted by program operations, determining what corrective measures, if necessary, should be taken to prevent any potential adverse impacts. It is anticipated that this group will be comprised of senior representatives from the U.S. Department of the Interior, the County of San Bernardino, Metropolitan and Cadiz.

What Happens To The Environment After The 50-year Agreement Is Completed?

In addition to providing continuous monitoring and establishing guidelines for comprehensive environmental protection, the Management Plan includes a "Closure Plan" that will ensure that there are no residual adverse impacts on the surrounding environment as a result of the Cadiz Program. In addition, the Closure Plan will provide for ongoing monitoring so that other land users in the area will not be impacted by Cadiz Program operations in the future.

How Can I Get More Information About The Program?

Public comment is an important aspect of the environmental review process. In accordance with federal and state laws, a draft environmental document and a supplement have been prepared for the Cadiz Program and are available for review. For more information, please call or write:

CADIZ

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Metropolitan Water District of Southern California
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(213) 217-6981

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October 2000

APPENDIX C

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
Federal Agencies					
Committee of Education and Work Force	Lanich	Steven		P963 175 007	10/23/00
HQ-USAF/LEEV			Bolling AFB Building 516 Washington , DC 20330	P963 175 610	
Mojave National Preserve Advisory Commission	Ausmus	Irene	222 East Main Street Barstow , CA 92311		
Mojave National Preserve Advisory Commission	Herron	Willis	222 East Main Street Barstow , CA 92311		
Mojave National Preserve Advisory Commission	Luke	Claudia	222 East Main Street Barstow , CA 92311		
Mojave National Preserve Advisory Commission	Riedy	Norbert	222 East Main Street Barstow , CA 92311		
Mojave National Preserve Advisory Commission	Wessel	Mal	222 East Main Street Barstow , CA 92311		
National Park Service			1849 'C' Street Northwest Room 2749 Washington , DC 20240	P963 175 006	
National Park Service	Demarest	Chip	600 Harrison Street Suite 515 San Francisco , CA 94107	P963 175 377	10/20/00
National Park Service	Jackson, Ph.D	William	1201 Oakridge Drive Fort Collins , CO 80525	P963 175 508	10/20/00
National Park Service	Leszcykowski	Andy	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 335	10/21/00
National Park Service	Martin	Mary	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 506	10/18/00
National Park Service	Quintana	Ernest	74485 National Park Dr. Twentynine Palms , CA 92277	P963 175 493	10/19/00
National Park Service	Reynolds	John	600 Harrison Street Suite 515 San Francisco , CA 94107	N/A (damaged in mail)	N/A
National Park Service	Reynolds	Michael	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 507	10/18
National Park Service	Turnbull	George	600 Harrison Street Suite 515 San Francisco , CA 94107	P963 175 337	10/23/00
Office of Senator Dianne Feinstein	Moran	Anson	1039 Cole Street San Francisco , CA 94117	P963 175 524	10/24/00
U.S. Army Corps of Engineers			Los Angeles District Box 532711 Los Angeles , CA 90053	P963 175 635	10/20/00
U.S. Army Corps of Engineers	Szijj	Antal	32330 Santa Ana Canyon Road Highland , CA 92346	P963 175 529	10/20/00
U.S. Bureau of Indian Affairs	Magee	Don	P.O. Box 2245 Palm Springs , CA 92263	P963 175 638	10/20/00
U.S. Bureau of Indian Affairs	Townsend	Virgil	2038 Iowa Avenue Suite 101 Riverside , CA 92507	P963 175 640	10/20/00
U.S. Bureau of Land Management	Ahrens	Mike	42782 Seal Rock Court Hemet , CA 92544	P963 175 648	10/26/00
U.S. Bureau of Land Management	Anderson	Ileene	2733 Caldwell Place West Hollywood , CA 90046	P963 175 103	10/19/00
U.S. Bureau of Land Management	Bedrosian	Jan	2800 Cottage Way W-1834 Sacramento , CA 95825	P963 175 104	10/20/00
U.S. Bureau of Land Management	Bell	Dana	5764 Campo Wk Long Beach , CA 90803	P963 175 643	10/19/00
U.S. Bureau of Land Management	Boddington	Celia	1849 'C' Street Room 406-L Washington , DC 20240		
U.S. Bureau of Land Management	Brady	Molly	101 West Spikes Road P.O. Box 888 Needles , CA 92363		
U.S. Bureau of Land Management	Burns	Isabella	1038 Bradshaw Avenue Monterey Park , CA 91754	P963 175 645	10/19/00

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Receive
U.S. Bureau of Land Management	Butler	Ray	7006 Westport Street Riverside , CA 92506	P963 175 336	11/1/00
U.S. Bureau of Land Management	Conti	Dick	5029 Vincent Avenue Los Angeles , CA 90041	P963 175 527	10/21/00
U.S. Bureau of Land Management	Crites	Buford	73-510 Fred Waring Dr. Palm Desert , CA 92260	P963 175 528	10/20/00
U.S. Bureau of Land Management	Crowe	Dick	6221 Box Springs Blvd. Riverside , CA 92507	P963 175 644	10/20/00
U.S. Bureau of Land Management	Davidson	lan	4160 Chestnut Street Riverside , CA 92501	P963 175 646	10/19/00
U.S. Bureau of Land Management	Ervin	Nick	3820 Ray Street San Diego , CA 92104	P963 175 368	10/19/00
U.S. Bureau of Land Management	Glauz	William	Room 1534 P.O. Box 111 Los Angeles , CA 90051	P963 175 366	10/20/00
U.S. Bureau of Land Management	Hartman	Steve	4444 Longridge Avenue Sherman Oaks , CA 91423	P963 175 367	10/26/00
U.S. Bureau of Land Management	Hickman	Susan	P.O. Box 36 Yermo , CA 92398	P963 175 338	10/20/00
U.S. Bureau of Land Management	Holanda	Victor	801 'K' Street Suite 1700 Sacramento , CA 95814	P963 175 357	10/23/00
U.S. Bureau of Land Management	Mills	John	2135 Butano Drive Sacramento , CA 95825		10/30/99
U.S. Bureau of Land Management	Mills	John	2800 Cottage Way Sacramento, CA 95825	US regular mail	
U.S. Bureau of Land Management	Reddy	Jim	P.O. Box 825 Luncerne Valley , CA 92356	P963 175 647	10/20/00
U.S. Bureau of Land Management	Sharp	Sam	940 West Main El Centro , CA 92243	P963 175 356	10/20/00
U.S. Bureau of Land Management	Stone	Jon	P.O. Box 448 Winchester , CA 92596	P963 175 105	10/23/00
U.S. Bureau of Land Management	Williams	James	6221 Box Springs Blvd. Riverside , CA 92507		
U.S. Bureau of Reclamation			P.O. Box 2507 Building 67 Denver , CO 80225		
U.S. Bureau of Reclamation			1849 'C' Street NW Washington , DC 20240	P963 175 358	
U.S. Bureau of Reclamation	Green	James	P.O. Box 61470 Boulder City , NV 89006	P963 175 341	10/20/00
U.S. Bureau of Reclamation	Johnson	Bob	P.O. Box 61470 400 Railroad Avenue Boulder City , NV 89006	P963 175 365	10/20/00
U.S. Bureau of Reclamation	Snow	Lester	P.O. Box 61470 Boulder City , NV 89006	P963 175 360	10/23/00
U.S. Bureau of Reclamation	Walsh	Robert	P.O. Box 61470 400 Railroad Avenue Boulder City , NV 89006	P963 175 364	10/20/00
U.S. Department of the Interior	Bradfish	Larry	600 Harrison Street Suite 545 San Francisco , CA 94107	P963 175 346	10/23/00
U.S. Department of the Interior			600 Harrison Street Suite 600 San Francisco , CA 94107		
U.S. Department of the Interior			12201 Sunrise Valley Drive Reston , VA 20192	P963 175 361	10/23/00
U.S. Department of the Interior	Babbitt	Bruce	1849 C Street, N.W. Room 6657 Washington , DC 20240	P963 175 328	10/23/00
U.S. Department of the Interior	Davies	Heather	1849 'C' Street Mail Stop 2340 Washington , DC 20240	P963 175 329	10/24/00
U.S. Department of the Interior	Hayes	David	1849 'C' Street Room 5100 Washington , DC 20240	P963 175 343	10/23/00
U.S. Department of the Interior	Nawi	David	2800 Cottage Way Sacramento , CA 95825	P963 175 362	10/23/00

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
U.S. Environmental Protection Agency	Geselbracht	Jeanne	75 Hawthorne Street San Francisco , CA 94105	P963 175 348	10/23/00
U.S. Environmental Protection Agency	Manzanilla	Enrique	75 Hawthorne Street San Francisco , CA 94105	P963 175 363	10/23/00
U.S. Environmental Protection Agency	Marcus	Felicia	75 Hawthorne Street San Francisco , CA 94105	P963 175 331	10/23/00
U.S. Environmental Protection Agency	West	Terry	75 Hawthorne Street San Francisco , CA 94105	P963 175 100	10/23/00
U.S. Fish and Wildlife Service			Washington , DC 20240		
U.S. Fish and Wildlife Service	Badgley	Anne	Portland Eastside Federal Complex 911 NE 11th Avenue Portland , OR 97232	P963 175 351	10/20/00
U.S. Fish and Wildlife Service	Bransfield	Ray	2496 Portola Road Suite B Ventura , CA 93003	P963 175 354	10/19/00
U.S. Fish and Wildlife Service	Noda	Diane	2496 Portola Road Suite B Ventura , CA 93003	P963 175 098	10/19/00
U.S. Fish and Wildlife Service	Walker	George	222 East Main Street Suite 102 Barstow , CA 92311	P963 175 334	10/18/00
U.S. Geological Survey	Devine	James	12201 Sunrise Valley Drive Reston , VA 20192	P963 175 097	10/23/00
U.S. Geological Survey	Klein	John	Federal Building, Room W2234 2800 Cottage Way Sacramento , CA 95825	Item returned-wrong address	Resent 10/30/00
U.S. Geological Survey	Klein	John	6000 J Street Sacramento, CA 95819	US regular mail	
U.S. Geological Survey	Martin	Peter	5735 Kearny Villa Suite O San Diego , CA 92123	P963 175 009	10/19/00
U.S. Geological Survey	Shulters	Michael	Federal Building, Room W2234 2800 Cottage Way Sacramento , CA 95825	Item returned-wrong address	Resent 10/27/00
U.S. Geological Survey	Shulters	Michael	6000 J Street Sacramento, CA 95819-6129	US regular mail	
U.S. Geological Survey Library	Miller	David	345 Middlefield Road - MS-975 Menlo Park , CA 94025		
U.S. House of Representatives	Faber	Bob	1522 LHOB Washington , DC 20515	P963 175 352	10/23/00
U.S. House of Representatives	Lawrence	John	1329 Longworth Building Washington , D.C. 20515	P963 175 353	10/23/00
U.S. House of Representatives	Lewis	Jerry	1150 Brookside Avenue Suite 15 Redlands , CA 92373	P963 175 345	10/20/00
U.S. House of Representatives	Miller	George	1333 Willow Pass Road Suite 203 Concord , CA 94520	P963 175 008	10/23/00
U.S. Navy	White	John	1605 Third Street Building 504, Code 80 El Centro , CA 92243	P963 175 344	10/24/00
U.S. Senate	Beirne	Jim	SD 364 Washington , DC 20510	P963 175 464	10/23/00
U.S. Senate	Boxer	Barbara	1700 Montgomery Street Suite 240 San Francisco , CA 94111	P963 175 355	10/20/00
U.S. Senate	Brooks	David	SD 364 Washington , DC 20510	P963 175 347	10/23/00
U.S. Senate	Deegan	Colleen	SD 364 Washington , DC 20510	P963 175 370	10/23/00
U.S. Senate	Feinstein	Dianne	11111 Santa Monica Blvd Suite 915 Los Angeles , CA 90025	P963 175 101	10/19/00
State Agencies					
Assembly Republican Caucus	Hurner	Greg	1020 'N' Street Room 400 Sacramento , CA 95814		

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
Assembly Water, Parks & Wildlife Committee	Mansfield	Liz	State Capitol Room 5136 Sacramento , CA 95814	P963 175 546	10/23/00
Association of California Water Agencies	Hall	Stephen	910 K Street Suite 100 Sacramento, CA 95814-3512	P963 175 547	10/23/00
California Air Resources Board	Duffy	Gordon	P.O. Box 2815 Sacramento , CA 95812	P963 175 568	10/23/00
California Air Resources Board	Menebroker	Ray	P.O. Box 2815 Sacramento , CA 95812	P963 175 567	10/23/00
California Department of Fish & Game	Black	Glenn	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 564	10/19/00
California Department of Fish & Game	Broddrick	Ryan	1416 Ninth Street Suite 1205 Sacramento , CA 95814	P963 175 570	10/23/00
California Department of Fish & Game	Decker	Jenny	1416 Ninth Street Suite 1205 Sacramento , CA 95814	P963 175 563	10/23/00
California Department of Fish & Game	Dice	Jim	2022 Quintain Drive P.O. Box 2537 Borrego Springs , CA 92004	P963 175 562	10/21/00
California Department of Fish & Game	Hight	Robert	1416 Ninth Street Suite 1205 Sacramento , CA 95814	P963 175 559	10/23/00
California Department of Fish & Game	Jones	Rebecca	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 560	10/19/00
California Department of Fish & Game	Nicol	Kimberly	47-800 Madison Street Suite 223 Indio , CA 92201		
California Department of Fish & Game	Taucher	Curt	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 565	10/19/00
California Department of Health Services	Underwood	Marilyn	5900 Hollis Street Suite E Emeryville , CA 94608		
California Department of Parks & Recreation	Abeyta	Daniel	P.O. Box 942896 Sacramento , CA 94296-0001	P963 175 576	10/23/00
California Department of Parks & Recreation	Areias	Rusty	1416 Ninth Street Room 1405 Sacramento , CA 95814	P963 175 580	10/23/00
California Department of Parks & Recreation	Jones	Ken	1416 Ninth Street Room 1405 Sacramento , CA 95814	P963 175 578	10/23/00
California Department of Parks & Recreation	Schaub	David	P.O. Box 942896 Sacramento , CA 94296-0001	P963 175 572	10/23/00
California Department of Transportation	Afaneth	Maisoon	P.O. Box 231 San Bernardino , CA 92402		
California Department of Transportation	Grimes	Linda	464 West Fourth Street Sixth Floor San Bernardino , CA 92401-1419	P963 175 584	10/19/00
California Department of Transportation	Lewis	Veda	P.O. Box 942874 Sacramento , CA 94274-0001	P963 175 588	10/24/00
California Department of Water Resources	Hannigan	Thomas	1416 Ninth Street 1115-1 Sacramento , CA 95814	P963 175 600	10/23/00
California Department of Water Resources	Hauge	Carl	P.O. Box 942836 Sacramento , CA 95814	P963 175 591	10/23/00
California Department of Water Resources	Knoop	Vern	770 Fairmont Avenue Suite 102 Glendale , CA 91203-1035	P963 175 599	
California Department of Water Resources	Macaulay	Steve	P.O. Box 942836 Sacramento , CA 95814	P963 175 596	10/25/00
California Department of Water Resources	Ross	Tim	770 Fairmont Avenue Suite 102 Glendale , CA 91203-1035		

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
California Department of Water Resources	White	Charles	770 Fairmont Avenue Suite 102 Glendale , CA 91203-1035	P963 175 594	
California Environmental Protection Agency	Hickox	Winston	1001 'I' Street 25th Floor Sacramento , CA 95814	P963 175 608	10/23/00
California Highway Patrol	Gaul	Dennis	300 East Mountain View Barstow , CA 92311	P963 175 607	10/20/00
California Integrated Waste Management Board	Chandler	Ralph	8800 Cal Center Drive Third Floor Sacramento , CA 95826	P963 175 614	10/23/00
California Regional Water Quality Control Board	Angel, PE	Jose	73-720 Fred Waring Drive Suite 100 Palm Desert , CA 92260	P963 175 628	10/20/00
California Regional Water Quality Control Board	Gruenberg	Phil	73-720 Fred Waring Drive Suite 100 Palm Desert , CA 92260		
California Regional Water Quality Control Board	Haile	Abdi	73- Fred Waring Drive Suite 100 Palm Desert , CA 92260	P963 175 623	10/20/00
California Resources Agency	Nichols	Mary	1416 Ninth Street Suite 1311 Sacramento , CA 95814	P963 175 633	10/24/00
California Resources Agency	Wright	Patrick	1416 Ninth Street Suite 1311 Sacramento , CA 95814	P963 175 636	
California State Lands Commission	Griggs	Mary	100 Howe Avenue Suite 100 Sacramento , CA 95825	P963 175 639	10/20/00
California State Lands Commission	Mount, II	Paul	200 Oceangate, 12th Floor Long Beach, CC 90802	P963 175 661	10/20/00
California State University, San Bernardino	Davis	Jeff	5500 University Pkwy San Bernardino, CA 92407		
California Water Resources Control Board	Anton	Edward	2014 'T' Street Suite 130 Sacramento , CA 95814	P963 175 642	10/23/00
California Water Resources Control Board	Pettit	Walt	2014 'T' Street Suite 130 Sacramento , CA 95814	P963 175 398	10/23/00
California Water Resources Control Board	Stubchaer	Jim	2014 'T' Street Suite 130 Sacramento , CA 95814	P963 175 404	10/20/300
Colorado River Board of California	Jones	Virgil	770 Fairmont Avenue Suite 100 Glendale , CA 91203-1035	P963 175 410	
Colorado River Board of California	Zimmerman	Gerald	770 Fairmont Avenue Suite 100 Glendale , CA 91203-1035	P963 175 381	
Earthjustice Environmental Law Clinic at Stanford	Lozeau	Michael	553 Salvatierra Walk Stanford , CA 94305-8620		
Governor's Office of Planning and Research	Roberts	Terry	1400 Tenth Street P.O. Box 3044 Sacramento , CA 95812-3044		
Mojave Desert Resource Conservation District	Johnson	Paul	10456 Deep Creek Road Apple Valley , CA 92308		
Mojave Desert Resource Conservation District	Lounsbury	Pete	Star Route Box 45A Oro Grande , CA 92368		
Native American Heritage Commission	McNulty	Gail	915 Capitol Mall Room 364 Sacramento , CA 95814	P963 175 511	10/23/00
Native American Heritage Commission	Meyers	Larry	915 Capitol Mall Room 364 Sacramento , CA 95814	P963 175 512	10/23/00
Needles High School	LaSalle	Alicia	Needles , CA		
New Mexico Tech	Griswold	George	New Mexico Tech Socorro, NM 87801		
Northern California Water Association	Guy	David	455 Capitol Mall Suite 335 Sacramento, CA 95814	P963 175 519	10/23/00

