

# Dalton Conservation Commission

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Tuesday February 21, 2023 Draft Meeting Minutes

Members in attendance: Jon Swan, Ernie Hannaford, Tamela Swan, Miriam Caldwell

Members of the public: Linda Greenwood, Vic StCyr, Tom Dubreuil, Robin Pilotte

Call to order: 6:30PM

1. Review of draft meeting minutes of January 17, 2023 (Ernie motioned to approve, Miriam seconded, meeting minutes approved, without edit) and February 2, 2023 meetings (Miriam motioned to approve, Ernie seconded, meeting minutes approved, without edit.)
2. Review of 2 proposals (see scope of work for both) for the hiring of experts to assist/represent the Town of Dalton relative to the GSL Landfill project in Dalton ahead of the potential abolition of the Dalton Conservation Commission in March of 2023:
  - The retention of services for Dr. Scott Reynolds of NEES Bats due to the potential existence of the Federally-endangered Northern Long-Eared Bat at the proposed GSL site (Miriam motioned to approve, Jon Swan seconded, 3-1 in favor, Ernie opposed, motion passed)
  - The retention of services for Dr. Richard Laton of earthforensics, inc. (Jon Swan motioned to approve, Miriam seconded, 3-1 in favor, Ernie abstained, motion passed)
3. Dalton spring roadside cleanup is scheduled for Saturday, April 29, 2023 from 8:30 AM-11:30AM. Jon Swan will pick up more blue bags from NH the Beautiful, thru the NRRRA. There will be a BBQ cook out at Fire Dept. following the event. Jon Swan to coordinate food donations from the general public.
4. BioBlitz 2023: Looking at a potential date in May, during the growing season. Ernie Hannaford will reach out to UNH Extension to further inquire about potential assistance as well as to determine if May is good time to hold the event. Ernie will also investigate what other information, etc. may be needed and report back to the DCC. A sign-up sheet will be created, as well as notice to participants to not trespass on private property. David Dana Forest, Forest Lake State Park were discussed as potential sites to hold the event.
5. Old business: NRI (Natural Resource Inventory) Jon will check with Jeanette if the check has been cut to Elise Lawson to finalize the NRI. \*\*Linda Greenwood confirmed the check has been cut 8<sup>th</sup> of February. Future site visits will be determined and members will be notified to participate, if desired.
6. Public Comments: Linda Greenwood confirmed the check has been cut to wetlands scientist Jim McClammer for past services in the amount of \$1870. General discussion relative to the retention of experts in the fields of wetlands, hydrology, etc. by the DCC to assist the town in the event of the re-submission of permit applications by Casella for the GSL landfill project. It was noted several times that should there be no permit applications submitted and the project is deemed defunct, retention funds will be returned to the Town of Dalton DCC Trust Fund.
7. Adjournment at 7:11 PM

# Spring Roadside Cleanup

*Come Show Your Dalton Pride!*



## Saturday April 29, 2023

### 8:30AM-11:30AM

*Join the Dalton Conservation Commission and the Dalton Fire Department at the Town Municipal Building, where safety vests, blue roadside trash bags, and trash grabbers will be provided, with a volunteer/road selection sign-in sheet*

***\*\*BBQ cookout to follow at the Fire Department***

**Help Us Keep Dalton Beautiful Year-Round By NOT Littering!**

Free, no-cost blue roadside trash bags provided by NH The Beautiful, Inc. thru the N.R.R.A.





North  
East  
Ecological  
Services

14 February, 2023

Mr. Jon Swan, Conservation Chair  
Dalton Conservation Commission  
Dalton, New Hampshire

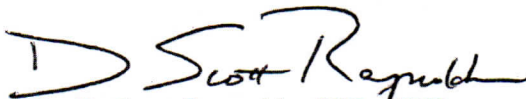
**Proposal to the Town of Dalton Selectboard and Conservation Commission**

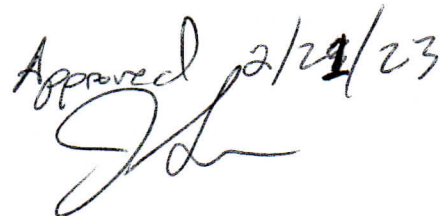
Dear Mr. Swan:

Attached please find North East Ecological Services' ('NEES') proposed Scope of Work for an independent review of wildlife impacts of the proposed Granite State Landfill, LLC project ('the Project'). NEES will provide the following services to the Selectboard and Conservation Commission on behalf of the Town of Dalton:

1. An update on the current status of bats in the State of New Hampshire with particular focus on changes in state- and federally conservation status of bats within the State.
2. A review of the Habitat Assessment submitted by B.H. Keith Associates, on behalf of Granite State Landfill, LLC.
3. A review of existing and potential natural resource applications that may be submitted by Granite State Landfill, LLC and their contractors on behalf of the Project, with regard to their opinion on potential impact to bats. These include, but may not be limited to any NHDES, US Army Corps of Engineer Wetlands, and U.S. Fish & Wildlife Service permit applications.
4. Collect acoustic monitoring data within the town of Dalton and adjacent to the Project site to document the current bat community that likely exists within the Project site.
5. Attend and participate in meetings on behalf of the Town of Dalton to present information collected by NEES and answer any questions that may be put forth by attendees at the meeting.
6. Coordinate with any regulatory agency personnel and other stakeholders as requested by the Town of Dalton.
7. Provide a Project Impact Report for the Town of Dalton that summarizes these efforts and provides an overall opinion of the likely impact of the Project on bats in Dalton and the surrounding area.

These services will be provided for an estimated cost of \$21,167<sup>1</sup>. Should you have any questions, please feel free to contact me.

  
Dr. D. Scott Reynolds, CSE, CWB  
sreynolds@neesbats.org

  
Approved 2/24/23

<sup>1</sup>The attached proposal is for incurred time and expenses. Any remaining balance after completion of the Scope of Work or the termination of the Project will be returned to the Town of Dalton.

14-Feb-23

*Town of Dalton, New Hampshire*

*Granite State Landfill, LLC*

### Project Risk Assessment for Bats

Phase I Initial Project Screening	Desktop survey of existing habitat and species occupancy data, including regulatory status updates. Phase I includes on-site habitat assessment by NEES	\$ 3,702 Pending
Phase II Field Survey	Acoustic monitoring for bat activity adjacent to the Project Site that meets the requirements of the U.S. Fish & Wildlife Service Summer Survey Guidelines	\$ 10,711 Pending
Project-Specific Document Review	Review existing documents pertaining to the Project application, including additional natural resource applications that may be submitted on behalf of Granite State Landfill, LLC.	\$ 2,602 Pending
Meeting-Related Expenses	NEES representation at two town meetings or other Project-related hearings in Dalton	\$ 4,153 Pending
<b>Total Estimated Cost:</b>		<b>\$ 21,167.00</b>



**North  
East  
Ecological  
Services**

**North East Ecological Services**

**P.O. Box 3596**

**Concord, NH 03302**

**(603) 545-7012**

#### Assumptions and Conditions

1	<i>NEES is requesting payment in advance of services.</i>
2	<i>NEES will notify the Town of Dalton at major cost milestones (\$5,000, \$10,000, and \$15,000) and provide tracked costs and expenses upon request by an authorized agent of the Town.</i>
3	<i>Estimate is inclusive of all labor and expenses. If it is determined that additional time or expenses is needed, NEES will provide an additional cost estimate and will only proceed with work after receipt of written authorization to proceed.</i>
4	<i>All billing will be based on time and expenses, and any remaining balance will be returned to the Town of Dalton upon completion of work.</i>



**Dalton Conservation Commission**

**756 Dalton Road**

**Dalton, NH 03598**

Date: February 21, 2023

To: Treasurer, Town of Dalton

The Dalton Conservation Commission requests a check be issued as follows:

Pay to: North East Ecological Services

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Payment for: Environmental services in the sum of \$21,167.00

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Invoice #: February 14, 2023

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Payment due no later than:

ASAP

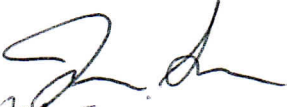

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Requested by: Jon Swan, Chairman, DCC

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Sincerely,

Dalton Conservation Commission

  
Miriam Caldwell  




February 20, 2023

**To:** Mr. Jon Swan  
**Conservation Chair, Dalton Conservation Commission**  
756 Dalton Road, Dalton, NH 03598  
Telephone: (603) 991-2078  
Email: [conservationChair@townofdalton.com](mailto:conservationChair@townofdalton.com)

**Attention:** Jon Swan

**Subject:** Scope of Work and Cost Estimate for Environmental Consulting and Landfill Application/Permit Review Services.

**Dear Mr. Swan:**

We have prepared the following scope of work and cost estimate for providing landfill permit and application review services related to geology, hydrology, hydrogeology, and environmental issues.

