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BEST BEST & KRIEGER LLP
5 PARK PLAZA, SUITE 1500
IRVINE, CALIFORNIA 92614

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RESUME

Joseph C. Scalmanini

Specialization:

Thirty-eight years of experience in ground-water development and management, and oil and gas production. Assessments of ground-water resources and implementation of ground-water basin management in various areas of California; ground-water development and management encompassing well design, construction, operation, and maintenance; ground-water monitoring as part of basin management and as part of ground-water contamination investigations; artificial ground-water recharge facilities and practices; injection of industrial waste water; utilization of brackish ground water for industrial water supply and cooling applications. Industrial design, construction and operation of secondary oil recovery systems involving water and steam processing, injection and recovery.

Professional Registration:

Registered Civil Engineer, California, CE 28233

Academic Degrees:

M.E. Civil Engineering, University of California, Davis, CA	1984
B.S. Mechanical Engineering, University of Santa Clara, Santa Clara, CA	1967

Professional Experience:

Luhdorff and Scalmanini, Consulting Engineers, Woodland, CA	
President	2004 - Present
Principal Partner	1989 - 2004
Partner	1980 - 1989
University of California, Davis, Davis, CA	1973 - 1979
Associate Development Engineer	
Shell Oil Company	1967 - 1973
Mechanical and Facilities Engineer	

Representative Professional Assignments:

- Consultant to water districts and utilities, municipalities, corporate and individual farming interests, corporate and private industry, and other engineering firms on ground-water development, utilization and management. Consultation with public agencies, corporate and private concerns regarding ground-water contamination, its identification, monitoring, and management. Consultation with legal profession on technical aspects of ground-water development and utilization, including all aspects of ground-water basin yield and management, well design and construction, and application of pumping equipment.

Representative Professional Assignments (continued):

- Engineering research in ground-water resources, development and management. Coordinated and conducted engineering projects concerning assessment of ground-water resources in various areas of California including mountainous and valley regions; application of principles of design, construction, completion and development of wells, aquifer analyses, design of pumping equipment, optimal and efficient operation of wells and pumps, and well rehabilitation and maintenance; design of artificial ground-water recharge facilities and practices, including surface infiltration and deep-well injection; assessment and development of brackish ground-water for water supply and cooling applications in industrial plants. Provided consultation services to engineering firms, local, state and federal agencies, corporate and private industry and farming interests, and well contractors on the development and management of ground-water resources.

- Project Engineer on water treatment, injection, and recovery systems for secondary oil recovery in Southern California oil fields; project engineer for the design and installation of facilities and utilities in a new oil field development in Central California; design engineer on various pumping and piping applications of water, oil, gas and other compressible fluids.

Professional Affiliations:

American Society of Civil Engineers
- Ground Water Committee, Irrigation and Drainage Division
- Water Resources Planning Committee, Water Resources Planning and Management Division

National Ground Water Association
- Association of Ground Water Scientists and Engineers

American Water Works Association
National Society of Professional Engineers
California Groundwater Association
Groundwater Resources Association of California

Public Service:

- **Yolo County Aggregate Resources Committee (1975-79)**, Alternate delegate, hydrologist - analysis of impacts and development of management plans for extraction of aggregate from Cache Creek basin.

- **California Tenth Biennial Conference on Ground Water (1975)**, Member, Planning Committee

- **Chancellor's Campus (Univ. of Calif., Davis) Water Committee (1976-78)**, Staff Engineer - analysis of water supplies and uses, projection of requirements, development of conservation and management plans.

- **City of Davis Water Planning and Conservation Committee (1977-79)**, Chairman - analysis of water supplies and uses, projection of requirements, consideration of alternative supplies, development of conservation and management plans.

Public Service (continued):

- **Yolo County Water Resources Task Force (1979)**, Member - development of county-wide master water plan.
- **Pacific Gas and Electric Co. ACT² Irrigation Pumping Demonstration Project (1992)**, Technical Advisor
- **Association of California Water Agencies (1994-1996)**, Member - Ground-Water Committee
- **Cache Creek Conservancy, (2000-2002)**, Director

Teaching Activities:

Course Coordinator and Instructor University Extension Courses, University of California, Davis:

Concepts of Ground Water Management (1974, 1976, 1978, 1981)
Legal and Policy Considerations in Ground Water Management (1975, 1976, 1980)
Water Supply Wells and Pumps (1977, 1978,1981, 1983, 1985, 1986)
Ground-Water Law, Hydrology and Management (2001, 2002, 2003, 2004, 2005)

Instructor, University of California, Davis, Water Science 198, Introductory Hydraulics (1977, 1978, 1979)

Lecturer, University of California, Davis, Water Science 2, 140, 160; Ecology 230; Civil Engineering / Geology 175 (1975 - 1979)

Lecturer on Aquifer Characteristics, Well Hydraulics, and Ground-Water Development, in Technical Training Classes at the U.S. Army Corps of Engineers' Hydraulic Engineering Center, Davis, CA.