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Office of Assembley Member Bill Leonard	Cisneros	Nancy	28391 Greenfield Lane Highland, CA 92346	Item returned-unclaimed	Resent via US mail 11/16/00
Office of Assembly Member Robert Hertzberg	Baker	Carol	State Capitol Room 320 Sacramento , CA 95814	P963 175 521	10/23/00
Office of Governor Gray Davis	Adams	Linda	State Capitol Sacramento , CA 95814	P963 175 522	10/23/00
Office of Mine Reclamation	Pompy	Jim	801 'K' Street MS 09-06 Sacramento , CA 95814	P963 175 523	10/24/00
Office of Senator John Burton	Shallenberger	Mary	State Capitol Room 205 Sacramento , CA 95814	P963 175 525	10/23/00
San Bernardino County Supt. Of Schools	Yasenovsky	Andy	601 North E Street San Bernardino, CA 92410-3093		
Senate Agriculture and Water Resources Committee	Walthall	Brent	State Capitol Room 406 Sacramento , CA 95814	P963 175 490	10/23/00
Senate Republican Caucus	Ryan	Lisa	1020 'N' Street Room 234 Sacramento , CA 95814	P963 175 480	10/24/00
State Assembly	Baugh	Scott	State Capitol Room 4162 Sacramento, CA 95814	P963 175 067	10/23/00
State Assembly	Longville	John	62nd Assembly District 210 North 'E' Street Suite 205 San Bernardino , CA 92401		
State of California	O'Connor	Dennis	900 'N' Street Suite 300 Sacramento , CA 942837-0001	P963 175 475	10/23/00
State Senate	Burton	John	State Capitol Room 205 Sacramento , CA 95814	P963 175 470	10/23/00
State Senate	Soto	Nell	State Capitol Room 4066 Sacramento , CA 95814	P963 175 484	10/23/00
University of California, Berkeley	Vida	Linda	410 O'Brien Hall Berkeley , CA 94720-1718		
University of California, Santa Barbara	Clark	Jordan	Santa Barbara , CA 93106		
Regional and Local Agencies					
Association of San Bernardino County Special District	Dyer	Alan	157 West Fifth Street Second Floor San Bernardino, CA 92415-0450	P963 175 548	10/20/00
Baldy Mesa Water District	Bartz	Don	10313 Duncan Road Victorville , CA 92392-0832	P963 175 542 P963 175 550	10/20/00
Big Bear City Community Services District	Keller	Gary	139 East Big Bear Blvd. P.O. Box 558 Big Bear City , CA 92314	P963 175 543	10/23/00
Calleguas Municipal Water District	Kendall	Don	2100 Olsen Road Thousand Oaks , CA 91360-6800		
City of Big Bear Lake	Perry	Michael	41972 Garstin Drive P.O. Box 1929 Big Bear Lake , CA 92315	P963 175 544 P963 175 401	10/20/00 10/20/00
City of Needles	Gukin	Barbara	1111 Bailey Avenue Needles , CA 92363	P963 175 553 P963 175 466	10/20/00 10/21/00
City of Needles	Parry	Tom	817 Third Street Needles , CA 92363	P963 175 384	10/20/00
City of San Bernardino	Price	Millicent	556 West Sixth Street San Bernardino , CA 92410	P963 175 555	10/23/00
City of San Diego	Carpenter	Rick	600 B Street MS 907 San Diego, CA 92101-4506	P963 170 997	11/02/00
City of Twentynine Palms	Bagley	Jim	P.O. Box 995 6136 Adobe Road Twentynine Palms , CA 92277	P963 175 556	10/24/00

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
City of Twentynine Palms	Cole	Kevin	P.O. Box 995	P963 175 402	
			6136 Adobe Road	P963 175 382	10/20/00
			Twentynine Palms , CA 92277		
City of Twentynine Palms	Dube	M. "Mac"	P.O. Box 995	P963 175 397	10/23/00
			6136 Adobe Road	P963 175 394	10/20/00
			Twentynine Palms , CA 92277		
City of Twentynine Palms	Hart	Jim	P.O. Box 995	P963 175 395	10/20/00
			6136 Adobe Road		
			Twentynine Palms , CA 92277		
City of Twentynine Palms	Masker	D.J.	P.O. Box 218	P963 175 039	11/09/00
			Twentynine Palms , CA 92277	P963 175 396	10/26/00
City of Twentynine Palms	Meyer	Elizabeth	P.O. Box 995	P963 175 383	10/20/00
			6136 Adobe Road		
			Twentynine Palms , CA 92277		
City of Twentynine Palms	Muller	Linda	6078 Adobe Road	P963 175 609	10/19/00
			Twentynine Palms , CA 92277	P963 175 465	10/20/00
Chino Basin Watermaster	Neufeld	Robert	8632 Archibald Avenue	P963 175 385	10/19/00
			Rancho Cucamonga, CA 91730		
Chino Basin Watermaster	Vanden Heuvel	Geoffry	7551 Kimball Avenue	Item returned-	Resent via US
			Chino, CA 91710	unclaimed	mail 11/16/00
County of Inyo			Drawer 'L'	P963 175 616	10/20/00
			Independence , CA 93526	P963 175 380	10/20/00
County of Kern	Rickels	David	2700 'M' Street	P963 175 411	10/20/00
			Suite 100		
			Bakersfield , CA 93301		
County of Los Angeles	Harlt	James	320 West Temple Street	P963 175 494	10/19/00
			Room 1348	P963 175 392	10/19/00
			Los Angeles , CA 90012		
County of San Bernardino	Aguiar	Fred	385 North Arrowhead Avenue	P963 175 389	10/20/00
			Fifth Floor	P963 175 391	10/20/00
			San Bernardino , CA 92415		
County of San Bernardino	Davis	Kathy	385 North Arrowhead Avenue	P963 175 376	10/20/00
			Fifth Floor	P963 175 372	10/19/00
			San Bernardino , CA 92415		
County of San Bernardino	Eaves	Jerry	385 North Arrowhead Avenue	P963 175 373	10/20/00
			Fifth Floor		
			San Bernardino , CA 92415		
County of San Bernardino	Goss	John	385 North Arrowhead Avenue	P963 175 538	10/19/00
			First Floor	P963 175 414	10/19/00
			San Bernardino , CA 92415		
County of San Bernardino	Hansberger	Dennis	385 N. Arrowhead Avenue	P963 175 531	10/20/00
			Fifth Floor	P963 175 374	10/19/00
			San Bernardino , CA 92415		
County of San Bernardino	Hayes	Mike	285 North Arrowhed Avenue	P963 175 794	
			First Floor	P963 175 573	10/20/00
			San Bernardino , CA 924150120		
County of San Bernardino	Kieczykowski	Ed	104 West Forth Street		
			San Bernardino , CA 92415-9241		
County of San Bernardino	Mikels	Jon	385 North Arrowhead Avenue	P963 175 489	10/23/00
			Fifth Floor	P963 175 390	10/20/00
			San Bernardino , CA 92415		
County of San Bernardino	Miller	Ken	385 North Arrowhead Avenue	P963 175 479	10/24/00
			Fifth Floor	P963 175 569	10/19/00
			San Bernardino , CA 92415		
County of San Bernardino	Reeder	Wes	385 North Arrowhead Avenue	P963 175 487	10/19/00
			Fifth Floor	P963 175 574	10/19/00
			San Bernardino , CA 92415		
Cucamonga County Water District	Wilson	Jerome	P.O. Box 638	P963 175 436	10/20/00
			Rancho Cucamonga , CA 91729	P963 175 575	10/23/00
East Bay Municipal Utility District	Hurlburt	John	P.O. Box 24055	P963 175 474	10/20/00
			Oakland , CA 94623	P963 175 590	
East Valley Water District	Sturgeon	Kip	3545 20th Street	P963 175 471	10/23/00
			Highland , CA 92346		
Imperial County Property Services	Rister	Randy	1002 State Street	P963 175 622	10/23/00
			El Centro , CA 92243	P963 175 615	10/23/00
Imperial Irrigation District	Shields	Tina	333 East Barioni Blvd.	P963 167 012	
			Imperial, CA 92251		
Inland Counties Water Association	Araiza	Anthony	P.O. Box 578	Item returned-	Resent via US
			Rialto, CA 92377-0578	unclaimed	mail 11/16/100

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
Joshua Basin Water District	Lyons	Terry	61750 Chollita Road P.O. Box 675 Joshua Tree , CA 92252	P963 175 620 P963 175 617	10/21/00 10/20/00
Kern Council of Governments	Beardslee	Marilyn	1401 19th Street Suite 300 Bakersfield , CA 93301	P963 175 378	10/20/00
Kings River Conservation District	Haugen	Steven	4886 East Jensen Avenue Fresno , CA 93725-1899		
Mojave Desert Air Quality Management District	Fryxell	Charles	14306 Park Avenue Victorville , CA 92392	P963 175 388	10/20/00
Mojave National Preserve	Garner	Weiford	707 West Broadway Needles, CA 92363	P963 175 501	10/23/00
Mojave National Preserve Advisory Commission	Ausmus	Irene	222 East Main Street Barstow, CA 92311	P963 175 430	10/21/00
Mojave National Preserve Advisory Commission	Herron	Willis	222 East Main Street Barstow, CA 92311	P963 175 429	10/21/00
Mojave National Preserve Advisory Commission	Luke	Claudia	222 East Main Street Barstow, CA 92311	P963 175 339	10/21/00
Mojave National Preserve Advisory Commission	Riedy	Norbert	222 East Main Street Barstow, CA 92311	P963 175 327	10/21/00
Mojave National Preserve Advisory Commission	Wessel	Mal	222 East Main Street Barstow, CA 92311	P963 175 502	10/21/00
Mojave Water Agency	Lund	Mark	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307	P963 175 092	10/26/00
Mojave Water Agency	Norman	John	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307	P963 175 375	10/26/00
Mojave Water Agency	Parker	George	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307	P963 175 003	10/26/00
Mojave Water Agency	Ventura	Jim	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307		
Municipal Water District of Orange County	Stone	Matthew	10500 Ellis Avenue P.O. Box 20895 Fountain Valley , CA 92728	P963 175 005	10/23/00
Needles Utilities	Weekley	Bruce	817 Third Street Needles , CA 92363	P963 175 518	10/20/00
Orange County Water District	Mills	William	10500 Ellis Avenue P.O. Box 8300 Fountain Valley , CA 92728-8300		
Public Land User Services	Hillier	Gerald	801 Apache Trail P.O. Box 55820 Riverside, CA 92517	P963 175 532	10/21/00
Regional Clearinghouse			818 West 7th Street 12th Floor Los Angeles , CA 90017	P963 175 483	10/20/00
San Bernardino Associated Governments	King	Norman	472 North Arrowhead Avenue San Bernardino , CA 92401-0045	P963 175 492	10/19/00
San Bernardino County Agriculture Commissioner			777 'F' Rialto Avenue San Bernardino, CA 92415	P963 175 482	10/19/00
San Bernardino Valley Municipal Water District	Fletcher	Louis	1350 South 'F' Street P.O. Box 5906 San Bernardino , CA 92412-5906		
Santa Ana Watershed Project Authority (SAWPA)	Grindstaff	Joe	11615 Sterling Avenue Riverside, CA 92503	P963 175 481	10/20/00
Serrano Irrigation District	Noyes	David	18021 East Lincoln Street Villa Park , CA 92667-6446	P963 175 467	10/19/00
Southern California Association of Governments	Stein	J. David	818 West Seventh Street 12th Floor Los Angeles , CA 90017-3435	P963 175 477	10/20/00
Town of Joshua Tree	Upshaw	June	6465 Park Boulevard Joshua Tree , CA 92252		
Twentynine Palms Water District	Johnson	Tina	72401 Hatch Road P O Box 1735 Twentynine Palms , CA 92277-1000	P963 175 632	10/20/00
Victor Valley Water District	Hill	Randy	17185 Yuma Street Victorville , CA 92392	P963 175 350	10/19/00

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
Victor Valley Water District	Huber	Larry	17185 Yuma Street Victorville , CA 92392	P963 175 369	10/19/00
Businesses					
All American Pipeline Operating Company	Janak	Jordan	10000 Ming Avenue Bakersfield , CA 93309		
All American Pipeline Operating Company	Madden	Mike	10000 Ming Avenue Bakersfield , CA 93309		
All American Pipeline Operating Company	Janak	Jordan	10000 Ming Avenue Bakersfield , CA 93309	P963 175 542	
All American Pipeline Operating Company	Madden	Mike	10000 Ming Avenue Bakersfield , CA 93309	P963 175 543	10/23/00
Aon Risk Services Inc. of Northern California	Brockie III	Edward	One Market, Spear Tower Suite 2100 San Francisco , CA 94105		
Arizona & California Railroad	Scott	John	1301 California Avenue Parker , AZ 85344		
Arizona & California Railroad	Scott	John	1301 California Avenue Parker , AZ 85344	P963 175 544	10/20/00
Beveridge and Diamond			456 Montgomery Street San Francisco, CA 94104	P963 167 045	11/6/00
Boyle Engineering	Duffield	Debbie	1501 Quail Street Newport Beach , CA 92660	P963 175 553	10/20/00
Building Industry Association	Williams	Frank	9227 Haven Avenue Suite 280 Rancho Cucamonga , CA 91730	P963 175 554	10/19/00
Burlington Northern Santa Fe Corporation	Brendza	Bob	P.O. Box 961052 Fort Worth , TX 76161-0052		
Burlington Northern Santa Fe Corporation	DiCamillo	LaDonna	P.O. Box 961052 Fort Worth , TX 76161-0052		
Burlington Northern Santa Fe Corporation	Brendza	Bob	P.O. Box 961052 Fort Worth , TX 76161-0052	P963 175 555	10/23/00
Burlington Northern Santa Fe Corporation	DiCamillo	LaDonna	P.O. Box 961052 Fort Worth , TX 76161-0052	P963 175 556	10/24/00
Burson- Marsteller	Bicker	Gwyn	1121 L Street Suite 401 Sacramento, CA 95814	P963 175 557	10/23/00
Catellus Development Corporation	Bezzant	John	4000 Westerly Place Suite 200 Newport Beach , CA 92660		
Catellus Development Corporation	Bezzant	John	4000 Westerly Place Suite 200 Newport Beach , CA 92660	P963 175 402	
CH2MHill	Hall	Phillip	100 Inverness Terrace East Englewood , CO 80112-5313	P963 175 397	10/23/00
ENSR	Head	Sara	1220 Avenida Acaso Camarillo , CA 93012		
Felger & Associates	Felger, Esq.	Warren	726 West Barstow Suite 106 Fresno , CA 93704		
First New York Securities	Finger, CFA	Judy	850 3rd Avenue 8th Floor New York , NY 10022		
Gresham, Savage, Nolan & Tilden	Smith	Bryan	600 N. Arrowhead Avenue Suite 300 San Bernardino, CA 92401-1148	P963 167 014	11/20/00
Hills Brothers Chemical	Hill	Ron	1675 North Main Street Orange , CA 92867		
Hills Brothers Chemical	Hill	Ron	1675 North Main Street Orange , CA 92867	P963 175 609	10/19/00
Hyde, Miller, Owen & Trost	Isenberg	Phillip	428 J Street Suite 400 Sacramento, CA 95814	P963 175 611	10/23/00
Inland Empire Economic Partnership	Ooms	Teri	301 East Vanderbilt Way Suite 100 San Bernardino , CA 92408	P963 175 616	10/20/00
Krieger & Stewart	Krieger	Bob	3602 University Avenue Riverside , CA 92501-3380		

Parties that Received the Supplement to the Draft EIR/EIS

	Last Name	First Name	Address	Certified Mail	Date Received
Matich Corporation	Matich	Martin	1371 La Cadena Drive Colton , CA 92324	P963 175 494	10/19/00
Mine Reclamation Corporation	Johnson	Gary	43645 Monterey Avenue Suite A Palm Desert , CA 92260		
Mine Reclamation Corporation	Johnson	Gary	43645 Monterey Avenue Suite A Palm Desert , CA 92260	P963 175 389	10/20/00
Morongo Basin Broadcasting Corp.	Daigneault	Gary	6448 Hallee Road Suite 5 Joshua Tree, CA 92252	P963 167 038	11/13/00
National Chloride Company of America	Beeghly	Tom	P.O. Box 604 Norwalk , CA 90650	P963 175 376	10/19/00
National Chloride Company of America	Beeghly	Tom	P.O. Box 604 Norwalk , CA 90650	P963 175 376	10/20/00
Newhall Land & Farming Company	Simmer	Steven	23823 West Valencia Blvd. Valencia , CA 91355	P963 175 048 (sent to Newhall Ranch Company)	11/8/00
Noble Metal Laboratory	Mangione	Tom	P.O. Box 337 Highland, CA 92346	Item returned-unclaimed	Resent via US mail 11/16/00
Nossaman, Guthner, Knox & Elliott, LLP	Calderon	Charles	445 South Figueroa St. 31st Floor Los Angeles, CA 90071-1602	P963 175 520	10/19/00
Pacific Gas & Electric Company	Sigala	Van	530 South China Lake Blvd. Ridgecrest , CA 93555		
Pacific Gas & Electric Company	Sigala	Van	530 South China Lake Blvd. Ridgecrest , CA 93555	P963 175 538	10/19/00
Questar/Paragon Partners	Marston SR/WA	Dick	5762 Bolsa Avenue Suite 201 Huntington Beach , CA 92649		
Questar/Paragon Partners	Marston SR/WA	Dick	5762 Bolsa Avenue Suite 201 Huntington Beach , CA 92649	P963 175 531	10/20/00
Saracino-Kirby, Inc.	Saracino	Anthony	555 Capitol Mall Suite 1550 Sacramento , CA 95814	P963 175 794	
Schwab Washington Research Group	Coy	Debra Gainer	1000 Thomas Jefferson Street, NW Suite 606 Washington , DC 20007-3803		
Seven IL Ranch	Blair	Rob	P.O. Box 8 Essex , CA 92332		
Seven IL Ranch	Blair	Rob	P.O. Box 8 Essex , CA 92332	P963 175 489	10/23/00
SF Pacific Properties Inc.	Eisen	James	201 Mission Street Second Street San Francisco , CA 94105	P963 175 479	10/24/00
Silver Valley Realty	Stearn	Fred	44244 National Trails Highway Newberry Springs , CA 92365	P963 175 487	10/19/00
Southern California Gas Company	Gourley	Jim	P.O. Box 3003 Redlands , CA 92373-0306		
Southern California Gas Company	Gourley	Jim	P.O. Box 3003 Redlands , CA 92373-0306	P963 175 436	10/20/00
Tate & Associates	Tate	Stephen	16530 31st Drive Southeast Bothell , WA 98012		
Tate & Associates	Tate	Stephen	16530 31st Drive Southeast Bothell , WA 98012	P963 175 474	10/20/00
TETRA Technologies Inc.	Doyle	Kevin	6121 Indian School Road NE Suite 205 Albuquerque , NM 87110		
TETRA Technologies Inc.	Doyle	Kevin	6121 Indian School Road NE Suite 205 Albuquerque , NM 87110	P963 175 471	10/23/00
TETRA Technologies, Inc.	Harden	Kim	P.O Box 73087 Houston , TX 77273		
TETRA Technologies, Inc.	Martina	Cyrilo	P.O Box 73087 Houston , TX 77273		
TETRA Technologies, Inc.	Woods, III	John	P.O Box 73087 Houston , TX 77273		