#### SCOPE OF WORK

1. Review and comment on applications and supporting documents to permit the siting and construction of landfills.
2. Participate in meetings and hearing on behalf of the Town of Dalton, where the design and permitting of landfills are to be discussed.
3. Coordinate with regulatory agency personnel, local river advisory committees, natural resource experts, and other stakeholders, as requested by the Town of Dalton.
4. Provide a Project Impact Report for the Town of Dalton that summarizes our efforts and provides an overall opinion of the likely potential impacts of various Projects on the environment (including water resources) in Dalton and the surrounding area.
5. Other services as requested by the Town of Dalton.

#### COST

The following should be considered an estimate of time.

#### Total Estimated Costs:

Activities	Costs
Application and Permit Review	\$5,000
Project Impact Report	\$7,500
Virtual meetings, conference calls other communications	\$2,500
<b>Total</b>	<b>\$15,000</b>

Costs will accumulate on a *time-and-expenses basis* in accordance with our attached 2023 Professional Fee Schedule, and we will not exceed the total for the work as indicated above without prior authorization in advance. We will require a **\$15,000 retainer** to begin work. We will send a statement of all charges incurred monthly. Any remaining balance after completion of the above Scope of Work or the termination of the Project will be returned to the Town

of Dalton. If you request a meeting time beyond what is stated above, it will be billed as an *extra on a time-and-expenses basis*.

We have enclosed a Scope of Work Authorization (SWA) for your signature. Please sign and return a copy if you agree with the proposed scope of work and cost estimate. The signed Scope of Work Authorization will serve as our notice to proceed. We are prepared to commence work immediately upon receipt of the signed SWA.

We sincerely appreciate your confidence in using Earth Forensics for your project needs.

**Respectfully submitted**

**EARTH FORENSICS, Inc.**



**Dr. W. Richard Laton CHg 958, PG 7098**

Principal Consultant

Earth Forensics, Inc.

12532 Vista Panorama

North Tustin, CA 92705

**Attachments:**      Scope of Work Authorization.  
                             2023 Professional Fee Schedule  
                             2023 UAV Fee Schedule  
                             Dr. Laton Vitae



## 2023 PROFESSIONAL FEE SCHEDULE

### *Investigative Earth Science*

#### PROFESSIONAL STAFF FEES (per hour)

Principal Consultant .....	\$ 250 to 385
Senior Consultant .....	\$ 150 to 285
Project Consultant .....	\$ 125 to 175
Staff Consultant .....	\$ 80 to 125

Deposition and Trial Testimony is \$500 per hour.

#### REIMBURSABLE EXPENSES

- Heavy equipment, subcontractor fees and expenses, travel, shipping, reproduction, and other reimbursable expenses will be invoiced at cost plus 20%.
- Vehicle usage is invoiced at \$0.75 per mile.
- Use of Low Altitude Unmanned Camera System: By Quote.
- Field equipment (total station, GPS instruments, lap top computers, digital cameras, water level, etc.) may be expensed against the project at standard rates.
- Consumable field supplies will be invoiced at cost plus 20%.

#### INVOICES

- Invoices are tendered monthly, payable upon receipt.
- Larger projects may be invoiced bi-weekly.
- If payments are not received in 40 days, work on the project will be suspended.

#### DISCLOSURE

Client agrees to provide all information in Client's possession pertinent to actual or possible presence of hazardous chemicals on-site, and agrees to reimburse Earth Forensics, Inc. (EF) for all costs associated with the unanticipated discovery of such substances. Client also agrees to disclose all potential security concerns associated with the work place. If security protection of either personnel or equipment is required, it shall be obtained and either reimbursed, or paid for directly, by Client. At no time shall EF field personnel be required to enter into a situation that they consider dangerous.

#### OVERTIME

Overtime for all field personnel will be charged at 1.50 times the basic rate, only if overtime is required by the client. Overtime is defined as the excess of 8 hours on weekdays, hours before 7am or after 5pm, and all holidays, excluding travel time in all situations.

*This fee schedule is effective January 1 through December 31, 2023 and is subject to modification after that period.*





## SCOPE OF WORK AUTHORIZATION

MSA # \_\_\_\_\_ SOW # 1

### CLIENT:

Mr. Jon Swan  
Conservation Chair, Dalton Conservation Commission  
756 Dalton Road, Dalton, NH 03598  
Telephone: (603) 991-2078  
Email: [conservationChair@townofdalton.com](mailto:conservationChair@townofdalton.com)

**PROJECT LOCATION:** Dalton, New Hampshire

**INTRODUCTION:** Earth Forensics Inc, a California corporation, will perform Environmental Consulting and application/permit review services for the Town of Dalton, NH.

**OBJECTIVES:** For this scope of work, Earth Forensics will provide a project impact report for the Town of Dalton that summarizes the potential landfill likely impact of the Project on the environment (including water resources) in Dalton and the surrounding area. For more details, see the proposal dated February 16, 2023.

**PAYMENT TERMS:** The services shall be undertaken on a time-and-materials basis not to exceed \$15,000 (fifteen thousand dollars) in accordance with the terms outlined in our 2023 Professional Fee Schedule attached hereto. Earth Forensics will not exceed, nor will Earth Forensics be required to exceed, the above sum without the written consent of the CLIENT. CLIENT will pay Earth Forensics for the services in accordance with Earth Forensics Professional Fee Schedule in effect at the time the Services are rendered plus other direct costs at an actual cost plus an administration charge of 20%. **Retainer required: \$15,000.** Any remaining balance after completion of the attached proposal or the termination of the Project will be returned to the Town of Dalton.

### CONTACT:

Earth Forensics, Inc.  
Attn: W. Richard Laton PhD  
12532 Vista Panorama, North Tustin, CA 92705  
Telephone: (714) 296-4055; Facsimile: (714) 771-2620  
Email: [wlaton@earthforensics.com](mailto:wlaton@earthforensics.com)

### CLIENT ACCEPTANCE:

BY

TITLE

*Chairman, Dalton CC*

DATE

*Feb 21, 2023*

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## 2023 Drone Services and Education

### *Investigative Earth Science*

Earth Forensics provides custom low altitude aerial photography services for public works projects, commercial and residential development, public utilities, local governments, and the legal community. Earth Forensics originally began using aerial blimps and monopods to acquire aerial photographs. Starting in 2013, Earth Forensics began deploying unmanned aerial vehicles (UAV) to acquire high resolution low altitude aerial photography. This was an extension of more than 20+ years of previous low altitude photography utilizing other platforms. UAVs allow the acquisition of images in remote areas that are difficult to reach by land. In addition to performing photography, Earth Forensics can also prepare, facilitate and educate your team to meet the demands of conducting professional drone operations.

### **DRONE DATA SERVICES**

Aerial Photography and Video  
Thermal Infrared Imagery  
Orthoimagery and Topography  
3D Modeling  
Site Monitoring  
Volume Calculations

### **DRONE EDUCATION SERVICES**

#### **FAA Part 107 Exam Certification**

- Drone Rules and FAA Regulations
- Nation Airspace System
- Reading Sectional Charts
- Airport Operations
- Weather and Micrometeorology
- Drone Flights Operations
- Practice Tests

#### **Flight Training**

- Flight Planning
- Preflight checklist
- Flight operation with several drones
- Flight

#### **Modeling software training**

- Learn software to prepare 3D Models

Please contact us to see how we can meet your needs at (714) 612-3046 or [rperez@earthforensics.com](mailto:rperez@earthforensics.com)



## 2023 Unmanned Aerial Vehicle (UAV) Services Fees

### *Investigative Earth Science*

#### **SERVICE FEES (call for site specific estimate)**

Pilot and Observer (in FAA controlled air space)	
On site and travel time (Aerial photography/videography and mapping) .....	\$ 285 per hour or \$2,500 per day
On site and travel time (Thermal Infrared).....	\$ 425 per hour or \$4,000 per day
Mapping (Model preparation and deliverables) .....	\$ 220 per hour*
<small>*Example 30-70 acre model: 8 hrs. for model preparation and deliverables (orthorectified imagery, DEM, 3D model video)</small>	
Data Analysis (Volumetric calculations and elevation differential mapping).....	\$ 200 per hour
Video/photography editing .....	\$ 150 per hour
Additional setup costs	
Survey coordination, FAA waivers or authorizations .....	\$100-200 per hour

#### **DELIVERABLES FORMATS (Files delivered through Dropbox, fee for flash/hard drive)**

- **Photographs:** .tiff, .jpg
- **Video:** .mp4, .wmv, .avi
- **GIS Mapping Products:** .shp, .geotiff, .grd, .xyz, .las files (point cloud)
- **Pix4D:** .p4d model files (additional cost)

#### **REIMBURSABLE EXPENSES**

- Travel, shipping, reproduction, hard drives, and other reimbursable expenses will be invoiced at cost plus 20%.
- Vehicle usage is invoiced at \$0.75 per mile.
- Consumable field supplies will be invoiced at cost plus 20%.