Publications and Presentations:

Scott, V.H. and J.C. Scalmanini, **Water Wells and Pumps: Their Design, Construction, Operation, and Maintenance**, University of California Division of Agricultural Sciences Bulletin No. 1889, 1977.

Helweg, O.J., Scott, V.H., and J.C. Scalmanini, **Improving Well and Pump Efficiency**, American Water Works Association, 1983.

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Scalmanini, J.C., Johnson Jr., R.M., and E.E. Luhdorff Jr., **Development of a Ground-Water Monitoring Program as a Basis for Coastal Ground-Water Basin Management**, presented at the Fall Conference, American Water Works Association, CA-NV Section, 1983.

Publications and Presentations (continued):

Scalmanini, J.C., **3030 Hindsight and 2020 Foresight, Actual Ground-Water Management Experience Over the Last 15 Years, Soquel Creek Water District**, presented at the Association of California Water Agencies' Ground-Water Management Conference, March 1994.

Scalmanini, J.C., **Legal and Technical Issues Related to Surface Water and Ground-Water Interaction**, presented at the Groundwater Resources Association's California Ground Water & Efficient Usage for the Year 2000 and Beyond, October 1998.

Scalmanini, J.C., A. Schneider, and V. Cahill (panel presentation), **Groundwater Classification: Is the State Water Resources Control Board's Jurisdiction Over Ground Water Changing?**, presented at the Water Education Foundation's 2000 Update on Water Law and Policy, July 2000.

Scalmanini, J.C., **What the Heck's a Sub-Basin? Defining Basins and Sub-Basins**, presented at the Association of California Water Agencies' Ground-Water Management: Will CalFed Help or Hinder Workshop, November 2000.

Scalmanini, J.C., **"Groundwater Law, Policy and Science: What can Be Done About The Disconnect"**, presented at the Water Education Foundation's 2005 Water Law and Policy Briefing, San Diego, July 2005.

Table 1
Historical Estimates of Surface Water Runoff
Antelope Valley
(all amounts in acre-feet per year)

	Thompson (1929)	Thayer (1946)	Calif. DWR (1947)	Snyder (1955)	Bloyd (1967)	Durbin (1978)
Measured/Estimated						
Big Rock Ck Canyon						
above gauge	---	15,000 mea	11,720 mea	7,940 est?	---	---
below gauge	---	--- (d)	3,628 est	2,190 est	---	---
subtotal	14,500 est	15,000 (e)	15,348	10,130	---	11,500 est
Little Rock Ck						
above gauge	---	16,800 mea	12,080 mea	13,470 est?	---	---
below gauge	---	5,500 est	2,816 est	2,710 est	---	---
subtotal	21,000 est	22,300	14,896	16,180	---	12,800 est
Subtotal measured/estimated runoff	35,500	37,300 (e)	30,244	26,310	27,000 est	24,300
Estimated						
B. Rock Ck to L. Rock Ck	---	4,000	1,920	1,260	---	
L. Rock Ck to Amargosa Ck (a)	---	9,000 (f)	5,376	1,920	---	
Portal Ridge	---	---	1,760	510	---	8,700 (j)
Tehachapi Mtn Cks	2,500 (c)	2,500	22,208 (g)	17,100 (h)	1,000 (i)	7,700
Sheep Rock Ck (b)	---	10,000	4,896	4,010	---	---
Subtotal estimated runoff	39,500	37,500	36,160	24,800	---	16,400
Total	**75,000**	**74,800**	**66,404**	**51,110**	**---**	**40,700**

--- not reported
(a) includes Amargosa Ck runoff unless otherwise noted
(b) east of B. Rock Ck and outside of proposed adjudication boundaries
(c) also includes runoff from Tehachapi Mtns outside of proposed adjudication boundaries (e.g., Oak Ck)
(d) runoff from below gauge apparently included in the estimated runoff of 4,000 afy from the area "B. Rock Ck to L. Rock Ck"
(e) apparently does not include runoff from below gauge in Big Rock Ck Canyon
(f) includes Amargosa Ck only; runoff from additional areas not reported
(g) also includes runoff from portions of San Gabriel Mtns, and from Tehachapi Mtns north of proposed adjudication boundaries (4,288 afy)
(h) also includes runoff from portions of San Gabriel Mtns
(i) includes Oak Ck only
(j) estimate for San Gabriel Mtns runoff excluding Big and Little Rock Cks