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TETRA Technologies, Inc.	Harden	Kim	P.O Box 73087 Houston , TX 77273	P963 175 622	10/23/00
TETRA Technologies, Inc.	Martina	Cyrilo	P.O Box 73087 Houston , TX 77273	P963 175 620	10/21/00
TETRA Technologies, Inc.	Woods, III	John	P.O Box 73087 Houston , TX 77273		
Viceroy Gold Mines	Zaebst	Robert	P.O. Box 68 Search Light , NV 89046		
Viceroy Gold Mines	Zaebst	Robert	P.O. Box 68 Search Light , NV 89046	P963 175 102	10/23/00
Westbay Instruments	Sankey	John	1350 East Burnett Signal Hill , CA 90806	P963 175 732	12/12/00
Groups and Organizations					
Audubon Society	Nash	Susan	P.O. Box 1254 Lakeview , CA 92567		
Bighorn Institute	Deforge	James	P.O. Box 262 Palm Desert , CA 92261	P963 175 552	10/20/00
California Communities Against Toxics	Williams	Jane	P.O. Box 845 Rosamond , CA 93560	P963 175 566	10/23/00
California Farm Bureau Federation	Pauli	William	2300 River Plaza Drive Sacramento , CA 95833	P963 175 612	10/23/00
California Mining Association	Jones	Denise	One Capitol Mall Suite 220 Sacramento , CA 95814	P963 175 613	10/23/00
California Native Plant Society	Anderson	Ileene	1722 'J' Street Suite 217 Sacramento , CA 95814	P963 175 619	
California Native Plant Society	Barnes	Allen	1722 'J' Street Suite 217 Sacramento , CA 95814	P963 175 618	
California Native Plant Society	Hartman	Steve	6117 Reseda Blvd. Reseda , CA 91335	P963 175 624	10/19/00
California Wilderness Coalition	Henson	Ryan	P.O. Box 293 Shingleton, CA 96088	P963 175 666	10/24/00
Chemehuevi Indian Reservation	Dunlap	Gjrjle	P.O. Box 1976 NPO #364 Havasu Landing, CA 92363-1976	P963 168 252	10/23/00
Colorado River Reservation	Eddy Jr.	Daniel	Route One Box 23-B Parker , AZ 85344	P963 175 393	10/20/00
Delta Wetlands			3697 Mount Diablo Blvd. Suite 100 Lafayette, CA 94549	P963 170 978	10/25/00
Desert Environmental Response Team (DERT)	Fick	David	HC-1 Box 7216 Joshua Tree , CA 92252	P963 175 577	10/20/00
Desert Environmental Response Team (DERT)	Mendoza	Ramon	58692 Los Coyotes Road Yucca Valley , CA 92284	P963 175 579	10/20/00
Desert Environmental Response Team (DERT)	Smith	Jerry	P.O. Box 935 Twentynine Palms , CA 92277	P963 175 581	10/24/00
Desert Protection Council	Allen	Douglas	P.O. Box 3635 San Diego , CA 92163-1635	P963 175 582	10/23/00
Desert Protection Council	Allen	Harriet	3750 El Canto Drive Spring Valley , CA 91977	P963 175 585	10/20/00
Desert Protection Council	Allen	Howard	3750 El Canto Drive Spring Valley , CA 91977	P963 175 586	10/20/00
Desert Survivors	Ellis	Bob	1290 Hopkins Apt. 37 Berkeley , CA 94702	P963 175 587	10/23/00
Desert Tortoise Preserve Committee	Connors	Mike	4067 Mission Inn Avenue Riverside, CA 92501	P963 167 043	11/9/00
Environmental Defense Fund	Graff	Tom	5655 College Avenue Oakland , CA 94618	P963 175 595	10/20/00
Environmental Defense Fund	Rosekrans	Spreck	5655 College Avenue Suite 304 Oakland , CA 94618	P963 175 593	10/20/00
Environmental Water Caucus	Olsen	Jenna	85 Second Street Second Floor San Francisco , CA 94105		

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	Last Name	First Name	Address	Certified Mail	Date Received
Fort Mojave Indian Tribe	Algots	John	500 Merriman Needles , CA 92363	P963 175 601	10/23/00
Fort Mojave Indian Tribe	Helton	Nora	500 Merriman Needles , CA 92363	P963 175 602	10/20/00
Fort Mojave Indian Tribe	Lopez	Steve	500 Merriman Needles , CA 92363	P963 175 603	10/20/00
Fort Mojave Indian Tribe	Smith	Chad	P.O. Box 5990 Mojave Valley , AZ 86440	P963 175 598	10/24/00
Heal The Bay	Green	Dorothy	2701 Ocean Park Blvd. Suite 150 Santa Monica , CA 90405	P963 175 605	10/20/00
High Desert Multiple-Use Coalition	Schiller	Ron	P.O. Box 1167 Ridgecrest , CA 93555	P963 175 606	10/24/00
Horned Lizard Ranch	Bratstrom	Bayard	P.O. Box 166 Wilieup, AZ 85360-0166		
Joshua Tree National Park Association	Freter	John	9428 Joshua Lane Yucca Valley , CA 92284	P963 175 387	10/19/00
Mineral Policy Center	Hocker	Philip	20 West Champman Street Alexandria , VA 22301	P963 175 371	10/25/00
Mojave Desert Air Quality Management District	DeSalvio	Alan	14306 Park Avenue Victorville , CA 92392		
Mojave Desert Resource Conservation District	Aguayo	Rick	18484 Highway 18 Suite 195 Apple Valley , CA 92307	P963 175 428	10/20/00
Mojave Desert Resource Conservation District	Johnson	Paul	10456 Deep Creek Road Apple Valley, CA 92308	P963 175 503	10/19/00
Mojave Desert Resource Conservation District	Lounsbury	Pete	Star Route Box 45A Oro Grande, CA 92368	P963 175 496	10/25/00
Mojave National Preserve	Garner	Welford	707 West Broadway Needles , CA 92363		
Mono Lake Committee	Spivy-Webber	Francis	322 Culver Blvd. Playa Del Rey , CA 90293		
Morongo Basin Conservation Association	Carraher	Christine	P.O. Box 935 29 Palms , CA 92277		
Morongo Basin Conservation Association	Herbert	Esther	P.O. Box 249 29 Palms , CA 92277	P963 175 697	10/21/00
Morongo Basin Conservation Association	Prehoda	Val	C/o Mark Spicak P.O. Box 1051 Twentynine Palms , CA 92277	P963 175 744	12/20/00
Morongo Basin Conservation Association	Reilly	Susan	P.O. Box 218 Twentynine Palms , CA 92277		
Morongo Basin Conservation Association	Sabol	Frances	P.O. Box 1325 29 Palms , CA 92277		
Morongo Reservation	Andreas	Mary Ann	Petrero Road Banning , CA 92220	P963 175 379	10/20/00
National Parks Conservation Association	Huse	Brian	P.O. Box 1289 Oakland , CA 94604-1289	P963 175 509	10/25/00
National Parks Conservation Association	Wagenvoord	Helen	2273 Vine Street Berkeley , CA 94709	P963 175 510	10/23/00
Natural Resources Defense Council	Cohen	Ronnie	71 Stevenson Street Suite 1825 San Francisco , CA 94105	P963 175 515	
Natural Resources Defense Council	Nelson	Barry	71 Stevenson Street Suite 1825 San Francisco , CA 94105	P963 175 513	10/23/00
Natural Resources Defense Council	Wald	Johanna	71 Stevenson Street Suite 1825 San Francisco , CA 94105	P963 175 514	
Needles Desert Wildlife Association	Raley	Jim	1932 Luna Vista Needles , CA 92363	P963 175 516	10/21/00
Pacific Institute for Development, Environment & Security	Gleick	Peter	654 13th Street Preservation Park Oakland , CA 94612	P963 175 049	11/3/00
People Against Radioactive Dumping (PARD)	Lopez	Ruth	420 'E' Street Needles , CA 92363	P963 175 536	11/6/00
Planning and Conservation League	Meral, Ph.D.	Gerald	926 'J' Street Suite 612 Sacramento , CA 95814	P963 175 534	10/20/00

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Planning and Conservation League	Patton	Gary	926 'J' Street Suite 612 Sacramento , CA 95814	P963 175 535	10/23/00
Public Employees for Environmental Responsibility	Wilshire	Howard	2001 South Street, Northwest Suite 570 Washington , DC 20009	P963 175 533	10/20/00
Red Rock Audubon Society	Hiatt	John	P.O. Box 96691 Las Vegas , NV 89193	P963 175 497	10/23/00
San Bernardino League of Women	Anderson	Gloria	P.O. Box 1662 Crestline, CA 92325	P963 175 472	10/20/00
Save the Bay	Koehler	Cynthia	1600 Broadway Suite 300 Oakland , CA 94612	P963 175 468	10/20/00
Sierra Club of California	Czamanske	David	3435 Wilshire Blvd. Suite 320 Los Angeles , CA 90010-1904	P963 175 437	10/19/00
Sierra Club of California	Haye	Stan	230 Larkspur Street Ridgecrest , CA 93555	P963 175 463	10/28/00
Sierra Club of California	Hughes	Elden	14045 Honeysuckle Lane Whittier , CA 90604-2510	P963 175 488	10/19/00
Sierra Club of California	Kiriakos	Pete	29431 Sunaharbor Court Lake Elsinore , CA 92530	P963 175 742	12/6/00
Sierra Club of California	Perrault	Michele	85 Second Street Second Floor San Francisco , CA 94105	P963 175 478	10/23/00
Southern California Water Committee	Anderson Dym	Joan	3500 Porshe Way, #201 Ontario, CA 91764-4941	P963 175 486	10/20/00
Southern California Water Committee	Krieger	Robert	3501 Porshe Way, #201 Ontario, CA 91764-4941	P963 175 476	10/20/00
Southwest Center for Biological Diversity			P.O. Box 7745 San Diego , CA 92107	P963 175 469	10/29/00
The Desert Tortoise Council	LaRue, Jr.	Edward	P.O. Box 3141 Wrightwood , CA 92397-3197	P963 175 625	10/20/00
The Nature Conservancy	Friedman-Johnson	Leslie	51 Clorinda Avenue San Rafael , CA 94901	P963 175 626	10/23/00
The Nature Conservancy	Ferguson	Scott	1400 Quail Street Suite 130 Newport Beach, CA 92660	Item returned-unclaimed	Resent via US mail 11/16/00
The Wilderness Society	Miller	Sally	900 17th Street, Northwest Washington , DC 20006-2506	P963 175 627	10/23/00
Torres Martinez Reservation	Belardo	Mary	Martinez Road P.O. Box 1160 Thermal , CA 92274	P963 175 629	10/20/00
Twentynine Palms Band of Mission Indians	Cheung	Anne	46200 Harrison Place Coachella , CA 92236		
Twentynine Palms Reservation	Mike	Dean	Harrison Street Coachella , CA 92236	P963 175 530	10/21/00
Water Education Foundation	Schmidt-Sudman	Rita	717 K Street Suite 317 Sacramento, CA 95814	P963 175 359	10/23/00
General Public					
	Bell	Dennis	406 South San Mateo Redlands , CA 92373	P963 175 432	10/19/00
	Bentley	K.E.	616 Lido Drive Boulder City , NV 89005	P963 175 409	10/20/00
	Betterly	Bill	20966 Rancherias Road Apple Valley , CA 92307	P963 175 405	10/23/00
	Blair	Jerry	12652 Seventh Street Garden Grove, CA 92640	P963 175 731	10/20/00
	Bowen	Lawrence	19980 Gist Road Los Gatos , CA 95033	Item returned-unclaimed	Resent via US mail 11/16/00
	Brubaker	Mark	8303 Ninth Street Cucamonga , CA 91730		
	Claypool, III	William	725 Broadway Needles , CA 92363	P963 175 539	10/23/00
	Connell	Will	14642 Lime Kiln Road Grass Valley , CA 95949	P963 175 735	12/13/00
	Crandall	Michael	1008 North 49th Street Seattle , WA 98103	P963 175 413	10/26/00

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Crickmore	Ingrid	1290 Hopkins Street Apartment 37 Berkeley , CA 95702	P963 175 433	10/24/00
Cunningham	Laura	P.O. Box 51 Death Valley , CA 92328	P963 175 435	10/23/00
Denner	Roy	11108 Green Oaks Road Lakeside , CA 92040	P963 175 418	10/19/00
Emmerich	Kevin	P.O. Box 51 Death Valley , CA 92328	P963 175 421	10/21/00
Fairchild	Catherine	28984 Gifford Moreno Valley, CA 92360	Item returned-unclaimed	Resent via US mail 11/16/00
Fry	Henry	1030 South Verde Street Anaheim, CA 92805	Item returned-unclaimed	Resent via US mail 11/16/00
Geller	Douglas	1634 SE 56th Avenue Portland , OR 97215		
Graff	Mark	17259 Ballinger Street Northridge, CA 91235-1929	P963 170 741	12/9/00
Green	Michael	20 Russell Court Irvine , CA 92612	P963 175 419	
Harney	J.T.	197 Veneda Trail Eastsound , WA 98245	P963 175 408	10/23/00
Hayes	Gary	3777 Pecos McLoud Suite 104 Las Vegas , NV 89121		
Hazlett	Richard	869 Connors Court Claremont , CA 91711	Item returned-unclaimed	Resent via US mail 11/16/00
Hirschfish	Daniel	5900 Matilija Avenue Van Nuys , CA 91401		
Hughes	Elden	14045 Honeysuckle Lane Whittier, CA 90604	P963 167 044	11/9/00
Jarvis	Michael	2089 Ivar Avenue Los Angeles, CA 90068	P963 170 977	
Johnston, M.D.	William	P.O. Box 13176 Marina Del Rey , CA 90295	P963 175 540	10/27/00
Kirkham	Ray	7424 Morning Star R2546 Twentynine Palms, CA 92277	Item returned-unclaimed	Resent via US mail 11/16/100
Kocino	Scott	794 Arguello San Francisco, CA 94118	Item returned-unclaimed	Resent via US mail 11/16/00
LaBahn	Ed	93 Monarch Bay Dana Point, CA 92629-3409	P963 170 743	12/6/00
Landry	Carol	P.O. Box 400142 Hesperia , CA 92340-0142	P963 175 425	10/19/00
Lizalde	Gus	10327 Oak Ranch Lane Escondido , CA 92026	P963 175 407	10/26/00
Lopez	Ruth	420 E Street Needles, CA 92363	P963 167 041	11/22/00
Mccarvill	William	330 Knottingham Circle Livermore , CA 94550	P963 175 541	10/21/00
Melias	Barry	930 West 10th Street Port Angeles , WA 98363		
Mikels	Marjorie	201 North First Avenue Upland , CA 91786-6061	P963 175 420	10/20/00
Moore	Jerry	P.O. Box 403 Brea, CA 92822	Item returned-unclaimed	Resent via US mail 11/16/00
Mora	John	2001 Cluster Pine Road Colton, CA 92324	P963 170 996	11/7/00
Rae	Judie	14642 Lime Kiln Road Grass Valley , CA 95949	P963 175 434	
Roze	Amanda	4459 Bennett View Drive Santa Rosa , CA 95404		
Russell	Hana	P.O. Box 287 Ross , CA 94957	P963 175 423	10/20/00
Schlee	Gerald	16980 Mockingbird Canyon Riverside, CA 92504	Item returned-unclaimed	Resent via US mail 11/16/100
Siraco	Alan	4459 Bennett View Drive Santa Rosa , CA 95404	P963 175 403	10/23/00
Stevens	John	4097 Pershing Avenue San Bernardino , CA 92407	P963 175 733	12/15/00
Stroshane	Tim	639 San Carlos Avenue Albany , CA 94706	P963 175 416	10/21/00

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	Thomas	Warren	2206 Panorama Terrace Los Angeles , CA 90039	P963 175 417	10/28/00
	Tracey	Jim	1801 Las Lanas Lane Fullerton, CA 92633	Item returned-unclaimed	Resent via US mail 11/16/100
	Turnbull	Stephen	2322 Drummond Street Vicksburg , MS 39180	P963 175 499	10/21/00
	Vaniman	David	Route 10 Box 87DV Santa Fe , NM 89501	P963 175 424	10/25/00
	Wagunvoord	Helen	2273 Vine Street Berkely, CA 94709	P963 170 731	12/12/00
	Wiley	Carol	15457 Eto Camino Road Victorville , CA 92394	P963 175 431	10/30/00
	Woodruff	Jayne	12743 Fenton Avenue Sylmar, CA 91342	Item returned-unclaimed	Resent via US mail 11/16/100
	Wright	Jeff	P.O. Box 2341 San Bernardino , CA 92506	P963 175 422	11/1/00
California Rice Industry Association	Bransford	Don	830 Sioc Street Colusa , CA 95932	P963 175 637	10/20/00
Isaac Walton League			19001 Valley Drive Villa Park, CA 92667	Item returned-unclaimed	Resent via US mail 11/16/00
League of Women Voters	Anderson	Gloria	P.O. Box 1662 Crestline , CA 92325		
Local World Water	Tansey	Michael	611 West 8th Street Davis, CA 95616	Item returned-unclaimed	Resent via US mail 11/16/00
Regroupers 4WD Club	Sefton	William	1910-67 West Palmyra Orange, CA 92668	Item returned-unclaimed	Resent via US mail 11/16/00
Triton Group LLC	Werner	Andrew	3706 Georgia Street Suite 8 San Diego , CA 92103		

