

**From:** Linda Graham [Linda.Graham@bbklaw.com]  
**Sent:** Wednesday, September 29, 2010 12:02 PM  
**To:** ILRP Comments; 'Joe Karkoski (jkarkoski@waterboards.ca.gov)'  
**Cc:** William Thomas; Anthony Van Ruiten; Gary Sawyers; Ernest Conant; Theresa ("Tess") Dunham (tdunham@somachlaw.com); tjohnson@calrice.org; Roberta Firoved (rfiroved@calrice.org); David Guy; Kari Fisher; Henry Buckwalter; mday@ppeng.com; mjniemi@tod.org; dcliebersbach@tid.org; jdavids@oakdaleirrigation.com; walterw@mid.org; carriel@mid.org; jima@ssjid.com; dmerkley@cxbf.com; reneep@healthyplants.org; Dave Cone ; David Hampton (dhampton@BVh2o.com); David Orth; Dennis Keller; Eric Athorp (eathorp@krcd.org); Lloyd Fryer; Nick Gatti; Richard Schafer (rschafer@rlsmap.com); Rick Hoelzel; Bruce Houdesheldt; David Cory; Joe McGahan (jmcgahan@summerseng.com); Michael Wackman; Orvil McKinnis (omckinnis@westlandswater.org); Parry Klassen (pklassen@unwiredbb.com)  
**Subject:** ILRP Comments by SSJVWQC (resending supplemental)  
**Attachments:** SSJVWQC Comments re DPEIR revised last page.pdf; Schmidt resume.pdf; Day Schaap Sloan Resumes.pdf

Ms. Smith,

Attached please find an amended signature page to the SSJVWQC's comments submission of Monday. Could you please substitute this page in the original comment letter. Additionally, I am again attaching the experts' CVs as I understand there was some trouble with opening their prior transmission.

May we also ask that you please provide the Board members with complete copies of the submission?

Thank you,  
Linda Graham

*Linda Graham, Legal Secretary to  
William Thomas, Seth Merewitz, Anthony Van Ruiten  
Best Best & Krieger LLP  
400 Capitol Mall, Suite 1650  
Sacramento, CA 95814  
(916) 551-2083 direct line*

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Megan Smith  
Joe Karkoski  
Board Chair  
Board Members  
September 27, 2010  
Page 24

remain significant issues of concern and areas of disagreement concerning the DPEIR and the RPA. We reiterate that Alternative 2 provides the necessary protection for water quality while allowing the various agricultural entities the ability to assist growers and the Regional Board in developing reasonable programs for the protection of surface and groundwater in the Central Valley. Alternative 2 has been analyzed in the DPEIR and therefore is less vulnerable to a CEQA challenge than the RPA, which was not been analyzed in the DPEIR. We ask the Regional Board to carefully consider the comments provided above and recommend Alternative 2 as the preferred alternative.

Respectfully submitted,

DAVID ORTH, Steering Committee Coordinator  
Southern San Joaquin Valley Water Quality Coalition  
Kings River Conservation District  
Kings River Water Association  
Kaweah Delta Water Conservation District  
Kaweah and St. Johns Rivers Association  
Deer Creek and Tule River Authority  
Kern County Water Agency

Belridge WSD  
Berrenda Mesa WD  
Buena Vista WSD  
California Citrus Mutual  
Cawelo WD  
Henry Miller WD  
Kern Delta WD  
Kern-Tulare WD  
Lost Hills WD  
North Kern WSD  
Paramount Farming Company  
Rosedale-Rio Bravo WSD  
Semitropic WSD  
Shafter-Wasco ID  
Tehachapi-Cummings CWD  
Wheeler Ridge-Maricopa WSD

Attachments

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

PROFESSIONAL EXPERIENCE  
KENNETH D. SCHMIDT  
JANUARY 2007

BIRTHPLACE AND DATE

Madera, California on November 8, 1942

DEGREES

B.S. Geology, Fresno State College, Fresno, California (1964)  
M.S. Hydrology, University of Arizona, Tucson, Arizona (1969)  
Ph.D. Hydrology, University of Arizona, Tucson, Arizona (1971)

REGISTRATION AND CERTIFICATION

Geologist No. 1578 in California (1970)  
Geologist No. 23685 in Arizona (1989)  
Geologist No. G462 in Oregon (1978)  
Hydrogeologist No. 176 in California (1995)

SOCIETY MEMBERSHIP

American Water Resources Association (1972)  
American Water Works Association (1970) (Life Member)  
California Groundwater Resources Association (1996)  
Geologist Society of America (2006)  
Water Pollution Control Federation (1972)

PROFESSIONAL EXPERIENCE

June 1972 to Present: Principal, Kenneth D. Schmidt and Associates, Groundwater Quality Consultants, Fresno, California.

January 1969 to May 1972: Hydrologist, Harshbarger & Associates, Consultants in Hydrogeology, Tucson, Arizona.

