



www.clearwatergroup.com oj@clearwatergroup.com Since 1990
229 Tewksbury Ave., Pt. Richmond, CA 94801
TEL: 510-307-9943; FAX: 510-232-2823; CELL: 510-590-1099

OLIVIA JACOBS, C.E.M.

President / Principal Environmental Manager

Education

B.A. degree in Great Books Program, St. John's College, Annapolis, Maryland, 1982

M.S. degree in Health Care Administration, Texas Women's University, Houston, Texas, 1989



Ms. Jacobs is the president and co-founder of The Auger Group, Inc., with current dbas of Artesian Environmental, Fast-Tek Engineering Support Services and Clearwater Group (Clearwater). Most recently, she has focused her research interests on vapor sampling of sewer air in manholes cleanouts and indoor air vapor intrusion through the sewer-plumbing system. Since 1990, The Auger Group, Inc. and its predecessor, Artesian Environmental Consultants, has provided environmental contracting and consulting with regards to the assessment and remediation of contaminated sites, including but not limited to underground fuel storage tank leaks, contamination migration, contamination investigations and hazardous materials management.

Ms. Jacobs is the operations manager of a State of California contracting firm; The Auger Group, Inc. is a Contractor Licensed with General (A), C-57 (driller) Classifications and with Hazardous Materials and Asbestos Certifications. Her expertise relates to her role as an industrial history investigator providing litigation support for complex environmental cases. Ms. Jacobs began her career in the waste industry in 1982, when she was a Watson Foundation Fellow, studying Municipal, Solid and Sewage Waste, Management, Minimization and Use. Her work for CH2MHILL included coding asbuilts of the Los Angeles sewer system, and she has worked in the environmental industry since 1990, during which time she has performed Phase Is and Phase IIs on hundreds of sites. The combination of operations management, proofing technical reports and preparing reimbursement requests for the Underground Storage Tank Cleanup Fund have provided her training to conduct site cleanup from start to finish. She comes to the field with an interest in history, a capacity for significant research and complete data collection and expertise in building and testing site conceptual models.

ACADEMIC AWARDS

1982-1983: Thomas J. Watson Fellowship, The Thomas J. Watson Foundation. Topic: Waste Use, Biogas and Sustainability in Selected International Countries

LICENSES

Certified Environmental Manager (C.E.M.), State of Nevada (current)

Registered Environmental Assessor, State of California, REA I. (Program ended in 2012)

Lead-Related Construction Inspector/Assessor, California Department of Health Services (current)

Operations Manager, CSLB #624461, #799370

OTHER COURSES

Hazardous Waste Manager and Trainer of Facility Personnel Engaged in Hazardous Waste Handling

Certified Environmental Manager Workshop, National Environmental Health Association

Building Inspector and Management Planner for Asbestos, University of California, Berkeley Extension

Contractor/Supervisor, Project Designer, Asbestos Abatement

Underground Storage Tank Removal Workshop

Site Assessments for Real Property Assessments

Environmental Law and Regulation, University of California, Berkeley Extension

OSHA Supervisors Course

OSHA 40 hour Hazardous Waste Training Program (29 CFR 1910.120) and refreshers

ASSOCIATIONS

Tamalpais Valley Improvement Club, President



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PUBLICATIONS

Peer-Reviewed Articles

Roghani, M., Jacobs, O.P., Miller, A., Willett, E.J., Jacobs, J.A., 2018, Occurrence of Chlorinated Volatile Organic Compounds (VOCs) in a Sanitary Sewer System: Implications for Assessing Vapor Intrusion Alternative Pathways, *Science of the Total Environment*, March, 616–617, p. 1149–1162.

Jacobs, J.A., Jacobs, O.P., and Pennell, K.G., 2017, One Alternative Exposure Pathway of Volatile Organic Compound (VOC) Vapors from Contaminated Subsurface Environments into Indoor Air – Legacy Sewer-Plumbing Systems, *The Professional Geologist*, Reprint and Update of GRAC *Hydrovisions* Article, V. 54, N. 3, July-Aug-Sept., p. 28 – 32.