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Company	Last Name	First Name	Address	Certified Mail	Date Received
	Abbott	Eric	509 White Ash Street Windsor , CA 95492	P963 175 906	10/20/00
	Aberg	Tricia	57090 29 Palms Highway Yucca Valley , CA 92284	P963 175 981	10/20/00
	Ackerman	Hans	P.O. Box 825 Lucerne Valley , CA 92356	P963 175 244	10/20/00
	Allen	Mark	24505 Menifee Road Romoland , CA 92585	P963 175 968	10/24/00
	Allen	Phillip	907 Alveda Avenue El Cajon , CA 92019	P963 175 258	10/21/00
	Allsop	Richard	975 Nora #201 San Francisco , CA 94080	P963 175 074	10/23/00
	Amster	Adolph	P.O. Box 1106 Ridgecrest , CA 93556	P963 175 867	10/23/00
	Anderson	Byron	835 Loquat Court El Cajon , CA 92020	P963 175 855	10/20/00
	Anderson	David	12453 Beechgrove Court Moorpark , CA 93021	P963 175 882 P963 175 995	10/19/00 11/3/00
	Anderson	Scott	396 Winslow Avenue Long Beach , CA 90814	P963 175 999	10/19/00
	Barnes	Michael	Two Glenoaks Laguna Hills , CA 92656	P963 175 977	10/21/00
	Baty, Ph.D.	Roger	924 East Sharon Road Redlands , CA 92374	P963 175 993	10/21/00
	Baxter	Howard	129 Hilltop Place RR 1 Box 225 New London , NH 03257	P963 175 232	11/6/00
	Bays	Charles	11637 Placid Court Colton , CA 92324	P963 175 849	10/21/00
	Beals	Cassie	2544 Ivy Drive Oakland , CA 94606		
	Beaumont	Winston	7210 Spgino Place Agua Dulce , CA 91350	P963 175 310	10/19/00
	Beebe	Richard	729 Hickory Avenue Tracy , CA 95376	P963 175 255	10/20/00
	Beezley	Julie	17500 Gilmore Street Van Nuys , CA 91406		
	Bennett	Alex	900 Duke Way Mountain View , CA 94040		
	Bertone	Chris	13907 Olive View Drive Sylmar , CA 91342	P963 175 846	10/19/00
	Bird	Elizabeth	220 West Grand Avenue Escondido , CA 92025	P963 175 908	10/20/00
	Blair	Claudia	P.O. Box 8 Essex , CA 92332	P963 175 841	10/23/00
	Blair	Jerry	12652 Seventh Street Garden Grove , CA 92640	P963 175 731	10/20/00
	Blair	Milton	P.O. Box 3214 Needles , CA 92363	P963 175 441	10/25/00
	Blincoe	Richard	Valley View Allotment Route One, Box 1339 Heyborn , ID 83336	P963 175 451	10/23/00
	Boodakian	Harry	1211 Morningside Way Venice , CA 90291	P963 175 234	10/21/00
	Boyd	Susan	11973 San Vicente Blvd. Los Angeles , CA 90049	P963 175 998	10/19/00
	Brattstrom	Bayard	19151 La Pradera Yorba Linda , CA 92686	P963 175 991	11/8/00
	Breed	Martha	3301 Moraga Blvd. Lafayette , CA 94549-4613	P963 175 974	10/20/00
	Buhler	Louis	130 Warwick Place Pasadena , CA 91030	P963 175 884	10/20/00
	Camara	Tom	474 Green Glen Way Mill Valley , CA 94941	P963 175 279	10/23/00
	Camarillo	Ben	7931 First Street Stanton , CA 90680	P963 175 859	10/23/00
	Carrell	Patricia	P.O. Box 7545 Colton , CA 92324	P963 175 165	
	Cates	Robert	140 Healy Treail Chatsworth , CA 91311	P963 175 066	10/19/00
	Cavanaugh	Crescent Paul	612 Poinsettia Avenue Vista , CA 92083	P963 175 774	10/24/00

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
	Cavish	Jacquelyn	508 Village Road Port Hueneme , CA 93041		
	Charlson	Richard	7751 Swanee Road Johnson Valley , CA 92285	P963 175 072	10/23/00
	Cheury	Marshall	46-200 Harrison Place Coachella , CA 92236	P963 175 970	10/22/00
	Chiropolos	James	970 Vermont #4 Oakland , CA 94610	P963 175 231	
	Clark	Margaret	945 Salem Drive #21 Redlands , CA 92373		
	Claypool	Nita	212 'H' Street Needles , CA 92363	P963 175 263	10/24/00
	Cooper	Daniel	P.O. Box 1355 Yucca Valley , CA 92286	P963 175 772	10/23/00
	Copoulos	John	226 Page Street San Francisco , CA 94102	P963 175 728	10/24/00
	Court	Bill	1813 College View Drive Monterey Park , CA 91754	P963 175 858	
	Cuff	Michael	P.O. Box 334 Ocotillo , CA 92259	P963 175 976	10/24/00
	Cummings	Frank	4172 Shorebreak Drive Huntington Beach , CA 92649	P963 175 902	10/21/00
	Curry	Robert	P.O. Box 770 Soquel , CA 95073	P963 175 064	11/1/00
	Daffrom	William	P.O. Box 667 Arviaca , AZ 85601	P963 175 929	10/24/00
	Danzeisen	Cathy	10 Catalpa Avenue #6 Mill Valley , CA 94941	P963 175 851	10/21/00
	Dawson	Dick	Clark Mountain Allotment P.O. Box 650 HCR 37 Sandy Valley , NV 89019	P963 175 918	10/20/00
	DeAtley	Larry	P.O. Box 915 Needles , CA 92363	P963 175 895	10/23/00
	Dempsey	Patrick	5091 Citation Avenue Cypress , CA 90630	P963 175 260	
	Distefano	Kathy	1328 Erin Avenue Upland , CA 91786-2660	P963 175 723	11/1/00
	Ditchkus	Larry	4825 Fir Avenue Seal Beach , CA 90740	P963 175 894	10/19/00
	Dodson	Jim	43904 North Galion Avenue Lancaster , CA 93536	P963 175 720	10/21/00
	Doleshal	Dennis	P.O. 507 Cadiz , CA 92304	P963 175 919	11/1/00
	Dougherty	Mike	P.O. Box 44 Baker , CA 92309		
	Douglas	Warren	3421 Maryann Street Glendale , CA 91214	P963 175 986	10/19/00
	Dyer	Jeff	4961 Ben Avenue No Hollywood , CA 91607		
	Eatton	Gary	P.O. Box 107 Joshua Tree , CA 92252	P963 175 702	
	Edwards	James	776 West Starlight Heights La Canada , CA 91011	P963 175 221	10/20/00
	Edwards	Timothy	1106 Kentwood Drive Blacksburg , VA 24060	P963 175 268	10/28/00
	Ely	Marion	P.O. Box 2577 Apple Valley , CA 92307	P963 175 174	10/24/00
	Ervin	Chris	22211 Comminute Escobedo Laguna Hills , CA 92653	P963 175 845	10/19/00
	Evans	Joseph	225 North 'K' Street Needles , CA 92363	P963 175 716	10/21/00
	Evans	William	1645 Cottonwood Lane Mohave Valley , AZ 86440	P963 175 930	10/21/00
	Everett	Rick	P.O. Box 471 Rim Forest , CA 92378	P963 175 069	10/26/00
	Fairchild	Catherine	28984 Gifford Moreno Valley , CA 92360		
	Fisher	Dave	P.O. Box 1837 Barstow , CA 92311	P963 175 771	10/23/00

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	Frances	June	1813 College View Drive Monterey Park , CA 91754	P963 175 705	
	Freeman	Gerald	67668 Castle Buttes Drive Nipton , CA 92364	P963 175 226	10/20/00
	Fry	Henry	1030 South Verde Street Anaheim , CA 92805		
	Garrett	James	3749 Greenwood Avenue Los Angeles , CA 90066	P963 175 240	
	Gearheart	Marguerite	P.O. Box 432 Lugerne Valley , CA 92356	P963 175 965	10/20/00
	Gluck	Rick	P.O. Box 1201 Morongo Valley , CA 92256	P963 175 252	10/23/00
	Goitein	Earnest	167 Almendral Avenue Atherton , CA 94027	P963 175 913	10/20/00
	Gould	Kim	P.O. Box 6202 Laguna Niguel , CA 92607	P963 175 703	
	Green	William	12226 15th Street Yucaipa , CA 92399	P963 175 933	10/20/00
	Greenberg	Paul	6114 Cahuenga Boulevard #6 North Hollywood, CA 91606	P963 175 087	
	Gregory	Maria	16240 Van Buren Blvd. Riverside , CA 92504	P963 175 967	10/26/00
	Grisamer	Gary	HCR 20 Box 1616 Blythe , CA 92225	P963 175 239	10/21/00
	Hague	George	26711 Ironwood Avenue Moreno Valley , CA 92360	P963 175 700	10/25/00
	Harmon	Edie	P.O. Box 444 Ocotillo , CA 92259	P963 175 911	10/20/00
	Harrell	Mike	1012 Cottonwood Drive Calimesa , CA 92320	P963 175 250	10/20/00
	Harris	Glenn	1526 Forest Circle Paradise , CA 95969	P963 175 235	10/20/00
	Harris	John	1731 Berkeley Way Berkeley , CA 94703	P963 175 718	10/20/00
	Hastey	Ed	8525 Linda Creek Court Citrus Heights , CA 95610	P963 175 912	10/20/00
	Hayes	Leone	5416 Candlelight Drive La Jolla , CA 92037	P963 175 887	10/21/00
	Hedges	Tom	2154 Ward Street Berkeley , CA 94705		
	Hendricks	Cecil	12027 Darling Road Agua Dulce , CA 91350	P963 175 850	10/20/00
	Heuston	Mark	HC02 Box 357G Twentynine Palms , CA 92277	P963 175 969	10/23/00
	Hoffner	John	1026 Crestview Drive Pasadena , CA 91107	P963 175 708	10/19/00
	Hohstadt	John	411 'A' Street Needles , CA 92363	P963 175 727	10/21/00
	Holland	Jim	601 Nevada Highway Boulder City , NV 89005	P963 175 710	10/20/00
	Hughes	Ronald	P.O. Box 6697 2045 Delaware Drive Kingman , AZ 86402-6697	P963 175 817	10/20/00
	Hughes	William	1145 Rice Canyon Road Rainbow , CA 92028	P963 175 936	10/20/00
	Hutchins	Jerry	P.O. Box 84899 San Diego , CA 92138	P963 175 721	10/21/00
	Hymen	Fred	HCR #1 Box 512 Nipton , CA 92364	P963 175 899	10/20/00
	Johnson	Deborah	P.O. Box 213 Daggett , CA 92327		
	Jones	Pam	1622 Curtis Avenue Manhattan Beach , CA 90266		
	Jones	Ronald	199 North Helen Drive Fullerton , CA 92835-3520	P963 175 992	10/23/00
	Kanne	Robert	5975 Kingsbriar Drive Yorba Linda , CA 92686	P963 175 820	
	Kellogg	Timothy	1490 Rose Street Berkeley , CA 94702	P963 175 996	12/14/00

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
	Kelly	Jennie	P.O. Box 133 La Quinta , CA 92253	P963 175 712	11/7/00
	Kent	Doug	2736 Ganges Place Davis , CA 95616	P963 175 914	10/20/00
	Kent	Elaine	2736 Ganges Place Davis , CA	P963 175 909	10/20/00
	Kirkham	Ray	7424 Morning Star R-2-546 Twentynine Palms , CA 92277		
	Kocino	Scott	794 Arguello San Francisco , CA 94118		
	Krause	Philip	777 E Rialto Avenue San Bernardino , CA 92415	P963 175 081	10/20/00
	Kukanen	Jorma	30 Underhill Road Mill Valley , CA 94941	P963 175 726	
	Kupcha	Karen	P.O. Box 1291 Yucca Valley , CA 92286	P963 175 724	10/20/00
	La Pre	Larry	4178 Chestnut Street Riverside , CA 92501	P963 175 893	11/7/00
	Lamond	Robert	4808 Blackthorne Avenue Long Beach , CA 90808	P963 175 995	10/19/00
	Lang	Roxanne	HC1, Box 357 Nipton , CA 92364	P963 175 816	10/24/00
	Larson	Kriss	136 Gaugin Circle Aliso Veijo , CA 92656	P963 175 897	10/21/00
	Lawrence	Don	11652 Brookshire Avenue Garden Grove , CA 92640	P963 175 917	10/24/00
	Lee	David	P.O. Box 101 Kelso , CA 92351	P963 175 881	10/24/00
	Lee	Simon	2601 Piedmont Avenue Berkeley , CA 94704-3412	P963 176 000	
	Lee Alpern	Esther	2324 Bronson Hill Los Angeles , CA 90068	P963 175 904	10/20/00
	Lesh	Larry	3515 Oak Glen Lane San Diego , CA 92117	P963 175 892	10/19/00
	Levick	Lainie	1143 East Ninth Street Tucson , AZ 85719-5438	P963 175 896	10/23/00
	Limon	Paul	306 Chestnut Needles , CA 92363	P963 175 259 P963 175 013	10/21/00 11/14/00
	Lopez	Raymond	1521 Oneonta Knoll South Pasadena , CA 91030	P963 175 256	10/19/00
	Martin	Dan	9709 Mountain View #1703 Scottsdale , AZ 85258	P963 175 773	10/20/00
	McAllister	Bard	417 North Kent Visalia , CA 93291	P963 175 861	10/20/00
	McCarty	John	1535 North Santa Anita Arcadia , CA 91006	P963 175 717	10/26/00
	McCurry	Edna	P.O. Box 684 Somis , CA 93006	P963 175 910	10/23/00
	McCutchan	Richard	1178 North Del Sol Lane Diamond Bar , CA 91765	P963 175 253	11/1/00
	McIntyre	Jim	10343 Hamilton Drive Route Tow Mohave Valley , AZ 86440		
	McKee	Karen	P.O. Box 396 Running Springs , CA 92382	P963 175 714	10/30/00
	McMullen	David	1327 Carlton Street Berkeley , CA 94702		
	McPheeters	Jerry	36424 East Tilford Way Joshua Tree , CA 92252	P963 175 711	10/24/00
	Mead	Christine	590 Contada Circle Danville , CA 94526-3530	P963 175 842	10/23/00
	Medina	David	6428 Pioneer Blvd. Whittier , CA 90606	P963 175 922	10/23/00
	Metzger	Harry	227 Ashlar Drive Napa , CA 94558	P963 175 224	10/20/00
	Meyers	Gene	P.O. Box 87 Searchlight , NV 89046	P963 175 238	10/21/00
	Miles	Larry	1332 Villiage Street Redlands , CA 92374		

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	Miles	Pearl	1322 Villiage Street Redlands , CA 92374		
	Millard	Norman	11745 Schenault Street Los Angeles , CA 90049	P963 175 281	11/1/00
	Mitchell	Larry	P.O. Box 1831 Ramona , CA 92065	P963 175 890	10/20/00
	Mitchell	Pat	30061 East Highway 58 Barstow , CA 92311	P963 175 089	
	Montgomery	Tim	960 Trovita Drive Corona , CA 91719	P963 175 280	10/19/00
	Moon	Richard	4222 Opal Avenue Cypress , CA 90630	P963 175 448	10/19/00
	Moore	Jerry	P.O. Box 403 Brea , CA 92822		
	Moore	Susan	P.O. Box 262 Twentynine Palms , CA 92377	P963 175 107	10/26/00
	Morgan	Chuck	P.O. Box 18 Mountain Pass , CA 92366	P963 175 844	Returned
	Morris	George	43404 Eric Drive Newberry Springs , CA 92364	P963 175 237	11/8/00
	Morris	Lawana	43404 Eric Drive Newberry Springs , CA 92364	P963 175 888	11/8/00
	Morton	Charles	5984 Huason Avenue San Bernardino , CA 92404	P963 175 848	10/20/00
	Murphy	Stanley	P.O. Box 2357 Wrightwood , CA 92397	P963 175 989	10/24/00
	Myers	Tom	200 Bartlett Street Reno , NV 89512	P963 175 979	10/26/00
	Myers	Tracy	101 100 Parkside Drive North Shore , CA 92254	P963 175 980	10/27/00
	Napoles Springer	Anna	12 Meadow Drive San Rafael , CA 94903	P963 175 863	10/21/00
	Nee	Imelda	1505 McCall Street Ridgecrest , CA 93555		
	Norris	James	767 Palermo Drive Santa Barbara , CA 93105	P963 175 230	10/20/00
	Ochsner	Robert	1934 Port Edward Newport Beach , CA 92660	P963 175 278	10/23/00
	Olson	Joseph	5084 Santa Susana Place Santa Barbara , CA 93111	P963 175 706	10/19/00
	Ostertag	George	95 Cianci Road New Britain , CT 06053	P963 175 227	10/26/00
	Ovellette	Brian	4646 Berkley Avenue Yucca Valley , CA 92284	P963 175 857	10/23/00
	Overson	Clay	Kessler Springs Allotment P.O. Box 8 Cima , CA 92323	P963 175 840	10/21/00
	Overson	Gary	Kessler Springs Allotment P.O. Box 6 Cima , CA 92323	P963 175 229	10/21/00
	Overson	Linda	Kessler Springs Allotment P.O. Box 6 Cima , CA 92323	P963 175 885	10/21/00
	Overson	Sandra	Kessler Springs Allotment P.O. Box 8 Cima , CA 92323	P963 175 274	10/21/00
	Pancoast	Henry	1715 Channing Way Berkeley , CA 94703	P963 175 233	
	Paparich	Frank	P.O. Box 9 Northport , WA 99157	P963 175 901	10/23/00
	Parsons	Elmer	1561 North Concord Ave. Fullerton , CA 72831	P963 175 907	10/20/00
	Patrone	Rosalind	43544 Bryant Street Fremont , CA 94539		
	Paulk	Herman	2632 Kendall Drive San Bernardino , CA 92407	P963 175 223	10/21/00
	Payne	Marshall	34071 Pequito Drive Dana Point , CA 92629	P963 175 975	10/20/00