December 1964 to February 1967: Engineering Geologist, Bookman-Edmonston Engineering, Inc., Arvin, California.

As an engineering geologist with Bookman-Edmonston Engineering, Inc. in Arvin from 1964-67, Schmidt's primary duties included hydrogeologic studies associated with the development and operation of two large-scale recharge and groundwater recovery facilities southeast of Bakersfield, California. This experience included the basic aspects of groundwater studies, including preparing a well inventory, water-level measurements, aquifer testing, logging drill cuttings, interpreting geophysical logs, observing well drilling and construction, collecting water samples for chemi-

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

2

cal analyses from hundreds of water supply wells, and data interpretation. He conducted specific studies of land surface subsidence due to groundwater overdrafting and of the occurrence of high boron contents in groundwater northeast of Arvin. Schmidt subsequently completed a Master's thesis (in the hydrology program at the University of Arizona) in 1969 on the boron problem in the Arvin area.

As a hydrologist with Harshbarger & Associates in Tucson from 1969-72, an investigation was conducted on groundwater conditions and potential groundwater development for the City of Fresno. Schmidt's interest in the presence of high nitrate contents in groundwater of the Fresno urban area resulted in the subsequent completion of a Ph.D. dissertation in 1971 (also at the University of Arizona) on that topic. Since that time, he has participated in four master plan updates for the Fresno Metro area and a comprehensive nitrate evaluation for the City of Fresno in 2006.

As the principal of his own consulting firm since 1972, Schmidt has conducted and supervised thousands of hydrogeologic investigations in the southwest, primarily in Central California. In the early 1970's, he participated in development of the Tulare Lake Basin (south part of the San Joaquin Valley) water quality basin plan. As part of this project, he developed salt budgets for sub-basins, and evaluated the distribution of chemical constituents such as nitrate and boron in groundwater, and the impacts of irrigation and waste disposal facilities on groundwater quality. In the mid-1970's, Schmidt worked on development of some of the first national guidelines for groundwater quality monitoring.

By the late 1970's, Schmidt began to design, develop, and implement some of the earliest groundwater quality monitoring programs at specific sites in California. His involvement with a number of these has continued through to the present. Although a full-time consultant, he has conducted dozens of University of California extension classes and short courses since the late 1970's, on groundwater hydraulics, groundwater quality and contamination, and monitoring. Since 1973, he has periodically taught hydrogeology classes at California State University, Fresno.

In 1980, Schmidt began working on a number of projects to develop new public-supply wells in water quality problem areas. Included have been hundreds of such wells in high salinity, nitrate, sulfate, arsenic, fluoride, iron, manganese, hydrogen sulfide, color, DBCP, EDB, and uranium areas of the San Joaquin Valley. His work in this regard for dozens of cities, water utilities, and schools has continued through to the present.

KENNETH D. SCHMIDT AND ASSOCIATES  
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3

From 1985 to 1988, he was a member of the National Academy of Sciences Committee on Irrigation-Induced Water Quality Problems. The committee work focused on agricultural drainage problems, including the San Joaquin Valley. For a number of years following the inception of the U.S. Geological Survey National Water Quality Assessment Program in the mid-1980's, Schmidt was a member of a national advisory committee for that program. In 1987, he was named the Chairman of the Groundwater Sub-Committee of the Technical Advisory Committee for the San Joaquin Valley Agricultural Drainage Program. From 1992-98, Schmidt was a member of the Industrial Advisory Council in the College of Engineering at the University of Arizona. From 1993-2003 he was a member of the Department Advisory Committee that evaluated the hydrology program at the University of Arizona.

Since the mid-1990's, the firm has been a leader in groundwater resource evaluations in Central California. The firm has been involved with several large-scale recharge and water banking projects, including: the Arvin-Edison Water Storage District in Kern County, the Semitropic Water Banking Project in the Shafter-Wasco area, and the Kern Fan Water Banking Project west of Bakersfield. The firm has worked on numerous other groundwater recharge evaluations, including selections and evaluation of areas favorable for recharge, exploration, and monitoring of existing facilities. The firm has completed detailed groundwater evaluations for development of Water Management Plans in the Cities of Fresno, Tulare, Clovis, Madera, Livingston, and Dinuba. The firm has participated in numerous groundwater management plans. Ken Schmidt has also provided expert witness services for numerous litigation cases involving groundwater in the San Joaquin Valley. In recent years, the firm has conducted detailed groundwater studies associated with EIRs for numerous gravel mines in Tulare, Fresno, Madera, and Merced Counties. The firm provides consulting services to develop new water supply wells to over two dozen cities, towns, and private water companies in the San Joaquin Valley. During the 2000's, the firm designed and implemented enhanced groundwater monitoring programs at dozens of sites, including municipal WWTF, food processing sites, and dairies.