#### **INVOICES**

- Invoices are tendered monthly, payable upon receipt.
- Larger projects may be invoiced bi-weekly.
- If payments are not received in 40 days, work on the project will be suspended.

#### **DISCLOSURE**

Client agrees to provide all information in Client's possession pertinent to actual or possible presence of hazardous chemicals on-site, and agrees to reimburse Earth Forensics, Inc. (EF) for all costs associated with the unanticipated discovery of such substances. Client also agrees to disclose all potential security concerns associated with the work place. If security protection of either personnel or equipment is required, it shall be obtained and either reimbursed, or paid for directly, by Client. At no time shall EF field personnel be required to enter into a situation that they consider dangerous.

*This fee schedule is effective January 1 through December 31, 2023 and is subject to modification after that period.*



## W. RICHARD LATON, Ph.D.

12532 VISTA PANORAMA  
NORTH TUSTIN, CA 92705  
714-296-4055; 714-771-2620 fax  
[wlaton@earthforensics.com](mailto:wlaton@earthforensics.com)

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### VITAE

#### EDUCATION

- Ph.D. (1997), Geology with an emphasis in Hydrogeology, Western Michigan University  
*Groundwater – Kalamazoo River Interaction near the Parchment City Well Field, Parchment, Michigan.*
- M.S. (1992), Environmental Earth Science (Coastal Geomorphology), Western Michigan University  
*Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement; Identification and Mapping.*
- B.A. (1989), Earth Science (Oceanography), Saint Cloud State University, Minnesota  
*Density Flow Analysis of Turbidity Currents.*

#### PROFESSIONAL SUMMARY

Dr. Laton is an expert in the field of geology/hydrology/hydrogeology. He is currently an Associate Professor of Hydrogeology in the Department of Geological Sciences, California State University, Fullerton, and the prestigious 2014 Ross Oliver award winner. This is a continuation of a career that includes years of teaching, consulting, litigation support, and management experience. Dr. Laton possesses extensive knowledge in the areas of geology, hydrogeology, fluvial geomorphology (including erosion and sediment transport), meteorology/climatology (including rainfall, RADAR analysis, and wind), hydrology and surface water, wetlands, coastal monitoring/geomorphology, natural hazards (such as land/mudslides, flooding, and earthquakes), soil and water contamination (fate and transport), environmental field sampling techniques and well hydraulics-well design as well as environmental remote sensing/GIS. His classes at the university encompass topics including; water quality, environmental sampling, groundwater modeling, well hydraulics, oceanography, and basic geology. He enjoys introducing students to applied research and acts as the faculty advisor to many upper-level students. He has also acted as a consultant for numerous companies and agencies that need input on the above subjects as well as natural hazard assessment and mapping.

#### CERTIFICATIONS

California Geologist	(PG-7098)	California Hydrogeologist	(CHg-958)
Alaska Geologist	(PG-673)	Oregon Geologist	(G2153)
Arizona Geologist	(PG-42253)	Pennsylvania Geologist	(PG-5095)
Florida Geologist	(PG-2618)	Texas Geologist	(PG-10018)
Illinois Geologist	(196.001370)	Washington Geologist	(PG-2517)
Indiana Geologist	(LPG-2191)	Washington Hydrogeologist	(CHg-2517)
Minnesota Geologist	(PG-44868)		
New York Geologist	(PG-001222)	AIPG-Certified Geologist	(CPG-10544)
North Carolina Geologist	(PG-2614)	European Geologist	(N-1128)

## SELECTED CONSULTING, RESEARCH, AND EMPLOYMENT EXPERIENCE

### Professional Profile

2010 - Present, President of *Earth Forensics Inc.*

1995 - 2010, Partner (Owner Operator) with *Environmental Science & Planning, LLC.*

1998 - 2001 & 2007 - 2012, Senior Consultant with *Earth Consultants International.*

2001 - 2007, Consultant to *Hromadka & Associates.*

1996 - 1998, Senior Hydrogeologist with *SimulProbe Technologies.*

**2010 – Present. *Earth Forensics, Inc.*** President ([www.earthforensics.com](http://www.earthforensics.com))

Project experience includes project management, expert testimony, fieldwork, and oversight as well as training. Clients have included the State of California, various cities, private firms, law firms, and other consulting companies.

#### 2023

- Vernon, CA. Retained as an expert on groundwater and vapor pathways associated with VOCs, SVOCs, and metals. (Plaintiffs, CA DTSC v NL Industries, Inc. et.al., Case No.)
- Linden, IN. Hired to evaluate the potential groundwater impacts associated with CO<sub>2</sub> Sequestration.

#### 2022

- Orange County, CA. Hired to evaluate data gaps in the environmental analysis of landfill.
- Elysian, TX. Hired to evaluate the potential groundwater impacts associated with CO<sub>2</sub> Sequestration.
- Inglewood, CA. Retained as an expert on non-karst sinkholes. (Plaintiff, Maiden v City of Inglewood, et.al., Case No. 19STCV20008)
- Southern California. Retained as a hydrogeology/hydrology/meteorology expert for various wildfires. (Plaintiff)
- Riverside, CA. Retained as an expert on surface water flow associated with flood damages. (Defense, HSU et.al., v County of Riverside, Case No. CVR12101209)
- California. Retained as an expert on hydrogeology/hydrology/geology and meteorology in association with the Thomas Fire.
- Las Vegas, NV. Retained as an expert on water well design, drilling, and completion (settled).
- Bakersfield, CA. Retained in association with oil field issues and leaking wells.
- Los Angeles County. Retained as an expert on hydrogeology/hydrology and meteorology. (Defense, Werner et.al., v Azirian et.al., Case No. 20smv01176)
- Union, IL. Retained as an expert on contamination from TCE and PCE in groundwater, soil, and soil vapor. (Plaintiff, Harper v TechAlloy Company, Inc. et.al., Case No. 19-LA-307)
- Encinitas, CA. Retained as an expert on groundwater-surface water interaction in bluff areas. (Defense, Trujillo et.al., v City of Encinitas et.al., Case No. 37-2021-00015834-cu-or-nc)
- Tampa, FL. Retained as an expert on Lead in the environment. (Plaintiff, Brown v Gopher Resources, LLC et.al., Case No.)
- Newton, MA. Retained as an expert in mapping and GIS.
- Los Angeles County. Retained as an expert on hydrogeology/hydrology and meteorology. (Defense, Bowmont Holding LLC, et.al., v CAS Construction et.al., Case No. 21SMCV01401)
- Riverside County. Retained as an expert on hydrology. (Defense)
- Franklin, IN. Retained as an expert on groundwater and vapor pathways associated with VOCs. (Plaintiff, Denny et. al., v Amphenol Corp et.al., Case No. 1:19CV-04757-JRS-DLP)
- Illinois. Hired to evaluate the potential groundwater impacts associated with CO<sub>2</sub> Sequestration.
- Indiana. Hired to evaluate the potential groundwater impacts associated with CO<sub>2</sub> sequestration.



- Maryland. Retained as an expert on impacted soil classification and potential for reuse. (Defense, MCM Management Corp v DXI Construction, Case No. C-03-CV-21-003006)
- USA. Retained as an expert on PFAS contamination within the public water supply. (Plaintiff)
- Laguna Beach, CA. Retained as an expert on the water including irrigation and construction moisture issues. Declaration (Plaintiff, Woods Cove v Michael Liikala, Case No. 20-5685-DRC)