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	Pekary	Andrew	15300 Palm Drive SPC 238 Desert Hot Springs , CA 92240	P963 175 865	10/20/00
	Peter	Raymond	5003 Stern Avenue Sherman Oaks , CA 91423	P963 175 454	10/20/00
	Phung	Tuto	951 Crest Vista Drive Monterey Park , CA 91754	P963 175 982	10/30/00
	Pierce	Colin	100 Spear Street Suite 1500 San Francisco , CA 94105	P963 175 839	10/23/00
	Plank	Oren	416 North Grove Avenue Ontario , CA 91764		
	Powell	Mark	P.O. Box 210 Searchlight , NV 89046	P963 175 972	10/23/00
	Provost	Robert	7033 Middlebury Ridge West Hills , CA 91307	P963 175 819	
	Ragsdale	Wilifred	2990 Maiden Lane Altadena , CA 91001		
	Randolph	Scott	22630 Anoka Road Apple Valley , CA 92308	P963 175 273	10/19/00
	Riddle	Don	P.O. Box 105 Amboy , CA 92304	P963 175 916	10/21/00
	Riippi	George	P.O. Box 5384 Beverly Hills , CA 90213	P963 175 699	10/23/00
	Rosewitz	Keith	2500 West Chain Avenue Anaheim , CA 82804	P963 175 713	10/26/00
	Ross	Hope	P.O. Box 720204 Pinon Hills , CA 92372	P963 175 242	10/20/00
	Ross	Victor	P.O. Box 911 Tonopah , NV 89049	P963 175 984	10/23/00
	Ryba	Gail	Caltech Chemistry 127-72 Pasadena , CA 91125	P963 175 898	Returned
	Salisbury	Ralph	2995 Floral Avenue Riverside , CA 92507-3217	P963 175 282	10/23/00
	Savage	William	5130 Georgetown Avenue San Diego , CA 92110	P963 175 939	10/19/00
	Schaefer	Charles	5511 Baltimore Drive No. 20 La Mesa , CA 91942	P963 175 847	10/21/00
	Schlee	Gerald	16980 Mockingbird Canyon Riverside , CA 92504		
	Schmelzer	Robert	4512 Varain Road Mariposa , CA 95338	P963 175 994	10/20/00
	Schoen	Mark	17500 Gilmore Street Van Nuys , CA 91406	P963 175 971	10/21/00
	Schuilling	Erna	3577 Lugo Avenue San Bernardino , CA 92404	P963 175 905	10/20/00
	Sebastian	Carol	P.O. Box 1530 Running Springs , CA 92382	P963 175 854	10/30/00
	Sesher	Thada	1220 West San Bernardino Apartment 115 Covina , CA 91722-3534	P963 175 270	10/25/00
	Sharpe	Thomas	3484 Broadmoor Blvd. San Bernardino , CA 92404	P963 175 997	10/21/00
	Singh Khalsa	Mha Atma	1536 Crest Drive Los Angeles , CA 90035	P963 175 978	10/19/00
	Singleton	Larry	25019 East Seventh Street San Bernardino , CA 92410	P963 175 889	10/20/00
	Smith	Gene	11973 San Vicente Blvd. Los Angeles , CA 90049	P963 175 228	10/19/00
	Smith	William	4584 Adobe Road Twentynine Palms , CA 92277	P963 175 941	10/20/00
	Smithey	Joseph	8247 Adams Street Lemon Grove , CA 92045	P963 175 725	10/21/00
	Soto	S.B.	449 F Street Box 434 Needles , CA 92363	P963 175 991	10/23/00

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	Soto	William	4792 Kermath Street Placentia , CA 92870	P963 175 944	10/19/00
	Spangenberg	Karen	10335 Weddington Street North Hollywood , CA 91601	P963 175 704	10/19/00
	Speck	Gary	P.O. Box 1328 Moreno Valley , CA 92556	P963 175 701	10/20/00
	Spenser	Eugene	151 North Areden Blvd. Los Angeles , CA 90004	P963 175 903	10/19/00
	Stebbins	Robert	601 Plateau Drive Kensington , CA 94708	P963 175 277	10/20/00
	Strain	James	1920 Underwood Road Holtville , CA 92250	P963 175 220	10/26/00
	Taylor	Joanne	1800 South Sunrise Way Palm Springs , CA 92204	P963 175 709	10/20/00
	Teal	Roger	1124 Las Lanas lane Fullerton , CA 92633	P963 175 276	Returned, no such number
	Thaw	Steven	30 Woodside Drive Moraga , CA 94556	P963 175 271	
	Toy	Don	P.O. Box 707 Needles , CA 92363	P963 175 915	10/26/00
	Tracey	Andy	1104 Morse Avenue Sacramento , CA 95864	P963 175 864	10/23/00
	Tracey	Jim	1801 Las Lanas Lane Fullerton , CA 92633		
	Trout	Lewis	930 Crescent Drive Barstow , CA 92311		
	Veelik	John	P.O. Box 210 Crestline , CA 92325	P963 175 707	11/2/00
	Villaraigosa	Antonio	3764 San Rafael Los Angeles , CA 90065	P963 175 025	10/23/00
	Vorrie	Norbert	3024 21st Avenue North Fort Dodge , IA 50501	P963 175 249	10/23/00
	Walker	Willie	1243 Cherry Drive Orange , CA 92868	P963 175 950	10/20/00
	Watson	Gordon	711-1483 Larney's Mill Vancouver , BC V6H 3Y7		
	Wells	William	25191 Mackenzie Street Laguna Hills , CA 92653		
	Wheat	Frank	333 Grand Avenue 46th Floor Los Angeles , CA 90071	P963 175 900	10/19/00
	White	George	804 North Beaver Street Flagstaff , AZ 86001	P963 175 236	
	Woodruff	Jayne	12743 Fenton Avenue Sylmar , CA 91342		
	Wright	Brian	8215 East White Oak Unit 34 Orange , CA 92869	P963 175 856	10/25/00
	Yoder	Merle	9066 Monte Vista Montclair , CA 91763	P963 175 973	11/17/00
	Young	Malua	Pacific 17 444 South Flower Street Suite 2300 Los Angeles , CA 90071	P963 175 883	10/19/00
	Zatkin	Robert	140 Springdale Way Redwood City , CA 94062	P963 175 818	10/23/00
Agua Caliente Band of Cahuilla Indians	Milanovich	Richard	600 East Tahquitz Canyon Palm Springs , CA 92262	P963 175 307	10/20/00
American Medical Association	Stuart	Norm	15272 Center Street Victorville , CA 92392	P963 175 305	10/21/00
American Motorcycle Association			P.O. Box 6114 Westerville , OH 43081	N/A (damaged in mail)	11/8/00
Anaheim Public Library			500 West Broadway Anaheim , CA 92805	P963 175 300	10/20/00
Animal Protection Institution of AM	Whitaker	Nancy	P.O. Box 22505 Sacramento , CA 95822	P963 175 298	10/23/00
Aquafarms	Graicer	Dov	P.O. Box 157 Mecca , CA 92254	P963 175 296	10/30/00
Archaeological Survey Association	Simpson	Ruth	35080 Chandler Suite 47 Calimesa , CA 92320	P963 175 293	10/26/00
Arvin-Edison Water Storage District	Collup	Steven	P.O. Box 175 Arvin , CA 93203-0175	P963 175 195	11/1/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
Assembly Natural Resources Committee	Craven	Bill		P963 175 799	
Audubon Society			2024 Orange Tree Lane Redlands , CA 92374	P963 175 187	10/23/00
Audubon Society			5370 Riverview Drive Rubidoux , CA 92509		
Augustine Reservation	Martin	Maryann	North Hargrave Banning , CA 92220		
Baker Chamber of Commerce	Dougherty	Shirley	P.O. Box 131 Baker , CA 92311	P963 175 179	10/30/00
Baker Community Services District	Fisher	Kelly	P.O. Box 590 Baker , CA 92309	P963 175 177	10/20/00
Baker Community Services District	Hayes	Lee	P.O. Box 590 Baker , CA 92309	P963 175 953	10/25/00
Baker High School Library	Acosta	Kelly	Highway 120 & School Baker , CA 92309	P963 175 948	10/25/00
Baker Unified School District			P.O. Box 460 Baker , CA 92309	P963 175 190	10/25/00
Baldy Mesa Water District	Davis	Duane	10313 Duncan Road Victorville , CA 92392	P963 175 985	10/20/00
Barrick Bullfrog Inc.	Ludwick	W.	P.O. Box 519 Beatty , NV 89003	P963 175 951	10/23/00
Barstow Development Corporation	Gilliam	Jim	1110 Buena Vista Barstow , CA 92311	P963 175 188	
Basic Management, Inc.	Stewart	Dan	P.O. Box 2065 Henderson , NV 89009	P963 175 988	
Bay Institute	Bobker	Gary	55 Shaver Street San Rafael , CA 94901	P963 175 309	10/20/00
Best in the Desert Racing	Folks	Casey	3475 Boulder Highway Las Vegas , NV 89120	P963 175 185	10/20/00
Best, Best & Krieger	Thomas	Anne	3750 University Avenue Suite 400 Riverside , CA 92501	P963 175 931	10/21/00
Best, Best & Krieger	Wilkinson	Gregory	3750 University Avenue Suite 400 Riverside , CA 92501	P963 175 304	10/24/00
Bighorn-Desert View Water District	Bangert	Ron	P.O. Box 3838 Landers , CA 92285-0838	P963 175 181	11/3/00
Bookman-Edmonston	Fry	Vicky	P.O. Box 1516 Sacramento , CA 95852		
Boulder Canyon Operations Office			P.O. Box 61470 Boulder City , NV 89006	P963 175 301	10/20/00
Bradco Development	Brady	Joe	PO Box 2710 Victorville , CA 92393	P963 175 178	10/21/00
Broadbent & Associates, Inc.	Roy, P.E.	Lonnie	833 Nevada Highway Suite Four Boulder City , NV 89005	P963 175 935	10/20/00
Brownberry Biological Consulting	Brown	Patricia	134 Wilkes Crest Road Bishop , CA 93514		
Brubaker-Mann, Inc.	Mann	Bill	30 Hilltop Terrace Barstow , CA 92311	P963 175 320	10/20/00
Building Industry Association	Moriyama	Cliff	1215 'K' Street Suite 1200 Sacramento , CA 95814	P963 175 937	10/23/00
Business Publishers Inc.			8737 Colesville Road Silver Spring , MD 20910	P963 175 295	
CA 4WDC	Baker, Jr.	Harry	5004 Enfield Avenue Encino , CA 91316	P963 175 316	10/19/00
CA 4WDC	Fite	Ron	1205 E. 25th Street San Bernardino, CA 92404		
CA 4WDC	MacPherson	R.S.	3660 Valencia Hill Drive Riverside , CA 92507	P963 175 292	10/26/00
CA 4WDC	Winters	Paul	P.O. Box 401725 Hesperia , CA 92340	P963 175 940	10/20/00
Cabazon Band of Mission Indians	James	John	84-245 Indio Springs Drive Indio , CA 92201	P963 175 943	
California Association Resource Conservation	Scott	Nadine	550 Hoover Street Oceanside , CA 92054	P963 175 194	10/24/00
California Attorney General's Office	Rechtschaffen	Cliff	350 McAllister Street Room 6000 San Francisco , CA 94102	P963 175 291	10/20/00
California Chamber of Commerce	Nera	Valerie	1201 'K' Street Suite 1200 Sacramento , CA 95814	P963 175 946	10/23/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
California Department of Conservation	Arthur	Steve	801 'K' Street Sacramento , CA 95814	P963 175 192	10/23/00
California Department of Fish & Game	Davis	Donna	P.O. Box 401602 Hesperia , CA 92340	P963 175 956	10/20/00
California Department of Fish & Game	Golden	Michael	1220 South Street Sacramento , CA 95814		
California Department of Fish & Game	Hayes	Chris	P.O. Box BD Blythe , CA 92225	P963 175 954	
California Department of Fish & Game	Hoover	Frank	4775 Bird Farm Road Chino , CA 91709	P963 175 934	10/18/00
California Department of Fish & Game	Jackson	Tom	P.O. Box 1006 Needles , CA 92363	P963 175 186	10/23/00
California Department of Fish & Game	Keeny	Sharon	81875 48th Avenue No. 163 Indio , CA 92201		
California Department of Fish & Game	McBride	Mike	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 183	10/19/00
California Department of Fish & Game	Mulcahy	Gerald	1416 Ninth Street Suite 1205 Sacramento , CA 95814	P963 175 180	10/23/00
California Department of Fish & Game	Paznokas	William	4949 Viewridge Avenue San Diego , CA 92123	P963 175 315	10/19/00
California Department of Fish & Game	Showers	David	1416 Ninth Street Room 1341 Sacramento , CA 95814	P963 175 955	10/20/00
California Department of Fish & Game	Spruill	Jack	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 176	10/20/00
California Department of Fish & Game	Vernoy	Bob	15786 Inyo Street Victorville , CA 92393	P963 175 289	10/25/00
California Department of Fish & Game	Wolfe	Patti	330 Golden Shore Suite 50 Long Beach , CA 90802	P963 175 318	10/19/00
California Department of Justice	Carter	Bill	213 Spring Street 13th Floor Los Angeles , CA 90013	P963 175 945	10/19/00
California Department of Justice	Johns	Joseph	213 Spring Street 13th Floor Los Angeles , CA 90013	P963 175 311	10/19/00
California Department of Justice	Robinson	Don	300 South Spring Street Suite 5212 Los Angeles , CA 90013	P963 175 189	10/23/00
California Department of Transportation	Dennis	Richard	464 West Fourth Street Sixth Floor San Bernardino, CA 92401	P963 175 193	10/20/00
California Department of Transportation	Hendrix	Oscar	464 West Fourth Street Sixth Floor San Bernardino, CA 92401	P963 175 952	10/20/00
California Department of Transportation	Hogue	Douglas	464 West Fourth Street Sixth Floor San Bernardino , CA 92401	P963 175 949	10/20/00
California Department of Transportation	Pokrajac	Kevin	464 West Fourth Street Sixth Floor San Bernardino, CA 92401	P963 175 287	10/20/00
California Department of Transportation	Visbal	Guy	464 West Fourth Street Sixth Floor San Bernardino, CA 92401	P963 175 191	10/20/00
California Department of Water Resources	Osugi	Doug	1416 Ninth Street 1115-1 Sacramento , CA 95814	P963 175 308	10/24/00
California Department of Water Resources	Trommer	Bob	P.O. Box 942836 Sacramento , CA 95814	P963 175 156	10/20/00
California Environmental Protection Agency	Gonzales	Tina	3332 West Macarthur St. Sonoma , CA 95476	P963 175 196	10/25/00
California Farm Bureau Federation	Osteen	Mary	2300 River Plaza Drive Sacramento , CA 95833	P963 175 153	10/23/00
California Farm Bureau Federation	Warmerdam	MaryAnn	1127 11th Street Suite 626 Sacramento , CA 95814	P963 175 306	10/23/00
California Highway Patrol	Kashdooli	John	2555 First Avenue Sacramento , CA 95818	P963 175 294	