SELECTED CLIENTELE

Cities and Towns

Atwater, Public Works Department.  
Bakersfield, Wastewater Division.  
Cambria Community Services District.  
Clovis, Public Works Department.

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4

Corcoran, Public Works Department.  
Delano, Water Division and Wastewater Division.  
Dinuba, Public Works Department.  
East Oroquieta.  
Exeter, Water Division and Wastewater Division.  
Fresno, Public Works Department, Water Division, and Wastewater  
Division.  
Gustine.  
Hanford, Public Works Department.  
Kerman, Public Works Department.  
Lemoore.  
Los Banos.  
Lindsay, Public Works Department.  
Madera, Public Works Department.  
Mammoth CWD (Mammoth Lakes).  
McFarland.  
Mendota, Public Works Department.  
Modesto, Public Works Department.  
Newman.  
Patterson.  
Porterville.  
Reedley, Public Works Department.  
Sanger, Public Works Department.  
San Joaquin, Water Department.  
Santa Clara, Department of Public Works.  
Sultana.  
Tulare, Public Works Department.  
Turlock, Public Works Department.  
Wasco, Wastewater Division.  
West Kern WD (Taft).  
Woodlake.

Counties

County of Fresno, Departments of Public Works, Planning, and  
Environmental Health.  
County of Madera, Department of Public Works.  
County of Merced.  
County of Sierra.  
County of Tulare, Department of Public Works.

Engineering Firms

Blair, Church, and Flynn, Clovis.  
Boyle Engineering Corporation, Fresno and Bakersfield.  
Carollo Engineers, Fresno, Sacramento, and Bakersfield.  
Dee Jasper and Associates, Bakersfield.

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5

Provost & Pritchard Engineering Group, Fresno.  
Quad Knopf, Fresno, Visalia, and Bakersfield.  
Stantec, Sacramento.  
Stoddard and Associates, Los Banos  
Yamabe and Horn Engineering, Fresno.

Farming Entities

Britz Farms, Five Points.  
Five Points Ranch, Five Points.  
Harris Ranch, Coalinga.  
Kaweah-St. Johns Farmers League.  
Newland Land Co., New Columbia Ranch, Firebaugh.  
O'Neill Farming Enterprises, Five Points.  
Paramount Farms, Cawelo.  
R and G, Lerdo.  
Red Rock Ranch, Five Points.  
Starrh Farms, Shafter.  
Sun World, Bakersfield.

Industries

California Portland Cement Co., Mojave and Colton.  
CIBA GEIGY, Sanger.  
Dole Fruit & Nut Co., Fresno.  
Food Machinery Corporation, San Jose.  
The Garlic Company, Lerdo.  
Guardian Glass Plant, Kingsburg.  
GWF Power Systems, Inc., Hanford and Kingsburg.  
Holly Sugar Co., Tracy and Imperial.  
Ingomar Packing Co., Los Banos.  
Kenetech Alternative Power Systems, Kingsburg.  
Pacific Ethanol, Madera.  
Rogers Helicopters, Inc., Clovis.  
Sperry New Holland, Fowler.  
Spreckels Sugar Company, Manteca, Mendota, Salinas, and Woodland.  
Sun-Maid Growers of California, Kingsburg.  
Thermo-Electron Energy Systems, Mendota.  
Ultra Power, Inc., Kern County.  
Valley Perforating Co., Bakersfield.

Irrigation Districts

Angiola Water District, Corcoran.  
Arvin-Edison WSD, Arvin.  
Buena Vista Water Storage District, Buttonwillow.  
Central California Irrigation District, Los Banos.

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6

Columbia Canal Company, Firebaugh.  
Eastside Water District, Stanislaus County.  
Friant Water Users.  
James Irrigation District, San Joaquin.  
Kern Delta WD, Greenfield.  
North Kern Water Storage District, Cawelo.  
Panoche Drainage District.  
San Joaquin River Exchange Contractors Authority, Los Banos.  
Semitropic Water Storage District, Wasco.

Mining Companies

Artesia Ready Mix, Lemoncove.  
Calavaras Materials, Fresno and Merced.  
CalMat Co., Centerville.  
Madera Sand & Rock, Madera.  
Sonora Mining Corporation, Jamestown.  
Stewart & Nuss, Fresno.

Private Water Companies

Bakman Water Co., Fresno.  
Cal Water Service, Selma and Bakersfield.  
East Niles CSD, Bakersfield.  
McFarland Mutual Water Co.  
Oildale Mutual Water Co., Bakersfield.  
Vaughn Water Co., Bakersfield.  
West Kern Water District, Taft.

Special Districts

Monterey County Flood Control and Water Conservation  
District, Salinas.  
Monterey Peninsula Water Management District, Monterey.  
Selma-Kingsburg-Fowler County Sanitation District, Kingsburg.  
Sierra Valley Groundwater Management District, Loyalton.