## 2021

- Santa Barbara County, CA. Retained as an expert on hydrogeology and water resource sustainability. Expert Report and Deposition (Plaintiff, Goleta Water District v Slippery Rock Ranch, LLC, Case No. 1487005)
- Pleasanton, CA. Retained as an expert associated with dry-cleaning operations and PCE/TCE contamination. (Defense, Charles H Stoll v Timothy Ewing, et.al., Case No. 3:17-cv-02226-JSC)
- Los Angeles County, CA. Cogswell Dam Review and Development of Dewatering Program.
- Santa Barbara, CA. Hydrogeological Evaluation for a Potential Cannabis Project.
- Vista, CA. Retained as an expert on wetlands and surface water flow. (Defense, Goebel v City of Vista and State of California, et.al., Case No. 37-2018-00058162-CU-PO-NC)
- Lake Elsinore, CA. Retained as an expert on surface water and debris flow. (Defense, Gomes, et.al., v County of Riverside, et.al., Case No. RIC2003297)
- Bell Gardens, CA. Retained as an expert on remediation. (Defense, Bell Gardens Avenue, LLC et.al., v 8000 Bell Gardens, LLC, et.al., Case No. 20STCV26362)
- Canoga Park, CA. Retained as an expert on the fate, transport, and cleanup of TCE/PCE contamination. Declaration (Plaintiffs, Behar, et.al., v Northrup Grumman et.al., Case No 21-cv)
- Midwest City, OK. Retained as an expert associated with dry-cleaner operations and potential contamination. Declaration (Plaintiff, Weingarten Realty Investors, et.al., v Brite Cleaners, Inc., et.al., Case No. 5:18-cv-971-JD)
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense, Preciado v City of Encinitas, Case No. 37-2020-00037766-CU-EL-CTL)
- Merrimack, NH. Retained to review PFAS/PFOS contamination. (Plaintiffs)
- East Chicago, IN. Retained to review and evaluate lead contamination. Expert Report (Plaintiffs, Alvarez et. al., v City of East Chicago et. al., Case No. 2:16-cv-00525-PPS-PRC)
- Blades, DE. Retained to review PFAS/PFOS contamination. (Plaintiffs)
- San Diego, CO. Retained as an expert in fluvial geomorphology. Declaration and Expert Report (Defense, Lodge v Barbanell, Case No. A265558-58)
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense, Gilligan v City of Encinitas, Case No. 37-2020-00038879-CU-EI-CTL)

## 2020

- Inglewood, CA. Retained as an expert in soil contamination. Expert Report (Plaintiff, TKG Management, Inc., et.al., v Chubb Custom Insurance Company, et.al., Case No. 2:19-cv-10986-AB-AS)
- Marinette, WI. Retained to review PFAS/PFOS contamination. (Plaintiffs)
- Malibu, CA. Hired to review and report on multiple single-family homes' groundwater resources.
- Blythe, CA. Retained as an expert in surface water hydrology and canal flow. (Plaintiff, Presley v Palo Verde Irrigation District)
- Hesperia, CA. Hired to review Cities water resources.
- Torrance, CA. Hired to develop Conceptual Site Model for a former manufacturing facility.
- Michigan. Retained as an expert associated with the dam failure and resulting flooding. (Plaintiffs)
- Los Angeles, CA. Retained as an expert in environmental consulting. Mediation (Defense, Madrone et.al., v Odic Environmental, Case No. 19STCV27986)
- Central CA. Retained as an expert in hydrogeology and water resources.

- Orange County, CA. Hired to evaluate multiple historical dry-cleaning operations, including developing remedial options for cleanup.
- Chula Vista, CA. Retained as an expert associated with hydrology issues. (Defense, Ludwig v. City of Chula Vista, Case No. 37-2019-00034737-CU-EI-CTL)
- Laguna Niguel CA. Hired to evaluate groundwater conditions associated with a landslide.

## 2019

- Newport Beach, CA. Hired to evaluate the risk posed by contaminated soil, soil vapor, and groundwater in the residential neighborhoods.
- Los Angeles, CA. Hired to evaluate the contaminated soil conditions along a freeway expansion.
- San Diego, CA. Hired to evaluate the hydrogeological conditions of the Mission Valley Project.
- Santa Barbara, CA. Retained as an expert associated with dry-cleaner operations and potential contamination. Expert Reports (Defense, Donald George et.al., v L&R Dry Cleaning, Case No. 5:14-cv-01872-DSF(SHx))
- Apple Valley, CA. Retained as an expert on hydrogeology and water resources. (Plaintiffs)
- Cannonsville, NY. Retained as an expert on hydrogeology associated with an earthen dam. Expert Reports (Plaintiff, City of New York v Gomez et.al., Index No. 451296/2018)
- Santa Paula, CA. Retained as an expert on hydrometeorological conditions related to the Montecito-Thomas Fire. (Defense)
- La Jolla, CA. Retained as an expert associated with the flooding of a single-family residence. (Plaintiff)
- Rancho Palos Verdes, CA. Hired to conduct a site assessment, remedial investigation, and work plan.

## 2018

- Bethpage, Long Island, NY. Retained as an expert associated with groundwater and soil gas contamination. Expert Report and Deposition (Plaintiff, Romano et.al., v Northrop Grumman et.al., Case No. 16-cv-5760)
- San Bernardino County, CA. Hired to conduct a Phase 1 and hydrogeological assessment.
- Glen Ivy, CA. Retained as an expert associated with flood damages. (Defense, Glen Ivy Investments Inc., et.al., v Shea Homes, Inc., et.al., Case No: RIC 1313300)
- Norwalk, CA. Hired to develop CSM and work plan to evaluate historical gas and dry-cleaning facility.
- Merced, CA. Retained as an expert on hydrogeology, groundwater seepage, and surface water. Deposition (Plaintiff, Thorp, et.al., v Merced Irrigation District, et.al.)
- Portland, OR. Retained as an expert associated with a landslide. (Defense)
- Los Osos, CA. Hired to develop a RAP associated with BTEX contamination.
- Newberry Springs, CA. Hired to evaluate water budget and any shortcomings in the Mojave Judgement. Multiple Declaration (Plaintiff, City of Barstow, et.al., v City of Adelanto, et.al., Case No: CIV 208568)
- New Mexico. Retained as an expert associated with field drilling operations and well design. Declaration (Defense)
- Houston, TX. Retained as an expert associated with flood damages from Hurricane Harvey (hydrology and meteorology). (Plaintiffs)
- Huntington Beach, CA. Retained as an expert on PCE contamination; fate and transport associated with a dry-cleaner. Deposition (Defense, Chan Property v Misak Olgun et.al, Case No 30-2018-00984600-CU-PO-CJC)
- Torrance, CA. Retained as an expert on the fate and transport of contamination emanating from refinery operations. Declaration and Deposition (Plaintiff, Goldstein v Exxon Mobil, et.al., Case No 2:17-cv-02477-DSF (SKx))
- Malibu, CA. Hired to perform an assessment of potential single-residence groundwater well.

- Los Angeles, CA. Hired to perform Phase II site assessment at former dry-cleaners.
- Santa Barbara, CA. Retained as an expert on PCE contamination; fate and transport. (Plaintiff)
- Pomona, CA. Retained as a rebuttal expert to provide opinions on hydrogeology, contaminant sources (perchlorate), and historical fertilizer use. Re-Trial(s). Expert Rebuttal Report, Deposition, and Trial (Defense, City of Pomona v SQM North America Corporation – Federal Court)
- Whittier, CA. Hired to review Phase II associated with both residential and commercial property.

## 2017

- San Diego, CA. Retained as an expert in hydrology and meteorology. (Defense, Anderson et.al., v Cortez et.al, Case No 37-2016-00004134-CU-BC-CTL)
- Roxboro and Mayo, NC. Retained as an expert in hydrology, hydrogeology, and geology. Expert Reports and Deposition (Defense, Roanoke River Basin Association v Duke Energy Progress, LLC, Case No 1:16-cv-607 and No 1:17-cv-452)
- Inglewood, CA. Retained to review soil contaminated with arsenic and potential sources. (Plaintiff)
- Torrance, CA. Hired to review the soil, water, and soil gas contaminant history of the refinery.
- Bakersfield, CA. Hired to review water quality on the bottled water plant.
- Santa Barbara, CA. Hired to review contaminant history of former dry-cleaner facility.
- Glendale, CA. Hired to perform background research on dry-cleaner facility.
- San Jose, CA. Hired to perform Phase II site investigation.
- Bishop, CA. Retained as an expert on hydrology and hydrogeology in relation to Round Fire (Defense).
- Thousand Palms, CA. Retained as an expert in hydrology and geomorphology. (Defense, Hernandez v Huth et.al., Case No PSC 1501365)
- Beverly Shores, IN. Retained as an expert on well drilling, abandonment, and geothermal wells. Expert Report and Deposition (Defense, Salomon, et.al., v Mark Scott Construction, et.al., Case No 2:15-cv-464)
- Moraga, CA. Hired to review Phase II Soil Vapor Site Investigation.
- Long Beach, CA. Hired to review Phase II soil and soil vapor site investigation.
- Huntington Beach, CA. Retained as an expert on PCE fate and transport. Deposition (Defense, 17892 Jamestown, et.al., v Goldenwest Laundry, et.al., Case No. 30-2014-00705041-CU-NP-CJC)
- City of Industry, CA. Hired to determine dewatering options, calculate volumes, and review disposal options.
- Lafayette, CA. Hired to review Soil and Groundwater Management Plan.