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
California League of Conservation Voters	Allgood	David	10780 Santa Monica Blvd. Suite 210 Los Angeles , CA 90025	P963 175 150	10/19/00
California Native Plant Society	Latting	June	320 Naravilla Drive Riverside , CA 92507	P963 175 302	Returned, deceased
California Poly Pomona	Klasik	John	3801 West Temple Avenue Pomona , CA 91768	P963 175 297	10/19/00
California Regional Water Quality Control Board	Baqai	Hisam	15428 Civic Drive Suite 100 Victorville , CA 92392	P963 175 251	10/20/00
California Regional Water Quality Control Board	Dodds	Robert	2501 Lake Tahoe Blvd. Lake Tahoe , CA 96150	P963 175 164	10/20/00
California Regional Water Quality Control Board	Lafferty	Liz	15428 Civic Drive Suite 100 Victorville , CA 92392	P963 175 248	10/20/00
California Regional Water Quality Control Board	Mitton	Cindy	15428 Civic Drive Suite 100 Victorville , CA 92392	P963 175 148	10/20/00
California Regional Water Quality Control Board	Plaziak	Mike	15428 Civic Drive Suite 100 Victorville , CA 92392	P963 175 246	10/20/00
California Regional Water Quality Control Board	Shifrer	Curt	15428 Civic Drive Suite 100 Victorville , CA 92392	P963 175 257	10/26/00
California Regional Water Quality Control Board	Singer	Harold	2501 Lake Tahoe Blvd. Lake Tahoe , CA 96150	P963 175 254	10/20/00
California State Lands Commission			100 Howe Avenue Suite 100 Sacramento , CA 95825		
California State Lands Commission	Fong	Jeff	100 Howe Avenue Suite 100 Sacramento , CA 95825	P963 175 138	10/24/00
California State Lands Commission	Mount, II	Paul	200 Oceangate 12th Floor Long Beach , CA 90802		
California State Lands Commission	Pelka	Greg	200 Oceangate 12th Floor Long Beach , CA 90802	P963 175 793 P963 175 166	10/19/00 10/25/00
California State Polytechnic University, Pomona	Blumner	Sidney	3801 West Temple Avenue Pomona , CA 91768	P963 175 660	11/5/00
California State University, Fullerton			P.O. Box 4150 Fullerton , CA 92634	P963 175 659	10/19/00
California State University, Fullerton	Presch	William	P.O. Box 6850 Fullerton , CA 92634	P963 175 657	
California State University, Fullerton	Scherba	Gerald	Fullerton , CA 92634	P963 175 658	10/19/00
California State University, Sacramento			2000 Jed Smith Drive Sacramento , CA 95819		
California State University, San Bernardino	Clark	Michael	5500 University Parkway San Bernardino, CA 92407	P963 175 667	10/23/00
California Wilderness Coalition	Henson	Ryan	P.O. Box 293 Shingleton , CA 96088		
California Wildlife Federation	Walker	Randy	P.O. Box 1527 Sacramento , CA 95812	P963 175 665	10/24/00
California Woolgrowers Association			1221 'H' Avenue Suite 101 Sacramento , CA 95814	P963 175 664	10/23/00
Californians for Alternatives to Toxics	Harper	Nina	P.O. Box 119 Arcata , CA 95518	P963 175 663	10/23/00
Californians for Good Water Policy	Pittman	Bill	1625 Howard Road Box #166 Madera , CA 93637	P963 175 662	10/20/00
Cashman Equipment Company	Shearer	Robert	P.O. Box 4217 Las Vegas , NV 89127	P963 175 085	10/24/00
Cawelo Water District	Jones	John	17207 Industrial Farm Bakersfield , CA 93308	P963 175 083	10/23/00
Ceminex Ltd.	Foss	Harold	3083 Zane Circle Las Vegas , NV 89121	P963 175 082	10/20/00
Century 21 Ambassador	Poindexter	Harry	17722 South Pioneer Blvd. Artesia , CA 90701	P963 175 079	10/19/00
Chapman, Wood & Griswold, Inc.	Irving	Doug	4015 Carlisle Blvd. Suite E Albuquerque , NM 87107	P963 175 028	10/20/00
Chemehuevi Indian Reservation	Levias, Sr.	Matthew	P.O. Box 1976 Havasu Lake , CA 92363	P963 175 249	10/23/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
Chemehuevi Indian Reservation	Smith	Edward	P.O. Box 1976 NPO #364 Havasu Landing,CA 92363		
Chino Basin Watermaster	Vanden Heuvel	Geoffry	7551 Kimball Avenue Chino , CA 91710		
City of Barstow	Kopach	Paul	304 East Buena Vista Barstow , CA 92311	P963 175 791	10/23/00
City of Barstow	Warner	Paul	220 East Mountain View Barstow , CA 92311	P963 175 957	10/24/00
City of Indian Wells	Kates	Curried	44950 Eldorado Drive Indian Wells , CA 92201	P963 175 958	10/24/00
City of La Palma	Salazar	Ramon	7822 Walker Street La Palma , CA 90623	P963 175 272	10/19/00
City of Lakewood	Glancy	James	5050 North Clark Avenue Lakewood , CA 90712	P963 175 269	10/20/00
City of Las Vegas	Roark	David	314 Las Vegas Blvd. Las Vegas , NV 89101	P963 175 267	11/08/00
City of Monterey Park	Merry	Ronald	320 West Newmark Monterey Park , CA 91754	P963 175 264	10/20/00
City of Needles	Bradshaw	Billy	817 Third Street Needles , CA 92363	P963 175 262	10/23/00
City of Needles	Duncan	Tim	817 Third Street Needles , CA 92363	P963 175 288	10/23/00F
City of Needles	Dwyer	Peter	817 Third Street Needles , CA 92363	P963 175 314	10/23/00
City of Needles	Frazier	Tony	817 Third Street Needles , CA 92363	P963 175 286	10/23/00
City of Needles	Gwinnup	James	817 Third Street Needles , CA 92363	P963 175 319	10/23/00
City of Needles	Thomas	Steve	817 Third Street Needles , CA 92363	P963 175 290	10/23/00
City of Needles	Valentine	Rebecca	817 Third Street Needles , CA 92363	P963 175 312	10/23/00
City of Needles	Williams	Jeff	817 Third Street Needles , CA 92363	P963 175 317	10/23/00
City of Victorville	Roberts	Jon	P.O. Box 5001 Victorville , CA 92393	P963 175 155	10/20/00
CivilDesign, Inc.	Bonadiman, P.E.	Joseph	P.O. Box 9730 San Bernardino, CA 92427	P963 175 151	10/23/00
Clark County Library			1401 East Flamingo Las Vegas , NV 89109	P963 175 147	10/20/00
Clayton Group Services, Inc.	Leu	David	3611 South Harbor Blvd. Suite 260 Santa Ana , CA 92704	P963 175 145	10/20/00
Coachella Valley Association of Governments	Nagle	Steve	73-710 Fred Waring Drive Suite 200 Palm Desert , CA 92260	P963 175 283	10/20/00
Coachella Valley Water District	Levy	Tom	P.O. Box 1058 Coachella , CA 92236	P963 175 455	10/20/00
Colorado River Water Users Association	Sutton	Bernadine	P.O. Box 1058 Coachella , CA 92236	P963 175 452	10/20/00
Colorado State University	Smith	Judy	Fort Collins , CO 80523	P963 175 450	10/23/00
Committee for Protection of Rural Independence	Giesing	Frank	P.O. Box 681 Joshua Tree , CA 92252	P963 175 447	10/21/00
Committee to Bridge the Gap	Lyou	Joe	1637 Butler Avenue Los Angeles , CA 90025	P963 175 446	10/24/00
Communities for a Better Environment	Kuhn	Scott	500 Howard Street Suite 506 San Francisco , CA 94105	P963 175 445	10/24/00
CORVA	Waldehim	Ed	3500 Foothill Boulevard Glendale , CA 91214	P963 175 443	10/19/00
County of Riverside	Barnhart	David	P.O. Box 1090 Riverside , CA 92502	P963 175 440	10/30/00
County of Riverside	Bazan	Karen	3535 Tenth Street Suite 300 Riverside , CA 92501	P963 175 753	10/20/00
County of Riverside	Laurence	Aleta	P.O. Box 1409 Riverside , CA 92502-1409	P963 175 442	10/30/00
County of Riverside	Smith	Larry	P.O. Box 512 Riverside , CA 92502	P963 175 808	10/31/00
County of Riverside	Wilson	Roy	P.O. Box 1359 Riverside , CA 92502	P963 175 799	10/30/00
County of Riverside	Wright	Jim	210 West San Jacinto Perris , CA 92570	P963 175 439	10/20/00

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County of Riverside	Zappi	David	1995 Market Street Riverside , CA 92501	P963 175 438	10/30/00
County of San Bernardino			157 West Fifth Street 2nd Floor San Bernardino, CA 92415	P963 175 752	10/20/00
County of San Bernardino	Clerk of the Board		385 North Arrowhead 2nd Floor San Bernardino, CA 92415	P963 175 807	10/20/00
County of San Bernardino	Crutzinger	Jackson	385 N. Arrowhead Avenue 2nd Floor San Bernardino, CA 92415	P963 175 815	10/20/00
County of San Bernardino	Davis	Carol	385 N. Arrowhead Avenue San Bernardino, CA 92415	P963 175 798	10/20/00
County of San Bernardino	Fox	Mike	825 East Third Street San Bernardino, CA 92415	P963 175 795	10/20/00
County of San Bernardino	Givens	Gary	P.O. Box 60 Star Route One Joshua Tree , CA 92252	P963 175 806	10/20/00
County of San Bernardino	Glass	Paul	15505 Civic Drive Victorville , CA 92392	P963 175 813	10/25/00
County of San Bernardino	Hills	Peter	157 West Fifth Street Second Floor San Bernardino, CA 92415	P963 175 803	10/20/00
County of San Bernardino	Jeska	John	15505 Civic Drive Victorville , CA 92392	P963 175 805	10/25/00
County of San Bernardino	Lawrence	Laura	385 N. Arrowhead Avenue San Bernardino, CA 92415	P963 175 796	10/23/00
County of San Bernardino	Penrod	Gary	655 East Third Street San Bernardino, CA 92415		
County of San Bernardino	Smith	Len	P.O. Box 2059 Barstow , CA 92312	P963 175 814	10/23/00
County of San Bernardino	Stevens	Mark	385 N. Arrowhead Avenue 2nd Floor San Bernardino, CA 92415		
County of San Bernardino	Wiedeman	Delvin	635 East Third Street San Bernardino, CA 92415	P963 175 751	10/20/00
CRIT Elders Group	Harper	Mamie	Route One Box 23-B Parker , AZ 85344		
Crowell & Moring	McCrum	Timothy	1001 Pennsylvania Avenue Washington , DC 20004	P963 175 812	10/23/00
Cucamonga County Water District	Black	Jerry	9641 San Bernardino Road Rancho Cucamonga, CA 91730	P963 175 802	10/18/00
Cucamonga County Water District	DeLoach	Robert	P.O. Box 638 Rancho Cucamonga , CA 91729		
Dames & Moore	Fuller	Jeff ,	9665 Chesapeake Drive Suite 201 San Diego , CA 92123	P963 175 811	10/23/00
De Cuir & Somach	Hitchings	Andy	400 Capitol Mall Suite 1900 Sacramento , CA 95814	P963 175 011	10/23/00
Del Air Rockhounds	Dearborn	Keri	20982 Avenue San Lois Woodland Hills , CA 91364	P963 175 792	10/23/00
Delta Wetlands	Festerson	Kay	3697 Diablo Blvd. Suite 100 Lafayette , CA 94549	P963 175 801	10/23/00
Delta Wetlands	Winther	John	3697 Diablo Blvd. Suite 100 Lafayette , CA 94549	P963 175 810	10/23/00
Desert Protection Society	Karsh	Richard	73790 'B' Paso Suite 3200 Palm Desert , CA 92260	P963 175 791	11/1/00
Desert Studies Center			P.O. Box 490 Baker , CA 92309	P963 175 809	10/24/00
Desert Studies Center	Fulton	Roger	P.O. Box 490 Baker , CA 92309	P963 175 800	10/24/00
Desert Survivors	Tabor	Steve	P.O. Box 20991 Oakland , CA 94620-0991		
Desert Water Agency	Ainsworth	Dan	P.O. Box 1710 Palm Springs , CA 92263	P963 175 175	10/20/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
Eagle Mountain Landfill	Daniels	Richard	43645 Monterey Avenue Suite A Palm Desert , CA 92260	P963 175 964	10/20/00
East Bay Municipal Utility District	Polanc	Rosanna	375 11th Street Mail Stop 305 Oakland , CA 94607	P963 175 962	10/20/00
East Valley Water District	Martin	Robert	3545 20th Street Highland , CA 92346	P963 175 963	10/25/00
East Valley Water District	Sturgeon	Kip	3545 20th Street Highland , CA 92346	P963 175 592	10/19/00
Ecology & Environment	Angus	Tom	333 Southwest Fifth Suite 609 Portland , OR 97204	P963 175 464 P963 175	12/3/00
Ecology & Environment	Karpowicz	Ron	350 Sansome Avenue Suite 300 San Francisco , CA 94104	P963 175 960	10/24/00
Ecology & Environment	Moy	Colin	350 Sansome Avenue Suite 300 San Francisco , CA 94104	P963 175 961	10/20/00
Educational Communications	Harlowe	Anna	P.O. Box 351419 Los Angeles , CA 90035	P963 175 137	1/16/01
Engineering-Science, Inc.	Artz	Matthew	P.O. Box 7107 Pasadena , CA 91109	P963 175 172	10/19/00
ENSR	Gorham	William	1220 Avenida Acaso Camarillo , CA 93012	P963 175 136	10/19/00
Environmental Management Associates	Carey	Dwight	1698 Greenbriar Lane Suite 210 Brea , CA 92821	P963 175 134	10/20/00
Essex Environmental	Stalder-Mills	Heidi	637 Mail Street Half Moon Bay , CA 94101	P963 175 126	10/20/00
Euro-Nevada Mining Corporation, Inc.	Cartwright	Michael	6121 Lakeside Drive Suite 105 Reno , NV 89511	P963 175 132	10/20/00
Explorations, Inc.	Hahn	Larry	2908 East Lake Mead N. Las Vegas , NV 89030	P963 175 128	10/20/00
Flow Science Incorporated	List, P.E.	John	763 East Green Street Pasadena , CA 91101	P963 175 122	10/19/00
Friant Water Users Authority	Moss	Richard	854 North Harvard Avenue Lindsay , CA 93247-1715	P963 175 130	10/23/00
Glamis Imperial Corporation & Chemgold Ind.	Boyle	Gary	P.O. Box 1177 Winterhaven , CA 92283	P963 175 118	10/23/00
Glamis Online			6340 Santa Fe Avenue Huntington Park , CA 90255	P963 175 115	10/19/00
Gold Standard Lode Mine	Davis	Dick	37094 Colby Avenue Barstow , CA 92311	P963 175 112	10/24/00
Golden Quail	Redden	Colin	518 Ivanpah Road Nipton , CA 92364	P963 175 108	10/20/00
Grazing Advisory Board	Blair	Howard	P.O. Box 8 Essex , CA 92332	P963 175 110	10/23/00
Grazing Advisory Board	Munoz	Frank	P.O. Box 5306 Oildale , CA 93388	P963 175 109	10/23/00
Gresham, Varner, Savage, Tilden & Nolan	Tilden	William	600 North Arrowhead Suite 300 San Bernardino, CA 92401	P963 175 111	10/20/00
Hatch & Parent	Frahm	Chris	110 West 'C' Street Suite 2200 San Diego , CA 92101	P963 175 113	10/19/00
Heal The Bay	Gold	Mark	2701 Ocean Park Blvd. Suite 150 Santa Monica , CA 90405	P963 175 114	10/20/00
Hi-Desert Water District	Bryant	Charles	P.O. Box 1210 Yucca Valley , CA 92286	P963 175 123	10/23/00
High Desert Regional Economic	Rector	Ron	P.O. Box 350 Victorville , CA 92393	P963 175 127	10/23/00
Hollister & Brace	Candy	Peter	P.O. Box 630 Santa Barbara , CA 93102	P963 175 124	10/23/00
Holme, Roberts & Owen	Mason	Michael	1700 Lincoln Street Suite 4100 Denver , CO 80203	P963 175 125	10/21/00 Returned, unkown
Imperial Irrigation District	Silva	Jesse	333 East Barioni Blvd P.O. Box 937 Imperial , CA 92251	P963 175 129	10/23/00

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Imperial Valley Gem & Mineral Society	Swerdfeger	Jeep	P.O. Box 1721 El Centro , CA 92243	P963 175 131	11/8/00
Industrial Construction Inc.	Rudy	Thomas	2033 Pommel Avenue Las Vegas , NV 89119	P963 175 133	
Inland Counties Water Association	Araiza	Anthony	P.O. Box 578 Rialto , CA 92377-0578	P963 175 877	10/24/00
Inland Empire Economic Partnership	Davis	Sheri	301 East Vanderbilt Way Suite 100 San Bernardino, CA 92408	P963 175 168	10/20/00
Integrated Water Resources			P.O. Box 2610 Santa Barbara , CA 93120	P963 175 171	10/25/00
Integrated Water Resources	Streets	Brandon	P.O. Box 2610 Santa Barbara , CA 93120	P963 175 040 P963 175 169	11/10/00 10/25/00
Integrated Water Technologies, Inc.	Harris	Jennifer	33071 Daniel Drive Dana Point , CA 92629	P963 175 120	10/21/00
Isaac Walton League			19001 Valley Drive Villa Park , CA 92667		
J & M Service	Proctor	Jim	25183 Johnson Street Barstow , CA 92311	P963 175 116	10/23/00
J G Boswell Company	Tristao	Dennis	710 Bainum Avenue Corcoran , CA 93212	P963 175 117	10/23/00
J&W Tire Service	Bentley	J.R.	P.O. Box 33 Essex , CA 92232	P963 175 119	10/23/00
Jakes Crane	Buntz	Jeff	6109 Industrial Road Las Vegas , NV 89118	P963 175 170	10/20/00
Kearns & West, Inc.	Ebrahim	Sharif	235 Pine Street Suite 1675 San Francisco , CA 94104	P963 175 173	10/20/00
Kern County Water Agency	Clark	Tom	3200 Rio Mirada Drive P.O. Box 58 Bakersfield , CA 93302	P963 175 197	10/24/00
Kern Delta Water District	Frick	Howard	501 Taft Highway Bakersfield , CA 93307	P963 175 198	10/20/00
Kern Delta Water District	Mulkay	Mark	501 Taft Highway Bakersfield , CA 93307	P963 175 199	10/20/00
KNXKOLADIF Radio	Ness	Jim	5225 Canyon Crest Drive Suite 351 Riverside , CA 92507	P963 175 200	10/20/00
KVMR FM	Stahler	Alan	401 Spring Street Nevada City , CA 95959	P963 175 201	10/19/00
Lake Arrowhead Community Services District	Valladao	Gary	PO Box 789 Lake Arrowhead,CA 92352	P963 175 202	10/23/00
Lake Mead National Recreation Area	Haley	Jennifer	601 Nevada Highway Boulder City , NV 89005	P963 175 204	10/20/00
Lake Mead National Recreation Area	Newton	Alia	601 Nevada Highway Boulder City , NV 89005	P963 175 203	10/20/00
Las Vegas Piute Tribe	Anderson	Kenny	One Piute Drive Las Vegas , NV 89106	P963 175 205	10/20/00
Laser Inc.	Williams	John	12770 Southwest Foothill Portland , OR 97225	P963 175 206	10/23/00
Law Offices of Brad Siefker	Siefker	Brian	828 University Avenue Sacramento , CA 95825	P963 175 321	10/20/00
Lee Chemical	Bardsley	Robert	21250 Boxsprings Road Suite 201 Moreno Valley , CA 92557	P963 175 322	10/20/00
Living Desert	Anderson	Kirk	47900 Portola Palm Desert , CA 92260	P963 175 323	10/20/00
Loane and Holbcum Mining Districts	Web	Tony	P.O. Box 46 Fawnskin , CA 92333		
Long Beach Public Library			Ocean and Pacific Avenue Long Beach , CA 90802	P963 175 207	10/19/00
Los Angeles Area Chamber of Commerce	Zusman	Anita	350 South Bixel Street Los Angeles , CA 90017	P963 175 208	10/20/00
Los Angeles Department of Water and Power	Gewe	Jerry	111 North Hope Street Los Angeles , CA 90012	P963 175 159	10/20/00
Los Angeles Department of Water and Power	Holloway	Charles	111 North Hope Street Los Angeles , CA 90012	P963 175 167	10/20/00
Los Angeles Department of Water and Power	Pettijohn	Dave	111 North Hope Street Room 1460 Los Angeles , CA 90012	P963 175 158	10/20/00
Los Coyotes Reservation	Taylor	Frank	P.O. Box 100 Warner Springs, CA 92086	P963 175 160	10/21/00