Publications

"The Use of Chemical Hydrographs in Groundwater Quality Studies,"  
in Hydrology and Water Resources in Arizona and the Southwest, vol.  
1, Arizona Section AWRA, pp 211-223, 1971.  
"Nitrate in Groundwater of the Fresno-Clovis Metropolitan Area,  
California," Ground Water, vol, 10, No. 1, pp 50-64, 1972.  
"Groundwater Contamination in the Cortaro Area, Pima County,



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GROUNDWATER QUALITY CONSULTANTS

7

Arizona," in Hydrology and Water Resources in Arizona and the Southwest, vol. 2, Arizona Section AWRA, pp 95-111, 1972.

"Groundwater Quality in the Cortaro Area Northwest of Tucson, Arizona," Water Resources Bulletin, vol. 9, No. 3, pp 598-606, 1973.

"Nitrates and Groundwater Management in the Fresno Urban Area," Journal AWWA, vol. 66, No. 3, pp 146-148, 1974.

"Regional Sewering and Groundwater Quality in the Southern San Joaquin Valley," Water Resources Bulletin, vol. 11, No. 3, pp 514-525, 1975.

"Salt Balance in Groundwater of the Tulare Lake Basin, California," in Hydrology and Water Resources in Arizona and the Southwest, vol. 5, Arizona Section AWRA, pp 177-184, 1975.

"Monitoring Groundwater Pollution," Proceedings of the International Conference on Environmental Sensing and Assessment, Groundwater Section, sponsored by EPA, WHO, and University of Nevada, Las Vegas, Nevada, September 1975, The Institute of Electrical and Electronics Engineers, Inc., vol. 1, session 9, No. 4, pp 1-6, 1976.

"Academic Training for Groundwater Quality Specialists," in Hydrology and Water Resources in Arizona and the Southwest, vol. 6, Arizona Section AWRA, pp 119-123, 1976.

"Monitoring Groundwater Quality: Methods and Costs," U.S. Environmental Protection Agency, Environmental Monitoring Series, Report EPA-600/4-76-023, with L.G. Everett, 1976.

"Monitoring Groundwater Quality: Monitoring Methodology," U.S. Environmental Protection Agency, Environmental Monitoring Series, Report EPA 600/4-76-026, with D.K. Todd, R.M. Tinlin, and L.G. Everett, 1976.

"Monitoring Groundwater Quality: Illustrative Examples," U.S. Environmental Protection Agency, Environmental Monitoring Series, Report EPA 600/4-76-036, with R.M. Tinlin, 1976.

"A Groundwater Quality Monitoring Methodology," Journal AWWA, vol. 68, No. 11, pp 586-593, with D.K. Todd, R.M. Tinlin, and L.G. Everett, 1976.

"Water Quality Variations for Pumping Wells," Ground Water, vol.

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

8

15, No. 2, pp 130-137, 1977.

"Protection of Groundwater from Nonpoint Sources of Pollution," Proceedings of Symposium on Drinking Water Quality Enhancement through Source Protection, American Chemical Society, Division of Environmental Chemistry, New Orleans, Louisiana, March 20-25, 1977, Ann Arbor Science Publishers, Inc., pp 257-273, 1977.

"Impact of Land Treatment of Wastewater on Groundwater," Proceedings of National Conference on Environmental Engineering, Kansas City, Missouri, July 10-12, 1978, University of Missouri-Columbia, pp 118-125, 1978.

"The 208 Planning Approach to Groundwater Protection - What is Wrong and What Can be Done About It?," Ground Water, vol. 17, No. 2, pp 148-153, 1979.

"Monitoring Perched Ground Water in the Vadose Zone," in Proceedings of the Symposium on Establishment of Water Quality Monitoring Programs, American Water Resources Association, Minneapolis, Minnesota, pp 134-149, with L.G. Wilson, 1979.

"Groundwater Quality Impact Determined from well Sampling," Arizona Department of Water Resources, Report No. 1, Proceedings of Deep Percolation Symposium, Scottsdale, Arizona, April 24-25, 1980, pp 74-84.

"Brine Pollution at Fresno - Twenty Six Years Later," Ground Water, vol. 19, No. 1, pp 12-19, with J.A. Krancher and G. Bisel, 1981.

"Hydrogeology of the Sierra Nevada Foothill Lineament Near Oakhurst, California," Ground Water, vol. 19, No. 2, pp 149-155 with S. Mack, 1981.

"Persistence of Brine Pollution in Fresno, California Aquifer," Journal Environmental Health, vol. 43, No. 6, pp 314-318, with J.A. Krancher, C.R. Auernheimer, and G. Bisel, 1981.

"Monitoring Groundwater Quality at State Permitted Sites in California," Proceedings of the Thirteenth Biennial Conference on Groundwater, Irvine, California, September 14-15, 1981, California Water Resources Center Report No. 53, pp 87-91, 1981.