## 2016

- San Jose, CA. Hired to review and performed site investigation in association with PCE.
- Los Angeles, CA. Hired to develop soil and groundwater sampling plans for CalTrans.
- Malibu, CA. Hired to review groundwater withdrawal impacts on a local stream.
- Malibu, CA. Hired to develop and survey several groundwater monitoring wells.
- Malibu, CA. Hired to oversee pilot drill holes for City water injection program.
- Anaheim CA. Hired to review RI/FS of a former dry-cleaning facility.
- Santa Barbra, CA. Retained as an expert on PCE contamination fate and transport. Expert Report, Rebuttal Report, and Deposition (Defense, Goldberg, et.al., v Goss-Jewett Company, et.al., Case No. EDCV 14-1872DSF)
- Malibu CA. Hired to install several monitoring wells and rehabilitate an existing well.

## 2015

- Denver, CO. Retained as an expert on water wells and hydraulic fracturing. Expert Report, Rebuttal Report, and Deposition (Defense, Hydro v Denver Southeast Suburban Water and Sanitation District et.al., Case No. 201CV30849)
- Orange County, CA. Retained as an expert on groundwater. Deposition (Defense, Kirk et.al., v Varco, et.al., Case No. 30-2010-00423097)
- Orange County, CA. Hired to review South Coast Water District Desalination Program, specifically the slant intake wells.
- Malibu, CA. Hired to oversee groundwater issues associated with a landslide.
- Malibu, CA. Hired to install several groundwater monitoring wells in association with WDR permit.
- Los Angeles County, CA. Retained to provide expert testimony in regard to well abandonment. (Defense, Golden State Water Company v. General Pump, et.al.)
- Los Angeles County, CA. Retained to provide expert geology and hydrogeology testimony. (Defense, C. Donald Albin, et.al., v David Leu, et.al., County of Los Angeles, Case No. TC027060)
- Los Angeles, County, CA. EIR review and comments for wastewater plant and disposal.

#### 2014

- Northern California. Phase II Site Investigation.
- Los Angeles, County, CA. Retained to provide expert rebuttal testimony on regional hydrogeology. Expert Rebuttal Report (Defense, City of Cerritos et.al., v Water Replenishment District of Southern California, Case No. BS128136)
- Los Angeles, CA. Hired to collect samples of both seepage water and treated effluent waters.
- Loma Linda, CA. Retained to provide expert opinion on meteorological analysis. (Plaintiff, SoCal Self-Storage – Loma Linda v City of Loma Linda, et.al., Case No. CIVDS 1200111)
- Los Angeles, CA. Hired to review multiple potentially responsible parties' case files for the Los Angeles Department of Power and Water. (Plaintiffs)
- Malibu, CA. Hired to abandon multiple groundwater monitoring wells.

#### 2013

- San Diego, CA. Retained to provide expert testimony on surface water hydrology, geomorphology, and meteorological analysis. (Defense, Jaffe v Bradshaw, et.al., Case No. 37-2011-00055925-CU-PO-NC)
- Lancaster, CA. Hired to peer-review a groundwater model and subsidence issues.
- Malibu, CA. Hired to review wastewater treatment options.
- Malibu, CA. Hired to review and reply to EIR comments as they pertain to wastewater discharge and hydrology, hydrogeology, and geology.
- Olivenhain Municipal Water District. Hired to evaluate groundwater resources. Conceptual Water Resource Evaluation.

#### 2012

- Torrance, CA. Retained to provide expert testimony on groundwater seepage. (Defense, Torrance Matrix Center Property Owners Association v. Headlands Realty Corporation, et.al., Case No. BC462023)
- Duncan, OK. Retained to provide expert testimony on the fate and transport of perchlorate and other contaminants of concern, geology, and hydrogeology. Expert Reports, Depositions, and Mediation Conferences (Plaintiff, Alexander, et.al., v. Halliburton Company, et.al., Case No. 5:11-cv-01343-M)
- North Central Texas. Hired to evaluate the possible causation of potable water well failures.
- San Francisco, CA. Conducted evaluation of contaminated soils for CalTrans.
- Malibu, CA. Hired to conduct groundwater investigation and model of wastewater discharge into the subsurface. Includes the evaluation of ASR wells and groundwater-sea water interaction.

Includes the development of both groundwater and surface water sampling protocols for long-term monitoring.

- Malibu, CA. Hired to conduct groundwater investigation for wastewater treatment system upgrade on a single-family residence.
- Fennville, MI. Retained to provide expert testimony on the fate and transport of contaminants of concern, geology, and hydrogeology. Expert Report and Deposition (Plaintiff, Barnes, et.al., v Birds Eye Foods, Case No. 1:10-cv-541)
- San Nicolas Island, CA. Hired to develop a white paper on the feasibility of deep-well injection of brine.
- Long Beach, CA. Hired to develop calculations of dewatering operations for the Gerald Desmond Bridge Replacement Project.
- Malibu, CA. Hired to conduct quarterly and annual groundwater and effluent sampling of commercial property.

## 2011

- Orange County, CA. Retained to provide expert testimony on hydrogeology, TCE/PCE and perchlorate contaminant sources and remediation. Deposition (Defense, Orange County Water District v Sabic Innovative Plastics, Case No. 30-2008-00078246-CU-TT-CXC)
- Parker Dam, CA. Semi-Annual Groundwater Reporting to Bureau of Land Management.
- Baldwin Park, CA. Hired to oversee soil and groundwater sampling for CalTrans freeway expansion in association with FlatIron Corp. including both environmental and geotechnical sampling.
- Pomona, CA. Retained as a rebuttal expert to provide opinions on hydrogeology, contaminant sources (perchlorate), and historical fertilizer use. Expert Rebuttal Report and Trial Testimony (Defense, City of Pomona v. SQM North America Corporation, Federal Court)
- Malibu, CA. Retained and hired to evaluate groundwater conditions of a landslide area in association with geotechnical mitigation. Included overseeing groundwater monitoring, drilling of monitoring wells, and meteorological assessment. Included Mediation. (Defense)
- Laguna Beach, CA. Hired to photo-document coastal cave collapse.
- Baldwin Park, CA. Hired to evaluate the soil contamination of several stockpiles in association with FlatIron Corp. for road construction.
- Malibu, CA. Hired to evaluate and construct artificial recharge wells in association with the City wastewater system. Included drilling of test wells, aquifer testing, and water chemistry.
- San Jose, CA. Aid in the development of construction proposal for FlatIron Corp.
- Riverside County, CA. Reviewed ADL reports for SEMA Construction Corp.
- Los Angeles County, CA. Provided Hydrogeologic evaluation of landslide-impacted area.
- City of Los Angeles and Riverside County, CA. Wrote ADL Reports for CalTrans.

## 2010

- Fullerton, CA. Retained to provide expert testimony on contamination source and remedial alternatives. (Plaintiff, M&H Realty Partners v Aerojet-General Corp et.al., CA State Court)
- Carson, CA. Provided review of contaminated soil data and sampling plan for hydrocarbon investigation.
- Fresno, CA. Wastewater sampling at National Raisin Plant. Provide consulting services on wastewater reuse.
- Pleasant Hill, CA. Retained to provide expert assessment of BTEX/MTBE. Declaration (Plaintiff)
- Victorville, CA. Hired to provide background information on Desert Knolls Wash.
- Placer County, CA. Retained to provide hydrogeological assessment of production well and its impact on neighboring domestic wells on behalf of plaintiffs.



- Merced, CA. Retained as designated expert for Chromium VI contamination case. Work included providing hydrogeological analysis and guidance. Declarations, Expert Reports, Deposition and Trial Testimony (Plaintiff, Abarca, et. Al. v. Merck-Federal Court)

**1995 – 2010. *Environmental Science & Planning, LLC*. Partner (Owner Operator).**

Project experience includes management, expert testimony, fieldwork, bid preparation, and consulting for public agencies as well as private companies in the areas of remediation, water resource evaluations, geophysical investigations, surface water management, sampling, and modeling. Selected consulting projects as follows:

**2008**

- Torrance, CA. Provided expert analysis of dry-cleaner facility for commercial property.
- Long Beach, CA. Aided in developing conceptual model of a manufacturing facility.
- Provide technical oversight and alternatives for San Bernardino County Flood Control.
- Orange County, CA. Retained as a designated expert on a single-family home in association with potential water issues. (Defense)
- San Bernardino County, CA. Provided consulting services in relation to water supply to area of single-family residences.
- Signal Hill, CA. Provided expert analysis of downhole video of suspected drain.

**2007**

- La Jolla, CA. Retained as designated expert on surface and groundwater issues related to landslide. (Plaintiff)
- Long Beach, CA. Retained as designated expert on surface and groundwater issues surrounding a coastal condominium complex. (Plaintiff)
- Norco, CA. Provide expert oversight to Wildermuth Environmental, Inc., on surface water and groundwater sampling protocols and training.