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LSA Associates Inc.	Gray	Deborah	3403 10th Street Suite 520 Riverside , CA 92501	P963 175 161	10/30/00
LSA Associates Inc.	Reynolds	Robert	3403 10th Street Suite 520 Riverside , CA 92501	P963 175 162	10/30/00
Luhdorff & Scalmanini Consulting Engineers	Scalmanini, P.E.	Joseph	500 First Street Woodland , CA 95695	P963 175 139	10/20/00
Madera Irrigation District	Ottemoeller	Steve	12152 Road 28 1/4 Madera , CA 93637-9199	P963 175 140	10/20/00
Management and Training Corporation	Ollivier	Gary	P.O. Box 96 Desert Center , CA 92739		
Mariah Associates	Kling	Craig	605 Skyline Drive Laramie , WY 82070	P963 175 142	10/23/00
McDaniel / Lambert	Lambert	Chuck	1608 Pacific Avenue Suite 201 Venice , CA 90291	P963 175 673	10/19/00
Milk Producers Council	Feenstra	Bob	13545 Euclid Avenue Ontario , CA 91761	P963 175 143	10/20/00
Mills College	Pavlik	Bruce	Oakland , CA 94613	P963 175 144	10/20/00
Moapa Piute Tribal Council	Tom	Eugene	P.O. Box 56 Moapa , NV 89025	P963 175 672	10/20/00
Moapa Piute Tribe	Mike	Rosalyn	P.O. Box 340 Moapa , NV 89025	P963 175 671	10/23/00
Mojave Desert Air Quality Management District	Ihenacho	Christian	15428 Civic Drive Suite 200 Victorville , CA 92392	P963 175 670	10/23/00
Mojave Desert Air Quality Management District	Ramirez	Victor	15428 Civic Drive Suite 200 Victorville , CA 92392	P963 175 669	10/20/00
Mojave Desert Heritage and Cultural Association	Casebier	Dennis	P.O. Box 7 Essex , CA 92332	P963 175 684	10/24/00
Mojave Desert Resource Conservation District			18484 Highway 18 Suite 195 Apple Valley , CA 92307		
Mojave Desert Resource Conservation District	Bell	Chuck	18484 Highway 18 Suite 195 Apple Valley , CA 92307		
Mojave National Preserve	Schramm	Dennis	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 683	10/20/00
Mojave Pipeline Operating Company, Inc.	Partin	Grady	5401 East Brundage Lane Bakersfield , CA 93307	P963 175 682	10/20/00
Mojave Water Agency	Brill	Kirby	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307	P963 175 679	10/26/00
Mojave Water Agency	Lund	Mark	22450 Headquarters Drive P.O. Box 1089 Apple Valley , CA 92307		
Mono County Planning Department	Boardman	Rich	P.O. Box 8 Bridgeport , CA 93517	P963 175 091	10/27/00
Montgomery Watson			3014 West Charleston Las Vegas , NV 89102	P963 175 093	10/23/00
Morongo Band of Mission Indians	Napolitano	Mike	49020 Seminole Drive Cabazon , CA 92220	P963 175 096	10/24/00
Morongo Band of Mission Indians	Pantell	Susan	11581 Potrero Road Banning , CA 92230	P963 175 677	10/25/00
Morongo Basin Conservation Association	Anderson	Andy	52425 Quail Bush Road Johnson Valley , CA 92285	P963 175 698	10/26/00
Morongo Basin Conservation Association	Gartner	Al & Marion	P.O. Box B-91 29 Palms , CA 92277	P963 175 678	10/21/00
Morongo Basin Conservation Association	Goemans	George & Helen	HCO #1 Box 118-29 29 Palms , CA 92277	P963 175 696	10/20/00
Morongo Basin Conservation Association	Herbert	Esther	P.O. Box 249 29 Palms , CA 92277		
Morongo Basin Conservation Association	Tucker	Janice	6605 LaLune Avenue 29 Palms , CA 92277	P963 175 695	10/21/00
Morongo Basin Regional Economic Development Consortium	Pulliam	James	6162 Rotary Way P.O. Box 1398 Joshua Tree , CA 92252	P963 175 217	10/24/00
Motorcycle Racing Association of Nevada	Maichle	Robert	4221 West Arby Avenue Las Vegas , NV 89118	P963 175 655	11/2/00

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
Mountain Lion Foundation	Sadler	Lynn	P.O. Box 1896 Sacramento , CA 95812	P963 175 458	10/25/00
National Outdoor Coalition	Brashear	Marie	10500 Christenson Avenue Suite A Lucerne Valley , CA 92356	P963 175 216	10/24/00
National Park Service	Anderson	Dave	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 215 P963 175 042	10/21/00 11/9/00
National Park Service	DeGraf	Joan	12795 West Alameda P.O. Box 25287 Denver , CO 80225-0281		
National Park Service	McGuinness	Sean	222 East Main Street Suite 202 Barstow , CA 92311	P963 175 214	10/21/00
National Park Service	Morlock	Dale	1849 'C' Street Northwest Room 2749 Washington , DC 20240	P963 175 457	
National Park Service	Moss	Kerry	12795 West Alameda Pwy P.O. Box 25287 Denver , CO 80225-0281		
National Park Service	Sayon	Chuck	600 Harrison Street Suite 515 San Francisco , CA 94107		
National Wildlife Federation	Alberswerth	David	1400 16th Street Northwest Washington , DC 20036	P963 175 652	
Natural History Club	Lampton	Tana	31851 Windrush Road Santa Clarita , CA 91350	P963 175 675	10/20/00
Natural Resources Conservation Service	Bullard	Gary	430 'G' Street Davis , CA 95616	P963 175 213	10/20/00
Navigant Consulting, Inc.	Malinowski	Jay	225 West Broadway Suite 400 Glendale , CA 91240-1331	P963 175 651	10/20/00
Needles Utilities	Chesney	Bob	P.O. Box 455 Needles , CA 92363	P963 175 212	10/23/00
Needles Utilities	Claypool	Bill	212 'H' Street Needles , CA 92363	P963 175 676	10/20/00
Needles Utilities	Kerr	Don	817 Third Street Needles , CA 92363	P963 175 650	10/23/00
Needles Utilities	Poulson	Kippy	243 Mustang Lane Needles , CA 92363	P963 175 680	10/23/00
Nevada Division of Wildlife			4747 Vegas Drive Las Vegas , NV 89108	P963 175 211	11/7/00
New Mexico Tech	Griswold	George	Socorro , NM 87801	P963 175 462	10/24/00
Noble Metal Laboratory	Mangione	Tom	P.O. Box 337 Highland , CA 92346		
Northwestern University	Freisema	H. Paul	2040 Sheridan Road Evanston , IL 60208-4100		
Office of Assemblymember Bill Leonard	Cisneros	Nancy	28391 Greenfield Lane Highland , CA 92346		
Office of Assemblymember Dennis Cardoza	McChesney	JoEllen	State Capitol Sacramento , CA 95814	P963 175 685	10/23/00
Office of Deputy A/S of USAF			Room 4C916, Pentagon Washington , DC 20330	P963 175 210	
Office of Governor Gray Davis	Biggers	Kevin	3737 Main Street Suite 201 Riverside , CA 92501	P963 175 460	10/31/00
Office of Majority Leader Kevin Shelley	Schifferle	Patricia	State Capital Room 319 Sacramento , CA 95814	P963 175 656	10/23/00
Office of Senator David Kelley	Volberg	Jeffrey	State Capitol Sacramento , CA 95814	P963 175 686	10/23/00
Office of Supervisor Jerry Eaves	Harrison	T. Milford	P.O. Box 81 San Bernardino, CA 92405	P963 175 687	10/23/00
Office of Supervisor Jerry Eaves	Valdez	Martin	P.O. Box 81 San Bernardino, CA 92405		
Office of Supervisor Kathy Davis	Ventura	James	61745 Melton Joshua Tree , CA 92252	P963 175 090	10/21/00
OMYA Calif Inc.	Brown	Howard	P.O. Box 825 Lucerne Valley , CA 92356	P963 175 088	10/20/00
Onyx Ranch	Rudnick	Richard	P.O. Box 120 Bakersfield , CA 93302	P963 175 084	10/31/00
Orange County Sanitation District	Kozak, Jr.	S.V.	18272 Alexandra Place Santa Ana , CA 92705	P963 175 080	10/20/00

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
Orcutt Mineral Society Inc.	Lingerfelt	Wes	110 West Bennett Street Nipomo , CA 93444	P963 175 078	10/20/00
Orrick, Herrington & Sutcliffe	Kari	Douglas	777 South Figueroa Street Suite 3200 Los Angeles , CA 90017	P963 175 076	10/20/00
Pacific Gas & Electric Company	Lytle	Dan	35863 Fairview Road Hinkley , CA 92347	P963 175 075	10/20/00
Pacific Gas & Electric Company	Mingus	Russ	530 South China Lake Ridgecrest , CA 93555	P963 175 073	10/20/00
Pacific Mining Council	Ouellette	Gregory	2051 Pacific Avenue Norco , CA 91760	P963 175 071	10/19/00
Palm Springs Desert Museum	Cornett	Jim	101 Museum Drive Palm Springs , CA 92267	P963 175 070	10/23/00
Palo Verde Irrigation District	Reynolds	Hal	180 West 14th Avenue Blythe , CA 92225	P963 175 068	10/20/00
Paramount Farming Company	Phillimore	Bill	33141 East Lerdo Highway Bakersfield , CA 93308	P963 175 065	10/23/00
Parker Industrial Properties	Parker	Darryl	5351 North Sterling Center Westlake Village , CA 91361	P963 175 063	10/19/00
Parker, Milliken, Clark, O'Hara & Samuellan	Meyer	Gary	333 South Hope Street Suite 2700 Los Angeles , CA 90071	P963 175 062	10/19/00
Pedro Point Technology	Miller	Al	175 Essex Way Pacifica , CA 94044	P963 175 060	10/23/00
People For the West	Veale	Barbara	32566 Sapphire Road Lucerne Valley , CA 92356	P963 175 059	10/24/00
Phantom Duck of the Desert, Inc.	McKee	Louis	7896 Kempster Avenue Fontana , CA 92335		
Primadonna Resorts, Inc.	Roshetko	Paul	31900 Las Vegas Blvd. Primm , NV 89019		
Primadonna Resorts, Inc.	Villamor	Mike	P.O. Box 95997 Las Vegas , NV 89193	P963 175 055	10/23/00
Professional Placement Group	Munoz	Margi	6033 West Century Blvd. Suite 895 Los Angeles , CA 90045	P963 175 052	
Public Lands Institute			1350 New York Avenue Suite 300 Washington , DC 20005	P963 175 050	
Questar/Paragon Partners	Mouser	Gerald	5762 Bolsa Avenue Suite 201 Huntington Beach , CA 92649	P963 175 049	10/20/00
Redhorse Productions	Bruhn	Catherine	4846 West 142nd Street Hawthorne , CA 90250	P963 175 116	
				P963 175 047	
Regroupers 4WD Club	Sefton	William	1910-67 West Palmyra Orange , CA 92668		
Republic Geothermal, Inc.	Westlund	Ronald	11823 East Slauson Santa Fe Springs , CA 90670	P963 175 041	11/6/00
Riverside County Farm Bureau	Corona	Stephen	21160 Box Springs Road Suite 102 Moreno Valley , CA 92557	P963 175 039	10/20/00
Riverside Hospice	Ponnech	Sala	2060 University Avenue Suite 104 Riverside , CA 92507	P963 175 038	
Riverside Municipal Museum	Bryant	James	3580 Mission Inn Riverside , CA 92801	P963 175 043	10/20/00
Riverside Public Library			P.O. Box 468 Riverside , CA 92502	P963 175 042	10/30/00
Robert Fox & Associates	Fox	Robert	308 Sapphire Avenue Balboa , CA 92662	P963 175 029	10/19/00
Roscoe Moss Company	Van Valer	Robert	4360 Worth Street Lincoln Heights Station Los Angeles , CA 90063	P963 175 157	10/19/00
Roy's Cafe	Wilson	Walt	P.O. Box 66 Amboy , CA 92304	P963 175 061	10/20/00
Ryley, Carlock & Applewhite	Forbes	Denise	101 North 1st Street Suite 2700 Phoenix , AZ 85003	P963 175 800	
S.N.O.R.E.			P.O. Box 4394 Las Vegas , NV 89106	P963 175 154	10/24/00

Parties that Received the Notice of Availability for the Supplement to the Draft EIR/EIS

Company	Last Name	First Name	Address	Certified Mail	Date Received
Salt Products, Inc.	Liston	Bernie	P.O. Box 39 Desert Center , CA 92239	P963 175 057	10/25/00
San Bernardino Associated Governments	Barmak	Debra	472 North Arrowhead San Bernardino, CA 92401	P963 175 801	10/20/00
San Bernardino City Land Use Services Department	Petokas	Ina	385 North Arrowhead San Bernardino, CA 92415	P963 175 152	10/20/00
San Bernardino County Farm Bureau	Throop	D.C.	210 South Riverside Rialto , CA 92376	P963 175 054	10/19/00
San Bernardino County Museum	Oles	Paul	2024 Orange Tree Lane Redlands , CA 92374	P963 175 802	10/23/00
San Bernardino County Supt. of Schools	Yasenovsky	Andy	601 North E Street San Bernardino, CA 92410		
San Bernardino Valley College	Harvey	Robert	27790 14th Street Highwood , CA 92346	P963 175 051	10/23/00
San Diego Natural History Museum	Clemons	Duffie	P.O. Box 1390 San Diego , CA 92112	P963 175 795	10/20/00
San Diego Off Road Coalition	Klumpp	Alan	9666 Petite Lane Lakeside , CA 92040	P963 175 146	10/25/00
San Gabriel Valley Watermaster	Williams	Carol	725 North Azusa Avenue Azusa , CA 91702	P963 175 048	10/23/00
San Gorgonio Chapter	Havert	Bill	1848 Bayside Court Hemet , CA 92545	P963 175 792	10/21/00
Santa Fe Pacific Realty Corp	Craig	William	201 Mission Street San Francisco , CA 94105	P963 175 284	10/24/00
Santa Margarita Watershed	Jenks	James	P.O. Box 631 Fallbrook , CA 92088	P963 175 046	10/25/00
Saracino-Kirby, Inc.	Saracino	Anthony	555 Capitol Mall Suite 1550 Sacramento , CA 95814		
Save the Bay	Nesmith	David	1600 Broadway Suite 300 Oakland , CA 94612	P963 175 456	10/20/00
Schindler Brothers			14020 West Hobsonway Blythe , CA 92225	P963 175 044	10/23/00
Schindler Brothers	Schindler	Louis	14020 West Hobsonway Blythe , CA 92225	P963 175 022	10/20/00
SD4Wheelers	Mehall	Rick	P.O. Box 900428 San Diego , CA 92190	P963 175 453	10/21/00
Searcher Gem Mineral Club			4844 Faculty Avenue Long Beach , CA 90808	P963 175 040	10/19/00
Searcher Gem Mineral Club	Pelka	Gregory	4844 Faculty Avenue Long Beach , CA 90808		
Semitropic Water Storage District	Boschman	Will	P.O. Box 'Z' Wasco , CA 93280	P963 175 449	10/20/00
Sierra Club of California	Anderson	Judy	4134 Ocean View Montrose , CA 91020	P963 175 694	11/3/00
Sierra Club of California	Bartleman	Allen	505 Arrowhead Avenue Suite 308 San Bernardino, CA 92401	P963 175 798	
Sierra Club of California	Burk	Peter	505 Arrowhead Avenue Suite 308 San Bernardino, CA 92401	P963 175 033	Returned, moved, left no address
Sierra Club of California	Cochran	Bill	3435 Wilshire Blvd. Suite 320 Los Angeles , CA 90010	P963 175 444	10/19/00
Sierra Club of California	Dennis	Anne	505 Arrowhead Avenue Suite 308 San Bernardino, CA 92401	P963 175 796	Returned, unable to forward
Sierra Club of California	French	Calvin	14140 Chimney Rock Road Paso Robles , CA 93446	P963 175 797	10/28/00
Sierra Club of California	Miller	Jon	16638 Verano Street Hesperia , CA 92345	P963 175 693	10/20/00
Sierra Club of California	Schoedler	Jim	2137 Cooley Place Pasadena , CA 91104	P963 175 692	10/19/00
Sierra Club of California	Sease	Debbie	408 'C' Street, Northeast Washington , DC 20002		
Sierra Club of California	Silver	Larry	180 Montgomery Street Suite 1400 San Francisco , CA 94104	P963 175 035	10/23/00
Sierra Club of California	Weaver	Hazel	15252 Seneca Road #187 Victorville , CA 92392	P963 175 690	10/25/00
Society for the Conservation of Big Horn Sheep	Conti	Richard	5029 Vincent Avenue Eagle Rock , CA 90041	P963 175 034	10/21/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
Society for the Protection & Care of Wildlife	Hemp	Merwyn	9960 Babbitt Avenue Northridge , CA 91325		
Southern California Association of Governments	Pisano	Mark	818 West Seventh Street 12th Floor Los Angeles, CA 90017	P963 175 037	10/20/00
Southern California Edison	Morrison	Mike	6999 Old Woman Springs Yucca Valley , CA 92284	P963 175 031	10/20/00
Southern California Edison	Warren	Jim	30553 Rimrock Road Barstow , CA 92311	P963 175 030	10/23/00
Southern California Gas Company	Phillips	Rick	P.O. Box 3003 Redlands , CA 92373-0306	P963 175 032	10/23/00
Southern California Mining Council	Hemp	Marv	9960 Babbitt Avenue Northridge , CA 91325		
Southern Council of Conservation Club	Lutz	Loren	3113 Mesaloa Lane Pasadena , CA 91107-	P963 175 024	10/21/00
State Assembly	Calderon	Thomas	State Capitol Room 4005 Sacramento , CA 95814	P963 175 094	10/23/00
State Assembly	Florez	Dean	State Capitol Room 4017 Sacramento , CA 95814	P963 175 688	10/23/00
State Assembly	Granlund	Brett	State Capitol Room 4164 Sacramento , CA 95814	P963 175 027	10/23/00
State Assembly	Kuehl	Sheila James	State Capitol Room 3160 Sacramento , CA 95814	P963 175 086	10/23/00
State Assembly	Leonard	Bill	State Capitol Room 3104 Sacramento , CA 95814	P963 175 026	10/23/00
State Assembly	Machado	Mike	State Capitol Room 5136 Sacramento , CA 95814	P963 175 058	10/23/00
State Assembly	Olberg	Keith	14011 Park Avenue Suite 470 Victorville , CA 92392	P963 175 689	10/23/00
State Senate	Brulte	Jim	State Capitol Room 305 Sacramento , CA 95814	P963 175 017	10/23/00
State Senate	Costa	Jim	State Capitol Room 5100 Sacramento , CA 95814	P963 175 018	10/23/00
State Senate	Kelley	David	State Capitol Room 3082 Sacramento , CA 95814	P963 175 095	10/23/00
State Senate	Knight	William	State Capitol Room 5082 Sacramento , CA 95814	P963 175 021	10/23/00
State Senate	Polanco	Richard	State Capitol Room 313 Sacramento , CA 95814	P963 175 020	10/23/00
State Senate	Vierra	Lana	State Capitol Sacramento , CA 95814	P963 175 019	10/23/00
Stetson Engineers	Helsley	Jeff	3104 East Garvey Avenue West Covina , CA 91791	P963 175 775	10/25/00
Stetson Engineers, Inc.	Stetson	Thomas	P.O. Box 1257 San Juan Capistrano , CA 92693	P963 175 770	10/23/00
SW Herpet Olgrt So	Grizell	James	P.O. Box 7469 Van Nuys , CA 91409	P963 175 762	10/21/00
Taft Sportsman Club	Caywood	Howard	500 Hillard Street Taft , CA 92368-2647	P963 175 776	10/26/00
The Bradco Companies	Westman	Pete	P.O. Box 2710 Victorville , CA 92393	P963 175 769	10/26/00
The Desert Tortoise Council	Stewart	Gleen	Pomona , CA 91768	P963 175 761	10/19/00
The Janes Network	Janes	Stephen	230 Morrissey Blvd. Santa Cruz , CA 95062	P963 175 777	10/23/00
The Nature Conservancy	Ferguson	Scott	1400 Quail Street Suite 130 Newport Beach, CA 92660		
The Wilderness Society	Sophor	Terry	900 17th Street, Northwest Washington , DC 20006	P963 175 760	10/23/00