"How Representative are Water Samples Collected from Wells?," Proceedings of the Second National Symposium on Aquifer Restoration and Groundwater Monitoring, Columbus, Ohio, May 1982, Water Well Journal Publishing Company, Worthington, Ohio, pp 117-128.

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

9

"The Occurrence of Trace Organic Chemical Constituents in Groundwater of the Salt River Valley," Proceedings of the Deep Percolation Symposium, Scottsdale, Arizona, October 1982, Arizona Department of Water Resources Report No. 4, pp 48-58.

"Limitations in Implementing Aquifer Reclamation Schemes," Proceedings of the Third National Symposium on Aquifer Restoration and Ground Water Monitoring, Columbus, Ohio, May 1983, Water Well Journal Publishing Company, Worthington, Ohio, pp 105-110.

"Groundwater Quality Studies in California," Proceedings of the ASCE Irrigation and Drainage Division Specialty Conference, Jackson, Wyoming July 1983, American Society of Civil Engineers, pp 183-191.

"Management of Groundwater Quality Beneath Irrigated Arid Lands," Proceedings of the Western Regional Conference on Groundwater Management, San Diego, California, October 1983, Water Well Journal Publishing Company, Worthington, Ohio, pp 77-84.

"Developing Groundwater Quality Monitoring Networks in California," Proceedings of the 15th Biennial Groundwater Conference, San Diego, September 23-25, 1985, University of California, Davis, pp 47-51.

"Proceedings of Symposium on Groundwater Contamination and Reclamation," Edited by K.D. Schmidt, American Water Resources Association, Tucson, Arizona, August 14-15, 1985.

"Are Humid Area Monitoring Concepts Applicable to Arid Lands?," Proceedings of Sixth National Symposium and Exposition on Aquifer Restoration and Groundwater Monitoring, May 19-22, 1986, Columbus, Ohio, pp 41-49.

"Hydrologic Aspects of Subsurface Drainage", Proceedings of the 1986 Regional Meetings, U.S. Committee on Irrigation and Drainage, July 30-August 1, 1986, Fresno, Calif., pp 55-64.

"Monitoring Groundwater Quality in the Southwest", American Society of Civil Engineers, Proceedings of Water Forum '86, World Issues in Evolution, August 4-6, 1986, Long Beach, Calif., 6 p.

"DBCP in Groundwater of the Fresno-Dinuba Area, California", National Water Well Association, Proceedings of the Agricultural Impacts on Groundwater Conference, August 11-13, 1986, Omaha, Nebraska, pp 511-529.

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

10

"Monitor Well Drilling and Sampling in Alluvial Basins in Arid Lands", National Water Well Association, Proceedings of the FOCUS Conference on Southwestern Groundwater Issues, October 20-22, 1986, Tempe, Arizona, pp 443-455.

"Effect of Irrigation on Groundwater Quality in the Southwest", Proceedings of the 1986 Regional Meetings, U.S. Committee on Irrigation and Drainage, October 22-24, 1986, Mesa, Arizona, pp 273-290.

"Effect of Irrigation on Groundwater Quality in California", with I. Sherman, Journal of Irrigation and Drainage Engineering, ASCE, Vol 113, No. 1, 1987, pp 16-29.

"Development of Public-Supply Wells in the Salt River Valley", in Proceedings of the Arizona Hydrological Society 1st Annual Symposium, Phoenix, Arizona, September 1988, pp 131-151.

"Contaminant Hydrology Associated with River Recharge of Sewage Effluent", with D.M. Esposito and D.G. Eaker, in Proceedings of Fourth Symposium on Artificial Recharge of Groundwater in Arizona, Tempe, Arizona, May 23-23, 1989, pp 1-20.

"Developing Integrated Management Strategies for Groundwater Production, Recharge, and Protection in the Salt River Valley", in Proceedings of the Arizona Hydrological Society 2nd Annual Symposium, Casa Grande, Arizona, September 1989.

"Problems with Groundwater Remediation Projects in the Southwest", Proceedings of the Arizona Hydrologic Society 4th Annual Symposium, Casa Grande, Arizona, September 12-13, 1991, pp 3-9.

"Hydrologic Factors Affecting Mobility of Trace Inorganic Constituents", Journal of Irrigation and Drainage Engineering, ASCE, vol. 119, No. 3, 1993, pp 600-612.

"Results of Twelve Years of Groundwater Monitoring at the SKFCSD Facility in Central California", with D. Michel, Proceedings of the Symposium on Effluent Use Management, American Water Resources Association, Tucson, Arizona, August 29-September 2, 1993, pp 203-212.

"Monitoring Perched Water in Arid Lands", in Handbook of Vadose Zone Characterization and Monitoring, edited by L.G. Wilson, L.G. Everett, and S.J. Cullen, Lewis Publishers, 1995 pp 639-655.