**2006**

- Riverside, CA. Environmental Impact Report. Provided technical support on land development associated with an old mining claim.
- Irvine, CA. Environmental Engineering and Contracting. Provided support and review of CPT, ROST data for environmental contamination project in the State of Illinois.

**2005**

- Malibu, CA. Retained as designated expert for hydrogeologic analysis of existing wastewater system. Included Deposition. (Defense)
- Riverside, CA. Oversaw specialized soil and groundwater sampling for Layne Christenson.

**2004**

- Oakland, CA. Soil and groundwater sampling for CalTrans.
- California. Statistical analysis of lead in soil samples for CalTrans highway expansion.
- Carpinteria, CA. Retained as wetland expert, included HEC-RAS modeling.

**2002**

- Playa Vista, CA. Developed methane mitigation plan for residential and commercial development. Included testifying before the County Commissioners.

**1999 – 2000**

- Norco, CA. Oversaw development of methane sampling and mitigation standards for Riverside California.
- Norco/Corona, CA. Methane Mitigation Investigation.
- Long Beach, CA. Conducted both soil and groundwater sampling for Carlin Environmental Consulting.

**1998 – 2001 & 2007 – 2012.** *Earth Consultants International, Inc.* Senior Consultant ([www.earthconsultants.com](http://www.earthconsultants.com)) Work includes project management and project hydrogeologist duties. Other activities include business development and marketing. Projects include wastewater, oil field seepage, and methane mitigation, dewatering for construction purposes, EIR development, water resources investigations, watershed studies, and a regional groundwater GIS study for Riverside County.

**2010**

- Ocotillo/Coyote Wells, CA. Retained to review groundwater basin conditions in association with Wind Zero development. (Testimony on behalf of Client – Imperial County)

**1998 – Present:** City of Malibu Specific Projects

- Hired to provide hydrogeologic services in association with a zero-discharge wastewater system. Aided in Salt Management Plan.
- Hired to provide hydrogeologic services in association with on-site wastewater, Miramar Investment Co.
- Retained to provide consulting services associated with wastewater discharge impacts to the subsurface at Malibu Racquet Club, Casa Malibu Inn, Wavebreak Restaurant and Malibu Cantina Restaurant. (Testimony on behalf of Client – LARWQCB)
- Retained by the City of Malibu to represent them in surface water lawsuit. (Defense)
- Oceanographic-Hydrogeological analysis and modeling of tidal fluctuations, storm surge and impacts to a coastal developments wastewater discharge system.
- Conducted regional groundwater study for the City of Malibu associated with a groundwater flow model of the downtown area. Includes field work, data analysis and modeling support. (Testimony on behalf of Client – LARWQCB)
- Provided expert testimony for City of Malibu on local groundwater conditions. (Testimony on behalf of Client – LARWQCB)
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Crummer Property, Malibu, California.
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Winter Canyon, Malibu California.
- Hydrogeologic Characterization and testimony to wastewater discharge to subsurface – Malibu, California. (Testimony on behalf of Client – LARWQCB)
- Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for proposed wastewater treatment facility in downtown Malibu. (Testimony on behalf of Client – LARWQCB)
- Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for the Proposed Construction of Thirteen Single-Family Residences in Trancas Canyon, Malibu, California.
- Groundwater study of Winter Canyon, Malibu, California for the purpose of determining the feasibility of using the canyon for wastewater disposal.
- Groundwater study of 200 acres in preparing the Malibu Civic Center EIR.
- Provide expert witness testimony on sewer seepage and geology for the City of Malibu. (Testimony on City of Malibu – LARWQB)

**2001**

- Developed Safety Elements for the cities of Newport Beach, Brea, Glendale, and Pasadena.

**2000**

- Los Angeles, CA. Playa Vista Corporation – Groundwater and Methane Migration Investigation on Playa Vista Property. (Testimony on behalf of Client – City of Los Angeles)

## 1999

- Safety Element of the General Plan, Riverside County.
- Orange, CA. Environmental Impact Report – Geologic, Seismic and Hydrologic Sections of the Environmental Impact Report for the Proposed Sully-Miller Fieldstone Project.
- Brea, CA. Feasibility investigation to review mitigation options for active crude oil seeps (tar) and methane generation.

## 2001- 2007. *Hromadka & Associates*. Consultant

Provided litigation support, computer, and physical modeling, expert report reviews, and writing along with managing multiple cases and field-site inspections for the company.

## 2006

- San Diego, CA. PCB transport in San Diego Bay.
- San Francisco, CA. Physical model of apartment complex combined sewer and storm drain network.
- San Francisco, CA. Severe rainfall analysis for four storm events, flooding.

## 2005

- Yorba Linda, CA. Analysis of sediment transport from large grading project and nursery debris production at a school site.
- Irvine, CA. Groundwater uplift analysis of clogged filter fabric in the flexible lining and sediment transport in San Diego Creek in 2-mile reach using flexible block lining.
- Torrance, CA. Sediment transport in Compton Creek downstream of Montrose Plant. Transport analysis of sediment in major/minor events.
- Development of Volume Based BMP design procedure for San Bernardino County WQMP.
- Multi-lake hydrologic and water quality analysis at Lake Merced, California. Phosphates, nitrates, golf courses, coliform in groundwater, flood control and risk reduction. Tunnel flow capacity analysis. Hydrologic balance analysis.
- Santa Rosa, CA. Transport and fate of TCE, PCE in surface water.
- Anaheim Hill, CA. Soil water transport and ET studies for several hundred residences. Water balance studies.
- Fullerton, CA. Soil water transport and ET studies for several dozen residences. Soil water flux in concrete.
- San Clemente, CA. Soil water transport and hydrologic balance analysis near landslides.
- Castaic Lake, CA. Soil water transport and hydrologic balance analysis of residential tract.
- Oahu, HI. Groundwater plume transport, analysis of BTEX in rising groundwater and tidal effects.
- Daly City and San Francisco, CA. Flooding and tunnel capacity analysis.

## 2004

- Tehachapi, CA. Analysis of TDS, cement Kiln dust, chlorinated hydrocarbons, BTEX, TCA, TCE, DCA, and DCE, groundwater flow in fractured and faulted media.
- Irvine, CA. Groundwater hydrostatic pressure analysis, waterproofing of office center.
- Laguna Canyon, CA. Modeled Landslide.
- Fullerton, CA. Sediment and Debris production, transport, 50-acre watershed.
- Palm Springs, CA. Transport of Aeolian Sand, PM10, saltation, creep, entrainment in "Blow Sand" area.
- Water Quality holding time criteria development, 85-percentile of average storm analysis, County of San Bernardino, Water Resources Division.

## 2003

- Torrance, CA. Sediment transport analysis between city of Torrance and Santa Monica Bay. DDT transport.

- Analysis of TDS, viruses, bacteria, raw sewage, in New River, and Salton Sea. Evaporation impacts to Salton Sea salinity.
- San Clemente, CA. Analysis of landslide development.
- Henderson, NV. Analysis of soil water excess. Perchlorate sampling and analysis
- Review of perchlorate modeling and transport, Mid-Valley Landfill, San Bernardino County, California.
- Groundwater supply and TDS levels of inflow into New River and Salton Sea, Imperial Valley, California.
- Henderson, NV. Man-made preferential pathways and groundwater transport in land development.
- Anaheim Hills, CA. Water Supply, soil water saturation, landscape methodology review, moisture accumulation, percolation tests.
- San Diego, CA. Analysis of releases, BTEX, MTBE, lead, groundwater flow, plume evolution, soil gas, soil TPH, CPT/LIF, HydroPunch data, at Mission Valley.

## 2002

- Honolulu, HI. Sediment transport and erosion.
- Las Vegas, NV. Debris and sediment flow in Duck Creek.
- Irvine, CA. Statistical analysis of all Orange County sediment and contaminant data, San Diego Creek watershed.
- Ontario, CA. Groundwater modeling and analysis of Kaiser TDS plume.
- San Clemente, CA. Analysis of landslide hydrologic balance.

## 2001

- Irvine, CA. Stability of erosion control measures in San Diego Creek.
- Dana Point, CA. Erosion analysis of slope failures.
- Torrance, CA. Transport of DDT in surface water, groundwater, sediment, and atmosphere, M2000 Transport of DDT from chemical plant.
- San Diego, CA. Groundwater transport of fuel, free product, in Mission Valley.

## 1996 – 1998, *SimulProbe Technologies*. Senior Hydrogeologist

Traveled extensively throughout North America and Europe marketing various technologies. Promoted to head of marketing in the Midwest and Southwest regions. Responsibilities included; budgeting, supervising staff, project management, and making presentations to government officials and private contractors. Duties also included direct marketing to drilling firms and environmental consultants, supervising all sales personnel and marketing efforts; scheduling service calls and field operations; assisting with R&D; field training, and site management.