Selected Articles and General Publications

Jacobs, J.A., Jacobs, O.P., and Pennell, K.G., 2015, One Alternate Exposure Pathway of VOC Vapors from Contaminated Subsurface Environments into Indoor Air - Legacy Sewer- Plumbing Systems, Groundwater Resources Association of California, *Hydrovisions*, Spring 2015, p. 20-24.

Abstracts and Presentations

Jacobs, O.P., and Jacobs, J.A., O’Neill, H., and Schneider, R., 2018, Unintentional Discharges of Industrial Compounds into and out of Sanitary or Stormwater Drainage Systems in Urban Settings; Proceedings of the 28th Annual International Conference, Association for the Environment, Health and Sciences, San Diego, California, March 19-22, Abstracts, p. 86.

Jacobs, J.A., and Jacobs, O.P., 2017, What Geologists Know about Sewer Systems that Plumbers Don’t: Vapor Intrusion into Indoor Air and the Sewer-Plumbing System; Proceedings of the 54th Annual American Institute of Professional Geologists National Meeting, Nashville, Tennessee, September 23-26, Abstracts.

Jacobs, O.P., Jacobs, J.A., and Pennell, K.G., 2016, Exposure Pathway Analysis Using Passive Diffusion Air Sampling Method to Sample Sewer Air in Manholes and Cleanouts; Proceedings of the 26th Annual International Conference, Association for the Environment, Health and Sciences, San Diego, California, March 21-24, Abstracts.

Jacobs, J.A., and Jacobs, O.P., 2015, Geologists’ Role in Evaluating VOCs from Illegal Drug Labs, Industrial Wastes and Household Cleaners in Sewer Air; Proceedings of the 52nd Annual American Institute of Professional Geologists National Meeting, Anchorage, Alaska, September 19-22, Abstracts, p. 38-39.

Jacobs, J.A., Jacobs, O.P., and Pennell, K.G., 2015, Updating Site Conceptual Models for Potential Sewer Gas and Vapor Intrusion Into Indoor Air From Breached Sewer Conveyance Systems; Proceedings of the 25th Annual International Conference, Association for the Environment, Health and Sciences, San Diego, California, March 23-26, Abstracts, p. 93.

Jacobs, J.A., Jacobs, O.P., and Pennell, K.G., 2014, Geologists and Site Conceptual Models: VOCs and Sewer Gas in Indoor Air Resulting from Migration from Breached Sewer Conveyance Systems; Proceedings of the 51st Annual American Institute of Professional Geologists National Meeting, Prescott, AZ, September 13-16, Abstracts, p. 73-74.

Jacobs, J., Traver, R., and Jacobs, O., 1991, Environmental Investigations and Remediations of Oil and Gas Fields, Proceedings of the Annual American Association of Petroleum Geologists Meeting, Dallas, Texas, AAPG Bulletin, April, Abstracts, p. 601.

Invited Professional Workshops Taught

2018, Jacobs, J., Jacobs, O., Beckley, L., and McHugh, T., “Sewer VI: Research, Findings and Practical Implactions,” M-F4 Sewer Vapor Intrusion Workshop, 20th Annual California Unified Program (CUPA) Training Conference, Burlingame, California, February 5, 2018, Abstracts.



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2017, Jacobs, O.P., and Jacobs, J.A, “Dispersal of VOCs; Sewer Air – Sampling Sewer Air – When, Where, How, and Mitigation of VOC-laden Sewer Air,” Groundwater Resources Association’s Assessment and Remediation of Dry Cleaner Sites Symposium, Concord, California, November 2, 2017, Abstracts.

2017, Jacobs, J.A., and Jacobs, O.P., “Sewer Exfiltration Allowances by Design and Failure,” Groundwater Resources Association’s Assessment and Remediation of Dry Cleaner Sites Symposium, Concord, California, November 2, 2017, Abstracts.

2016, Jacobs, O.P., Jacobs, J.A., and Pennell, K.G., 2016, “Sanitary Sewer Contaminant Migration Study Manhole to Clean Out: Passive Sewer Air Sampling, Presence of VOCs in Sewer Manhole as a Predictor of VOCs in Sewer Lateral Cleanouts,” 18th Annual California Unified Program (CUPA) Training Conference, Anaheim, California, February 24, 2016, Abstracts.