KENNETH D. SCHMIDT AND ASSOCIATES  
GROUNDWATER QUALITY CONSULTANTS

11

"Groundwater Monitoring Associated with Water Transfer and Banking Projects", Proceedings of the Symposium on Conjunctive Use of Water Resources: Aquifer Storage and Recovery, American Water Resources Association, Long Beach, California, October 19-23, 1997, pp \_\_\_\_\_.

# RESUME

## Areas of Expertise

On-Farm Irrigation & Drainage

District Facility Design

Energy

## Education

B.S. Civil Engineering,  
California State University, Fresno

## Registrations/Certifications

Civil Engineer, California #39494

## Affiliations

Kern Chapter of American Council of  
Engineering Companies (ACEC), Director  
and Past President

United States Committee on Irrigation and  
Drainage (USCID)

Mike Day is a principal project manager in water and energy resources engineering with over 28 years of experience. He has an extensive background in investigations, planning, and design of irrigation and drainage facilities for farms and water agencies. Mr. Day's areas of expertise include irrigation system design and evaluation, groundwater and surface water investigations, groundwater recharge and groundwater banking facility design, surface and subsurface drainage systems design, and design of large water conveyance and storage facilities. He also provides expert consultation for farms, water agencies, and energy utilities on a variety of energy related topics.

## RELEVANT EXPERIENCE

Water Quality Exchange Study, Friant Water Users Authority, Southeastern San Joaquin Valley, California, Lead Researcher/Writer for Case Studies – Led research and writing team in the investigation of soil and groundwater impacts resulting in three water agencies (two agricultural and one urban) which have utilized State Water Project (California Aqueduct) water in-lieu of Central Valley Project Friant Unit (San Joaquin River) water as a result of water transfer and exchange programs for over 30 years. A report was prepared to summarize observed water, soil, and groundwater impacts, impacts to urban water treatment and distribution systems, agricultural water distribution and irrigation systems, and to estimate changes in applied salts through irrigation water quality and cultural practice (soil amendment) practices.

Groundwater Management Plan, Arvin-Edison Water Storage, Arvin, California, Project Manager – Responsible for overseeing the preparation of a Groundwater Management Plan pursuant to AB 3030, which also complied with SB-1938 and Department of Water Resources Guidelines for the 126,000-acre district.

Integrated Farm Drainage Management Planning Study, Lost Hills Water District, Lost Hills, California, Project Manager – This project is currently in progress, and involves the supervision of a project team to study and plan changes to Lost Hills Water District's agricultural subsurface drainage water management system from evaporation ponds to Integrated Farm Drainage Management (IFDM - sequential reuse on salt tolerant crops and plants, with a solar evaporator as the final stage). Study and planning included development of a water and salinity model to assist in planning and conceptual design of IFDM facilities.

Multi-Benefit Groundwater Storage Project, Arvin-Edison Water Storage District, Arvin, California, Project Manager – Mr. Day served as the project manager and was responsible for project planning, hydrogeology studies, successful application for funding (Proposition

13), California Environmental Quality Act (CEQA) compliance, design and construction management for a 30-acre expansion of an existing regulation/groundwater recharge reservoir with four new electric powered deep wells, plus an 80-acre expansion of another existing groundwater storage facility. Project expanded regulation reservoir and groundwater banking capacity for the district and a banking partner.

River Area Pump Station and Pipeline Project, Kern Water Bank Authority, Bakersfield, California – Mr. Day was responsible principal for design, bidding assistance, and construction management of a three mile long 60-inch diameter profile-wall HDPE pipeline with pump station (dual 50 cfs pumps), connections to well pipelines, three turnouts to recharge ponds, and a connection to the Cross Valley Canal with associated gates and water control structures.

SA-7 Water Conservation Project, Lost Hills Water District, Lost Hills, California – Mr. Day served as the responsible principal to obtain funding for and implement projects to eliminate over 90 percent of canal seepage losses in canals 7-S and 7-N. Funding was obtained from private, state and federal grants. Projects included miles of geomembrane lining and associated structure modifications.

South Canal Improvement Project, Arvin-Edison Water Storage District, Kern County, California, Principal-in-Charge – Mr. Day served as the principal-in-charge for this project which began as an investigation of the feasibility to convert the district's South Canal to a bi-directional facility in order to convey water to and from the State Water Project (SWP). The analyses included 15 different scenarios. Each analysis included considerations of grower demands, hydraulic capacity using HEC-RAS, conceptual facility design, and construction cost estimation. Ultimately, the project increased the capacity of nine miles of the South Canal. This included the design of four 130 cfs reverse flow pump stations.

Drip System Design, Airway Farms, Huron, California, Senior Engineer/Project Manager – Mr. Day served as the senior engineer and project manager for the design of new drip systems for 800 acres of newly planted almond orchards in western Fresno County. System design included booster pump and filter stations, backwash water management considerations.

Water Resources Evaluation, Maddox Farms Burrel Ranch, Helm, California – Analyzed quantity and quality of surface water (from Kings River) and groundwater supply available to 5,000 acre farm in Fresno County.