## *Miscellaneous Projects*

### 1995 – 1998, Project/Staff Geologist

- Kalamazoo, MI. Worked with United Environmental Technologies, Inc. to help develop sampling and well-construction protocols for various projects.
- Kalamazoo, MI. Worked for the *GEM Regional Center, Western Michigan University*. Conducted water budget analysis for watershed located in Calhoun County.
- Kalamazoo, MI. Worked with the *Health Division of the Michigan Department of Environmental Quality* on well-grouting issues surrounding public and private water supplies.
- Kalamazoo, MI. Worked with the *Michigan Department of Environmental Quality* on the Hydrogeological and Geochemical aspects of the Panelyte site. This involved the use of geophysics and geochemical analysis for the detection and mapping of possible contaminants.

- Ross Township, MI. Retained through *Western Michigan University* by the City of Kalamazoo, to determine the impact of a proposed wellfield on the surrounding surface water bodies (streams, lakes and wetlands).

#### 1993 – 1995

- Minden, MI. Retained by *Michigan Peat Company* to evaluate peat reserves. Evaluation involved sampling and mapping the peat reserves for the purpose of litigation.
- Salem, IL. Retained by *Hi-Shots Aerial Photography Inc.*, to setup and demonstrate internet capabilities for small business.
- Michigan. Retained by *Superior Environmental Corp.* to conduct an EM-31 geophysical surveys. The surveys were designed to locate possible buried tanks in a downtown bank parking lot, a corner restaurant parking lot, fabrication/manufacturing buildings and a former car dealership.
- Schoolcraft, MI. *Alpha GeoSciences Inc.* (Through Department of Geology, Western Michigan University). Hired to run a hollow stem auger drill rig. Three 30-foot wells were installed.
- Kalamazoo, MI. *Golder Associates Inc.* (through the Institute for Water Sciences, Western Michigan University) retained to geophysical log monitoring wells located within the KL-landfill CERCLA site using natural gamma radiation.
- Champaign/Urbana, IL. Conducted an aerial photographic survey of the Champaign/Urbana landfills to locate hot spots where possible sub-surface fires may be burning. Contract was funded through the *Illinois State Geological Survey*.
- Ann Arbor, MI. Conducted aerial photographic survey of a contaminated wetland for *Alpha GeoSciences Inc.* of Kalamazoo, Michigan. Provided site maps of monitoring wells and sampling locations.

#### 1991 – 1993

- Sanibel Island, FL. Retained by the *City of Sanibel Island, Florida* to evaluate coastal erosion along the Gulf Coast side of the island for the purpose of litigation.
- Paris, France. Retained by *Littoral et Patrimoine* for projects in France and India. Evaluated coastal erosion and constructed possible solutions to ongoing erosion problems.
- Sandusky, OH. Designed a sediment coring program along the Sandusky River and part of Lake Erie for a project funded by the *Ohio Department of Natural Resources*. The sediment cores were used in defining the sediment input from the Sandusky River and Lake Erie on adjacent estuaries/marshes.
- Three Rivers, MI. Retained by *Reid and Reid Law Offices*, Kalamazoo, Michigan, to evaluate the effects of the construction of a golf course and adjacent buildings on the water quality of Lake Templene for the purpose of litigation.
- Portage, MI. Designed and coordinated the work on an aeration pilot project on Austin Lake. This project involved bottom sampling, coring, and sediment profiling. Collected and analyzed the sediment and water samples for the *Ramco Company*. Prepared an independent report on the success of the entire project.
- Ludington, MI. Assisted on the Department of Geology's state-funded project involving erosion control monitoring of Undercurrent Stabilization systems.
- Michigan. Assisted the Western Michigan University Department of Geology on a state-funded project regarding erosion monitoring along Lakes Michigan and Huron.
- Wilmington, NC, and Plainwell, MI. Retained by Dr. Thomas Straw to analyze various meteorological parameters for a host of hydrology projects.
- Plainwell, MI. Retained by Dr. Thomas Straw to solve problems associated with a gravel pit operation.

#### 1990 – 1991

- Atlanta, GA. Retained as a consultant by *Sutherland, Asbill & Brennan*, to address a wetland problem within one of *Mobil Land Development Company's* major developments. This included



wetland hydrology, soil chemistry monitoring, and aerial photographic interpretation. Litigation support.

- Benton Harbor, MI. Member of Scientific Party – Great Lakes Mapping cruise of eastern Lake Michigan (United States Geological Survey cruise no. NPTN91-1). The resultant sediment samples were split between WMU and the USGS allowing for research on Fourier shape analysis for possible fingerprinting of sediment origin.
- Western Michigan University, Institute for Water Sciences. Research assistant on a USGS-funded project along the Lake Michigan shoreline.

**1989 – 1990**

- Western Michigan University. Worked with the Department of Geology on small construction projects and consulted on a state of Michigan-funded project addressing shoreline erosion.

**1983 – 1989**

- Hutchinson, MN. *3M Company*. Summer Intern - worked at various jobs for the 3M Company including heavy equipment operator, plastic injection modeling, and VHS line operator.

## TEACHING EXPERIENCE

### **2006 – Present** California State University, Fullerton, CA

Associate Professor of Hydrogeology. Responsible for teaching lower division classes in Hydrogeology (GEOL 436); Physical Geology (GEOL 101-GE); Water Crisis in California (GEOL 310T); Sedimentology and Stratigraphy (GEOL 321); Hydrology and Surface Processes (GEOL 335); Field Camp (GEOL 481) and upper division classes in Groundwater Modeling; Environmental Sampling and Protocols; Well Hydraulics and Aquifer Analysis (GEOL 535T)

### **2015 – 2018; 2019 - 2022** Western Michigan University, Kalamazoo, MI

Adjunct Associate Professor, Department of Geological and Environmental Sciences.

### **2000 – 2006** California State University, Fullerton, CA

Assistant Professor of Hydrogeology. Responsible for teaching lower division classes in Hydrogeology (GEOL 436); Meteorology (GEOL 340-GE); Oceanography (GEOL 333-GE); Physical Geology (GEOL 101-GE) and Lab (GEOL 101L-GE) and upper division classes in Groundwater Modeling; Environmental Sampling and Protocols; Well Hydraulics and Aquifer Analysis (GEOL 535T); Research Methods in Geology (501); Geology Seminar (GEOL 590)

### **2001 – 2016** Western Michigan University, Kalamazoo, MI

Responsible for Summer Field Course in Hydrogeology. Teach at least 1-week graduate level field course(s) every year including (1) Principles of Well Drilling and Installation; (2) Principles and Practices of Aquifer Testing; (3) Remediation Design and Implementation

### **1999 – 2000** California State University, Fullerton, CA

Part-time instructor. Responsible for Oceanography (GEOL 333) and Water Quality (GEOL 437).

### **1992 – 1996** Western Michigan University, MI

Graduate Student Instructor responsible for Hydrogeology (GEOL 435), Oceanography (GEOL 333), and Hydrogeology Summer Field Course (GEOL 535 a, b, c, d, e and f). This field course consisted of six individual modules (40-Hour HAZWOPPER, Environmental Surface Geophysics, Principles of Well Drilling and Installation, Principles and Practices of Ground-Water Sampling and Monitoring, Principles and Practices of Aquifer Testing and Analysis, and Remediation Design and Implication). Other responsibilities included Construction Measurements and Layout through the Department of Engineering Technology. Responsible for the lab sequences only.

## Other Teaching Experience

2021-23 Instructor – Gregg Drilling Field Day

2021 Instructor – California Public Water Supply Systems

2018 Instructor – CalGeo – Soil Logging and Litigation

2016-17 Instructor – SCGS – Soil Sampling and Classification Short-Course

2012 Instructor – NGWA Hydrogeology Field Methods Course: What you didn't learn in School. Andover, MN.

2010-11 Reviewer/Participant – Worked with Healthy Heroes, LLC developing educational videos.

1996 – 98 Instructor – *Eight-hour OSHA HAZWOPER* supervisor course (29 CFR 1910.120 (e)(3).

1995 Hi-Shots International Conference. Taught short-course on environmental remote sensing utilizing a helium-filled tethered blimp.

1992 Kalamazoo, Michigan. Teaching Assistant for a course titled *Shoreline Geology and Processes*. Course sponsored by the Secondary Education of Michigan Summer (SEMS). This was a state-funded project.

1991 St. Joseph, Michigan, Berrien County. Teaching assistant for a course titled *Shoreline Geology and Processes* sponsored by the SEMS State funded project.