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Company	Last Name	First Name	Address	Certified Mail	Date Received
Three Valleys Municipal Water District	Garcia	Mario	1021 Miramar Avenue P.O. Box 1300 Claremont , CA 91711	P963 175 778	10/24/00
Tierra Madre Consultants	Williams	Chris	1159 Iowa Avenue Suite D Riverside , CA 92507	P963 175 767	10/23/00
Town of Pahrump			400 North Highway 60 Pahrump , NV 89048	P963 175 759	10/20/00
Town of Yucca Valley	Bryant	Peggy	57098 Twentynine Palms Yucca Valley , CA 92284	P963 175 766	10/20/00
Town of Yucca Valley	Kilger	Brad	57090 29 Palms Highway Yucca Valley , CA 92284	P963 175 779	10/20/00
Tri-County Conservation League	Ballmer	Greg	P.O. Box 51127 Riverside , CA 92517	P963 175 758	10/30/00
Triton Group LLC	Werner	Andrew	3706 Georgia Street Suite 8 San Diego , CA 92103	P963 175 780	10/24/00
Tule Gem and Mineral Society			P.O. Box 1061 Visalia , CA 93279	P963 175 765	10/23/00
Twentynine Palms Band of Mission Indians	Cheung	Anne	46200 Harrison Place Coachella , CA 92236	P963 175 634	10/21/00
Twentynine Palms Chamber of Commerce	King	Blaine	6455-A Mesquite Avenue Twentynine Palms , CA 92277	P963 175 757	10/20/00
Twentynine Palms Chamber of Commerce	Mendoza	Greg	6455-A Mesquite Avenue Twentynine Palms , CA 92277	P963 175 781	10/26/00
U.S. Army Corps of Engineers - Planning	Meagher	Tom	1325 J Street Sacramento , CA 95814	P963 175 764	10/23/00
U.S. Army Corps of Engineers So.			1114 Commerce Street Dallas , TX 75242		
U.S. Borax	Siefke	Joe	14486 Borax Road Boron , CA 93516	P963 175 782	10/23/00
U.S. Bureau of Land Management			150 Coolwater Lane Barstow , CA 92311	P963 175 763	10/23/00
U.S. Bureau of Land Management	Downing	Ken	101 West Spikes Road P.O. Box 888 Needles , CA 92363		
U.S. Bureau of Land Management	Ford	Karl	Building 50 Denver Federal Center Denver , CO 80406	P963 175 783	10/23/00
U.S. Bureau of Land Management	Lewis	Brent	Building 50 Denver Federal Center Denver , CO 80406	P963 175 755	10/23/00
U.S. Bureau of Land Management	Queen	Rolla	6221 Box Springs Blvd. Riverside , CA 92507		
U.S. Bureau of Land Management	Salt	Tim	6221 Box Springs Blvd. Riverside , CA 92507		
U.S. Bureau of Land Management	Smith	Roy	2850 Yoarfield Street Lakewood , CO 80215	P963 175 784	10/23/00
U.S. Bureau of Reclamation	Director	Regional	P.O. Box 61470 Boulder City , NV 89006	P963 175 754	10/20/00
U.S. Department of Agriculture Forest Service			10845 Rancho Bernardo Room 200 San Diego , CA 92127	P963 175 789	10/19/00
U.S. Department of Justice	Arnold	James	312 North Spring Street Room 1165 Los Angeles , CA 90012	P963 175 924	10/19/00
U.S. Department of the Interior	Glazer	Robin	600 Harrison Street Suite 600 San Francisco , CA 94107	P963 175 829	10/23/00
U.S. Department of the Interior	Hickey	Michael	1849 'C' Street, Northwest Mail Stop 6412 Washington , DC 20240	P963 175 012	10/23/00
U.S. Department of the Interior	Port	Pat	600 Harrison Street Suite 515 San Francisco , CA 94107	P963 175 923	10/20/00
U.S. Department of the Interior	Williams	David	1620 L Street NW Washington , DC 20240		
U.S. Environmental Protection Agency	Armann	Steve	75 Hawthorne Street San Francisco , CA 94105	P963 175 827	10/23/00
U.S. Environmental Protection Agency	Farrel	David	75 Hawthorne Street San Francisco , CA 94105	P963 175 838	10/23/00

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U.S. Environmental Protection Agency	Hecht	Hillary	75 Hawthorne Street San Francisco , CA 94105	P963 175 787	10/20/00
U.S. Environmental Protection Agency	Kanbergs	Karl	75 Hawthorne Street San Francisco , CA 94105	P963 175 837	
U.S. Environmental Protection Agency	Lewis	William	75 Hawthorne Street San Francisco , CA 94105	P963 175 786	10/20/00
U.S. Environmental Protection Agency	Nelson	William	75 Hawthorne Street MS: H-1-2 San Francisco , CA 94105	P963 175 836	
U.S. Environmental Protection Agency	Stensby	David	75 Hawthorne Street San Francisco , CA 94105	P963 175 828	10/23/00
U.S. Environmental Protection Agency	Strassbaugh	Dan	75 Hawthorne Street Mail Code NNS-1 San Francisco , CA 94105	P963 175 788	10/20/00
U.S. Fish and Wildlife Service	Helm	Roger	Portland Eastside Federal 911 NE 11th Avenue Portland , OR 97232-4181	P963 175 835	10/23/00
U.S. Fish and Wildlife Service	Lampara	Louise	2496 Portola Road, Suite B Ventura , CA 93003	P963 175 785 P963 175 998	11/3/00
U.S. Fish and Wildlife Service	Roberts	Lisa	2496 Portola Road, Suite B Ventura , CA 93003	P963 175 826	10/19/00
U.S. Fish and Wildlife Service	Sadinski	Walt	2493 Portola Road Suite B Ventura , CA 93003	P963 175 825	10/19/00
U.S. Geological Survey	Alpers	Charles	6000 'J' Street, Placer Hall Suite 2012 Sacramento , CA 95819	P963 175 928	10/24/00
U.S. Geological Survey	Boarman	William	Riverside , CA		
U.S. Geological Survey	Burton	James	12201 Sunrise Valley Drive Reston , VA 20192	P963 175 834	10/23/00
U.S. Government Printing Office			Washington , DC 20401	P963 175 927	10/23/00
U.S. Tile Corporation			P.O. Box 1509 Corona , CA 91720	P963 175 833	10/19/00
Ultrasystems Environmental	Blackwell	Mike	Six Jenner Suite 210 Irvine , CA 92618	P963 175 823	10/20/00
Union Bank	Schwanemann	W.	530 'B' Street Suite 500 San Diego , CA 92112	P963 175 926	10/20/00
United Mining Councils of America	Moore	Victor	26054 Highway 58 Barstow , CA 92311	P963 175 832	10/24/00
University of California Granite Mountain Preserve			P.O. Box 101 Kelso , CA 92351	P963 175 822	10/20/00
University of California Granite Mountain Preserve	Andre	Jim	P.O. Box 101 Kelso , CA 92351	P963 175 825	10/21/00
University of California, Berkeley			#6000 University of California Library Berkeley , CA 94720	P963 175 831	10/23/00
University of California, Berkeley	Bartolome	James	37 Mulford Hall Berkeley , CA 94720		
University of California, Berkeley	Zawislanski	Peter	Earth Sciences Division Building 50E Berkeley , CA 94720		
University of California, Davis	Barbour	Michael	Davis , CA 95616-8514	P963 175 870	10/21/00
University of California, Davis	Clawson	James	Davis , CA 95616-8514	P963 175 742	10/20/00
University of California, Davis	Marino	Miguel	Veihmeyer Hall Davis , CA 95616	P963 175 880	10/20/00
University of California, Davis	Orhun	Diana	Davis , CA 95616-8514	P963 175 879	10/20/00
University of California, Irvine	Collins	Kay	P.O. Box 19557 Irvine , CA 92713	P963 175v 741	10/20/00
University of California, Los Angeles			405 Hilgard Avenue Los Angeles , CA 90024	P963 175 871	10/23/00
University of California, Los Angeles	Cody	Martin	405 Hilgard Avenue Los Angeles , CA 90024	P963 175 750	10/23/00
University of California, Riverside	Beaumont	Richard	P.O. Box 5900 Riverside , CA 92517	P963 175 739	10/24/00
University of California, Riverside	Hall	M.C.	Archaeological Research Dept of Anthropology Riverside , CA 92521-0418	P963 175 740	10/24/00
University of California, Riverside	Kooser	Marilyn	Riverside , CA 92521-0418	P963 175 872	10/23/00
University of California, Riverside	Mayhew	Wilbur	Riverside , CA 92521-0418		
University of California, Riverside	Waser	Nickolas	Riverside , CA 92521-0418	P963 175 749	10/26/00
University of California, San Francisco			San Francisco , CA 94117		

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Company	Last Name	First Name	Address	Certified Mail	Date Received
University of California, Santa Barbara	Nash	Roderick	Santa Barbara , CA 93106	P963 175 738	
University of California, Santa Cruz			Santa Cruz , CA 95060	P963 175 874	10/20/00
University of Redlands			1200 East Colton Avenue Redland , CA 92373	P963 175 747	10/23/00
University of Southern California	Lee	J.J.	BHE-315 University Park MC-0231 Los Angeles , CA 90089	P963 175 737	10/19/00
Urban Water Institute	Clark	Wayne	Three Civic Plaza Suite 100 Newport Beach,CA 92660	P963 175 875	10/19/00
URS Consultants, Inc.	Weiner	Stephen	268 West Hospitality Lane Suite 204 San Bernardino, CA 92408	P963 175 746	
USIU	Bainbridge	David	10455 Pomerado Road San Diego , CA 92131		
Victor Valley 4-Wheel	LaGrange	Barbara	18220 Fern Road Lucerne Valley , CA 92356	P963 175 876	11/3/00
Vista 4WD Club	Ferguson	Jeri	9835 Duncan Victorville , CA 92392	P963 175 745	10/24/00
Vista Irrigation District	Dorey	Paul	202 West Connecticut Vista , CA 92083	P963 175 735	10/20/00
West San Bernardino County Water District	Araiza	Anthony	P.O. Box 920 Rialto , CA 92377		
West World Water	Tansey	Michael	611 West Eighth Street Davis , CA 95616	P963 175 744	
Western Environmental Law Center	Herskovits	Simeon	P.O. Box 1507 Taos , NM 87571	P963 175 734	10/23/00
Western Mining Council Inc.	El Dietemann	Doris	874 Beverly Glen Blvd. Los Angeles , CA 90077	P963 175 878	10/20/00
Western Water Company	Yolles	Peter	102 Washington Avenue Point Richmond , CA 94841	P963 175 743	10/20/00
Wheeler Ridge-Maricopa Water Storage District	Taube	William	P.O. Box 9429 Bakersfield , CA 93389	P963 175 733	10/21/00
White Mountain Research Station	Wehausen	John	3000 East Line Bishop , CA 93514	P963 175 219	10/20/00
Yucaipa Valley Water District	Copelan	Steve	P.O. Box 730 Yucaipa , CA 92399	P963 175 218	10/23/00

APPENDIX D

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM
SIGN IN SHEET

December 18, 2000 – Metropolitan Water District

PLEASE PRINT

Name DONALD KENDALL
Address 2100 OLSEN ROAD
City, State THOUSAND OAKS, CA Zip 91362
Phone number (optional) (805) 579-7113
Organization (if applicable) CALLEGUAS MWD

Name Richard K. Jemison
Address 26152 Orofville Place
City, State Laguna Hills CA Zip 92653
Phone number (optional) 949-463-2921
Organization (if applicable) Southern California Water Committee

Name Richard Katz
Address 15233 Ventura Blvd
City, State S.O. CA Zip 91403
Phone number (optional)
Organization (if applicable)

Name Richard Hazlett
Address Dept. of Geology, Pomona College
City, State Claremont, CA Zip 91711
Phone number (optional) 909-621-8676
Organization (if applicable) Pomona College

Name MARK LICCARDO
Address 1701 CLINTON ST
City, State LA Zip 90026
Phone number (optional)
Organization (if applicable)

Name ED LaBAHN
Address 93 MONARCH BAY
City, State DANA POINT CA Zip 92629-3409
Phone number (optional) (949) 499-2880
Organization (if applicable) Public

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM 7
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December 18, 2000 – Metropolitan Water District **PLEASE PRINT**

Name Scott Schmidt
Address 20121 Ventura Bl #203
City, State Woodland Hills CA Zip 91364
Phone number (optional)
Organization (if applicable) VICA

Name Luis Lizalde
Address 10327 oak Ranch
City, State Escondido Ca Zip 92026
Phone number (optional)
Organization (if applicable) Chambless, Ca

Name JIM PALECEK
Address 220 W. GRAND AVE
City, State ESCONDIDO CA Zip 92025
Phone number (optional)
Organization (if applicable) PALECEK + SKAJA, ATTORNEY

Name JAMES HAY
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City, State TACOMA WA Zip 98405
Phone number (optional)
Organization (if applicable) —

Name ANDREW SILVA
Address 399 N. D ST
City, State SAN BERNARDINO, CA Zip 92401
Phone number (optional) 909 386-3880
Organization (if applicable) SAN BERNARDINO SUN

Name MELINDA RHO
Address 111 N. HOPE ST.
City, State LOS ANGELES Zip 90012
Phone number (optional) (213) 367-1329
Organization (if applicable) ACWA

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM
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December 18, 2000 – Metropolitan Water District

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Name Suzan Gilliam
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City, State Twentynine Palms CA Zip 92277
Phone number (optional) 760-367-6799
Organization (if applicable) City of Twentynine Palms

Name Ramon Mendoza
Address 58692 Los Coyotes Rd.
City, State Yucca Valley CA Zip 92284
Phone number (optional) 760 228 2792
Organization (if applicable) D.E.R.T / M.B.R.E.D.C.

Name Lori Ann Lyons
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Organization (if applicable)

Name Robin Ivey
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Phone number (optional) 909-624-5521
Organization (if applicable)

Name David CZAMANSKE
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Phone number (optional) (626) 458-8646
Organization (if applicable) Sierra Club

Name John Gillies
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City, State Reno NV Zip 89512
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Organization (if applicable)

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December 18, 2000 – Metropolitan Water District

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Name Joe BIRMAN
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City, State Los Angeles CA Zip 90041
Phone number (optional) 323 258 6444
Organization (if applicable) Self/WATER

Name Todd Shuman
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Phone number (optional)
Organization (if applicable)

Name Tasha Lee Stuart Shuman
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Phone number (optional)
Organization (if applicable)

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City, State Taos, NM Zip 87571
Phone number (optional)
Organization (if applicable) Western Environmental Law Center

Name Andrew Werner
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City, State La Jolla CA Zip 92037
Phone number (optional)
Organization (if applicable) Group Triton

Name Juan R Gonzalez, Legislative Mgr.
Address 350 South Bixel Street
City, State Los Angeles CA Zip 90017
Phone number (optional) 213-580-7568
Organization (if applicable) LA Chamber of Commerce

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM
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December 18, 2000 – Metropolitan Water District

PLEASE PRINT

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Organization (if applicable)

Name Tom Barnes
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Phone number (optional) 323 953 6111
Organization (if applicable)

Name LEVAL LUND
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City, State LA CA Zip 90027
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Organization (if applicable) CE

Name Amy Chen
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City, State LA Zip 90012
Phone number (optional) 2136281244
Organization (if applicable) SOCWA

Name Simeon Herskovits
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City, State Taos, NM Zip 87571
Phone number (optional) 505 751 0351
Organization (if applicable)

Name Conner Everts
Address 5371 Amestoy Ave.
City, State ENCINO, CA Zip 91316
Phone number (optional) [illegible]
Organization (if applicable)

CADIZ GROUNDWATER STORAGE & DRY-YEAR SUPPLY PROGRAM
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December 18, 2000 – Metropolitan Water District

PLEASE PRINT

Name GLENN PADNICK
Address 1021 RIDGEDALE DR
City, State BEV. HILLS Zip 90210
Phone number (optional) (310) 285-2308
Organization (if applicable) NPCA

Name _____
Address _____
City, State _____ Zip _____
Phone number (optional) _____
Organization (if applicable) _____

Name _____
Address _____
City, State _____ Zip _____
Phone number (optional) _____
Organization (if applicable) _____

Name _____
Address _____
City, State _____ Zip _____
Phone number (optional) _____
Organization (if applicable) _____

Name _____
Address _____
City, State _____ Zip _____
Phone number (optional) _____
Organization (if applicable) _____

Name _____
Address _____
City, State _____ Zip _____
Phone number (optional) _____
Organization (if applicable) _____