Study of Water Table Control on Subsurface Drainage Systems with Valves, United States Bureau of Reclamation, Mendota, California, Project Engineer – Conceived, planned and supervised field data collection, and wrote report on first year of multi-year study on the use of valves in subsurface drainage systems (to effect water table control) and their impact on subsurface drainage flows and constituent concentrations and loads (salts, nitrates, and trace elements).

# RESUME

## Areas of Expertise

Agricultural Engineering  
Confined Animal Facilities  
Irrigation  
Flood Control  
Process Engineering

## Education

M.S. Biological & Agricultural Engineering,  
University of California, Davis  
B.S. Agricultural Engineering,  
California Polytechnic State University,  
San Luis Obispo

## Registrations/Certifications

Civil Engineer, California #61754  
Civil Engineer, Colorado #40516  
Agricultural Engineer, California #563

## Affiliations

California Agricultural Leadership Program,  
Class 39  
American Society of Agricultural &  
Biological Engineers (ASABE)  
American Society of Civil Engineers  
(ASCE)  
Tau Beta Pi National Engineering Honor  
Society

John Schaap is a principal engineer at Provost & Pritchard Consulting Group. With over a decade of civil and agricultural engineering experience, he has been involved with a wide range of design and permitting projects. Mr. Schaap has extensive experience that includes serving Kings County for four years as a planning commissioner. With a broad knowledge of the Central Valley, Mr. Schaap has worked to assist the agricultural community on several levels.

Mr. Schaap consults on design projects and environmental/regulatory compliance projects for agricultural operations. His responsibilities have included designing numerous animal facilities (primarily bovine dairy, in addition to poultry, dairy heifer, beef feedlot, and calf ranches) and managing the associated projects involved with permitting and ultimately building practical facilities. In addition, Mr. Schaap has designed agricultural waste management systems and irrigation structures.

Mr. Schaap was honored in 2009 with the Engineer of the Year Award, presented by the American Society of Agricultural & Biological Engineers (ASABE) California/Nevada Section, and the Outstanding Civil Engineer in Private Practice Award by the American Society of Civil Engineers (ASCE) San Francisco Section, Fresno Branch.

## RELEVANT EXPERIENCE

J.G. Boswell Company, Homeland Ranch Tile Drain Project, Corcoran, California, Project Engineer – While working for the J.G. Boswell Company, Mr. Schaap worked to maintain numerous existing tile drainage structures and pipelines and was active in the design and installation of approximately 160 acres of new tile drainage installation.

Kings County Planning Commissioner – District 2, County of Kings, California – This volunteer work involved serving as planning commissioner for four years, participating in monthly meetings, reviewing staff reports, hearing Conditional Use Permits and other land use entitlements and voting on resolutions to grant or deny, adopting advisory resolutions to the Board of Supervisors for certain actions, and attending annual planning commissioner training sessions. He was involved in the adoption process for the Dairy Element of the General Plan.

Dairy Expansion, River Ranch Dairy, Kings County, California, Project Manager – This project involved complete design and permitting services for the expansion of an existing dairy in Kings County. Responsibilities included designing the facility, securing a site plan review permit from Kings County, preparing and submitting a Report of Waste Discharge to the Regional Water Quality Control Board (RWQCB), coordinating post-construction documentation for the



RWQCB, securing an Authority to Construct (ATC) from the San Joaquin Valley Air Pollution Control District (SJVAPCD), and securing building permits from Kings County for all structures. Unusual project challenges included managing the 2004 implementation of SB700, which instituted air permitting for confined animal facilities. The effort included significant work with the SJVAPCD, establishing the technical and legal basis for the permitting process. A great deal of research was reviewed in working with the SJVAPCD to establish appropriate emission factors, mitigation measures, and control efficiencies, before a permit could be issued.

**J.G. Boswell Company, Corcoran, California, Engineer-in-Training** – Mr. Schaap began his career as a process engineer responsible for environmental issues, capital projects, and certain process operations in a vegetable oil extraction plant for one year. Subsequently, he was involved in flood control operations during the 1997 and 1998 flood years. Mr. Schaap was involved in planning, engineering, and supervising construction of numerous pumping plants, gate structures, and other flood control, irrigation, and drainage facilities, as well as coordinating and supervising various repair and maintenance projects on the ranch.

**University of California, Davis, California, Research Assistant** – This work involved assisting in research projects in a sensors and instrumentation laboratory. He conducted research on improving color measurement for grading processing tomatoes. Additionally, he devised an algorithm enabling the elimination of one step in the color grading process for processing tomato grading stations statewide.

# RESUME

## Areas of Expertise

Groundwater Monitoring/Reporting  
Regulatory Permitting/Compliance  
UST Assessment/Remediation  
Stream Restoration

## Education

B.S. Geology,  
California State University, Fresno  
M.S. Geology,  
California State University, Fresno

## Continuing Education

HAZWOPER (40 hours)

## Registrations/Certifications

Professional Geologist, California #8299

Linda Sloan is a geologist for the Water and Energy Services Division of Provost & Pritchard. She has over nine years of professional environmental and water resource experience, including involvement with all aspects of groundwater monitoring and reporting. Ms. Sloan's professional experience also includes leaking underground storage tank (UST) assessment and remediation, regulatory permitting and compliance, and water supply well construction and design.

## RELEVANT EXPERIENCE

Water Supply Assistance, Arvin-Edison Water Storage District, Arvin, California – Assist with multiple projects including AB303 report, semi-annual groundwater reporting, pump tests, well rehabilitations, and well design and construction.

Groundwater Monitoring Plans, Implementation, and Reporting, Tulare, Kings, and Fresno Counties, California – Prepared, implemented, and managed monitoring well network installation plans for multiple dairy and food processing clients in Tulare, Kings and Fresno counties. Included working with drilling and sampling subconsultants, providing well design and construction oversight, using GIS to prepare potentiometric groundwater surface maps, and post construction reporting. Many work plans required a detailed hydrogeological evaluation of site specific conditions.

Phase I, II & III Environmental Site Assessments, Rosendahl Dehydrator, Fresno County, California, Project Geologist – Ms. Sloan wrote and implemented a work plan for the diesel cleanup excavation of a leaking underground storage tank (UST). In addition, she obtained necessary permits, provided onsite oversight and soil sample collection, and wrote the final report. The final closure letter was received from the Regional Water Quality Control Board within two months of project initiation.

Leaking Underground Fuel Tank Cleanup Fund Projects, Kern, Tulare, Kings, Fresno, Merced and Stanislaus Counties, California, Project Geologist – Participated in and oversaw assessment and remediation activities at over 100 LUFT sites. Previous and ongoing activities include writing and implementing work plans; obtaining permits from and acting as liaison with multiple city, county and state regulatory agencies; performing on-site soil, water, and air sampling, various well installations and destructions, level and GPS surveys, field tests, and project oversight; evaluating and interpreting soil, water, and air sampling data; final reporting; and site closures. Projects include tank removals, excavations, exploratory borings and test holes (both discrete and continuous sampling), soil vapor extraction and air/ozone sparge system installations and management, and bioremediation.

Lysimeter Monitoring and Analysis, Lakeside Dairy & Lemstra Dairy, Kings County, California – Assisted with installation of soil moisture probes and lysimeter which measures seepage beneath dairy wastewater lagoons to monitor potential impacts to groundwater. Conducted monitoring and sampling activities, interpreted data and reported to client.

Spill Prevention Control and Countermeasure (SPCC), Beef Packers, Fresno, California – Prepared SPCC plan, covering all oil products such as above ground storage tanks, process materials, and transformers.  
Groundwater Monitoring Program (GMP), Kern, Kings, Tulare, and Fresno County Dairies, California – Implemented and managed GMP to assist dairies with Regional Water Quality Control Board (RWQCB) monitoring compliance. Included monitoring well and water supply well sampling and analysis, and monitoring, reporting, and statistical analyses.

Mill Creek Restoration Project, California State University, Fresno for the City of Visalia, California Thesis Project – Funded by grant from Department of Water Resources Urban Streams Division and the City of Visalia. Functioned as liaison between multiple agencies, documented all aspects of restoration effort, coordinated revegetation efforts, monitored work crew activities, surveyed longitudinal profile and cross sections with laser level and set grade for channel reconstruction. Implementing on-going maintenance activities to ensure success of the project.

Merced River Ranch Conceptual Restoration Plans, California State University, Fresno for the California Department of Fish and Game, Project Liaison – Organized and chaired weekly team meetings with CSU Fresno Departments of Biology, Earth and Environmental Sciences, Economics, Geography, and Political Science; and acted as assistant editor for restoration plan report as prepared for the Department of Fish and Game.

Merced River Ratzlaff Revegetation Project, California State University, Fresno for the Department of Water Resources and Department of Fish and Game, Project Liaison – Organized and chaired weekly team meetings with CSU Fresno Departments of Biology and Earth and Environmental Science students; functioned as liaison between CSU Fresno and agencies; coordinated revegetation material acquisition and delivery; monitored work crew activities; and performed revegetation work to include seeding, planting, building and installing protective plant cages, and project monitoring and maintenance.

“Working at the Watershed Level” Workshops, hosted by California State University, Fresno, Assistant Conference Coordinator – Assisted in coordination of two, five-day conferences funded by California Department of Water Resources, U.S. Fish and Wildlife Service, and U.S. Bureau of Reclamation, and developed by a consortium of federal and state agencies, local governments and private organizations to improve watershed training. Feature presentations included watershed ecology, field trips, case studies, and discussions of the hot topics of water quality and quantity.