### **Developed CSUF-Departmental Short-Courses:**

- CPT Demonstration Day – Gregg Drilling (2010)
- AMS Demonstration Day (2009)
- GeoProbe Demonstration Days (2009 – 2011, 2017)
- Westbay Multiport Sampling (2004-09, 2017)
- CPT Field Demonstration on Quality Environmental Site Investigation. (In-cooperation with Gregg Drilling) (2004)
- Environmental Sampling Procedures and Practices (2003)
- Borehole and Well Logging Interpretation (Taught at Layne Christenson) (2003)
- Baroid Industrial Drilling Products – Drilling and Boring Fluids (2002)
- GIS Course I & II – What is GIS and how can it be utilized in research (2001)
- FEMA – Advanced HAZUS Training for GIS Professionals (2001)

### **TEACHING PHILOSOPHY**

As a professor, my goal is to provide students with practical experience essential for building a successful career. In addition to providing the “*nuts and bolts*” of a subject, I encourage students to apply traditional knowledge to innovative approaches through applied research and hands-on experience. I aspire to motivate students by fostering participation in unique learning opportunities, many of which are provided by local companies, agencies, and vendors willing to share their services and expertise.

Through private and government grants and contracts, I am able to provide multiple funding opportunities to my students, allowing them the means to spend more time on their academic studies and also providing experience through field-related projects. My main research focus is groundwater hydrology and hydrogeology of arid environments. Most of my students directly participate in this research and are able to obtain either Bachelors’ or Masters’ degrees through individual projects for which they are responsible.

I encourage my students to actively participate in professional organizations in order to build strategic partnerships and create a broad reaching network of individuals and indispensable resources. Further, I encourage students to present abstracts and posters at local and national conferences and to publish their research as much as possible in order to stimulate educated discussions with their peers and accomplished professionals.

The best way to measure the effectiveness of my objectives and to judge my goals is to elicit student feedback and evaluation. I am consistently rated very high by my students in their end of semester assessments. My biggest reward as a teacher is a lasting professional and personal relationship with my students. I enjoy working with and supporting students through their academic careers and feel honored when they graduate with a professional degree.

## **AWARDS, HONORS, SPECIAL QUALIFICATIONS**

- NGWA 2014 Ross L. Oliver Award
- NGWA 2014 Keith E. Anderson Award
- Western Michigan University 2011 – Distinguished Alumni Award
- NGWA 2009 McElhiney Lecturer for Water Well Technology
- International Ground Source Heat Pump Association (IGSHPA) Accredited Trainer (20589-0709)
- Boy Scouts of America – Merit Badge Sponsor: Geology, Oceanography, Environmental Science and Soil and Water Conservation
- CSUF – Student Association, Outstanding Academic Advisor (2003/04)
- CSUF – NSM Nominee for Outstanding Contributions to Student Success Award (2002/03 & 2003/04)
- Western Michigan University established a scholarship in my honor for the outstanding hydrology field camp students. Awarded annually since 1998
- Western Michigan University, Department of Geology, Distinguished Service Award, 1997
- Western Michigan University Research Fellowship 1991-1992
- IEEE OCEANS 92' student paper finalist
- OSHA 40-Hour Hazwoper Supervisor, active

## **NATIONAL AND UNIVERSITY COMMITTEES**

- CSUF, Hiring Committee for VP Government and Community Relations (2020)
- CSUF, Campaign Congress, 2020-present
- CSUF, Strategic Planning Committee Member, 2019-present
- CSUF, Hiring Committee for VP Advancement (2018)
- CSUF, University Advancement Committee Member, 2003-05; 2011-15; 2017-21 (chair 2017-20)
- CSUF, Freshman Pathways (Sustainability), Committee Member, 2013-2015
- CSUF, ENST Advisory Committee, 2004 - present
- NSM, Safety Committee Member, 2010-2014
- NSM, Service Learning, Committee Member, 2001-2007
- NSM, Tucker Wildlife Advisory Board, 2003-2007
- NSM, Career Opportunity Committee, 2004-2006
- WMU, Geosciences Advisory Council Member 2007 - present (Chair 2021- )
- GRAC – State Meeting Committee Member 2007-2009
- GRAC – Educational Committee Member 2009 - present
- NWRI – Independent Advisory Panel; OCWD Santa Ana River Monitoring Program, 2006-2012
- Long Valley Hydrologic Advisory Committee, 2003-2009

## **NATIONAL GROUND WATER ASSOCIATION**

- NGWA Research and Education Foundation, President, 2015-2017
- NGWA Research and Education Foundation, Board Member, 2010-2014, 2017-2018
- Scientists and Engineers Division, Past Chair 2012-2014
- Scientists and Engineers Division, Chair 2010-2012
- Scientists and Engineers Division, Vice-Chair, 2008-2010
- Scientists and Engineers Division, Board Member, 2004-2008; 2016-2020
- NGWA - McElhiney Lecture Committee, 2014 - 2018 (chair 2014); 2019 - present
- NGWA – Board of Directors, 2008-2014
- NGWA – Council for External Relations, 2010-2012
- NGWA – Council for Planning, 2006-2010
- NGWA – Professional Development Committee Member, 2000 - (chair 2009-2010)
- NGWA – Groundwater Summit Co-Chair (2006): Committee Member (2005, 2007-2012)
- NGWA – National Certification Committee Member, 2002-2008
- NGWA – Finance and Budget Standing Committee, 2008-2012
- NGWA – American Geological Institute Representative, 2009-2010

**FUNDED GRANTS and CONTRACTS**  
**(CSUF total to date through 2023: over \$ 3,000,000)**

**2016-2020**

- California High Speed Rail Authority (\$500,000); Oversee Groundwater issues as they may pertain to construction and operations of the California High Speed Rail. Including groundwater modeling review and deep groundwater monitoring.

**2004 – 2014**

- Mojave Water Agency (\$2,099,000); *Grant for work on Water Resource Evaluation and Mapping – Mojave Desert Region* (Alto, Este, Oeste and Centro Hydrologic Sub-areas).

**2003**

- Mojave Water Agency (\$217,000); Water Resource Research within the Mojave Desert. Part of this project is to develop a GIS/Database inventory of all wells, groundwater elevations and hydrogeochemistry of each basin within the boundaries of MWA. Specific portions of the grant were set aside to oversee, collect, and analyze data from a 2,500-foot-deep multiport monitoring well in the vicinity of Oro Grande Wash.
- Friends of the San Gabriel River (\$32,000); *Citizens Monitoring Program Development and Implication*. This was funded through a State of California Grant (Prop 50).

**2002**

- Mojave Water Agency (\$57,405); *Groundwater Investigations to look at potential recharge areas throughout the Southern Mojave Desert Area*. Establishment of digital well log inventory and bibliographic search of all documents pertaining to MWA water agency. CSUF was also charged with developing a key well program for Lucerne Valley based on groundwater basin recharge.
- CSUF Service-Learning Mini-Grant (\$1,500); *The integration of Service Learning into Advanced Environmental Geology*.
- Earth Consultants International, Inc. (\$3,000); *Geologic Interpretation of borehole geophysics. Involves the gamma-ray logging and interpretation of subsurface geology*.

**2001**

- CSUF Service-Learning Mini-Grant (\$3,000); *The integration of Service Learning into Advanced Hydrogeology Sampling*.
- San Elijo Lagoon Conservancy (\$35,000); *Sediment Quality and Depositional Environment of San Elijo Lagoon*.
- Los Angeles Regional Water Quality Control Board (\$31,000); *The Santa Clara River Watershed; GPS and Observational Report on the Santa Clara River*
- Grant to develop a web-based model on Distance Calibration of Earth Images (\$800). This was part of Advanced Technology in Science Learning Environments Grant through the Department of Biology.
- CSUF Summer Support Assistance (\$5,000); This was summer support money to aid in the sampling of water and soil throughout Orange County, California.

**2000**

- Los Angeles Regional Water Quality Control Board (\$25,000); *The San Gabriel River Watershed; GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach*.



## **IN-KIND DONATIONS for Research / Projects**

- Supplies for Screen and Gravel Pack Analysis (est. \$4,000); Donated by Johnson Screens
- DJI Phantom II (est. \$2,500); Donated by Earth Forensics Inc.
- Cave Bear, misc. fossils (est. \$200,000); Donated by Gregg Family Foundation
- Woolly Mammoth (est. \$500,000); Donated by Gregg Family Foundation
- Software (Visual Modflow) (\$2,700); Donated by Earth Forensics Inc.
- Soil sampling supplies and equipment (\$2,500); Donated by GeoProbe
- Deep Multiport Westbay Monitoring Well (\$300,000); A deep multiport monitoring well was installed on the northwestern portion of campus in order to develop a long-term monitoring program for groundwater in the north Orange County groundwater basin. The well was installed with sampling ports at 6 different zones to a total depth of 850 feet below ground level. The entire project was donated.
- Miscellaneous equipment supplies and laboratory analysis has been donated for a multitude of different projects (\$50,000). These donations have been used for student thesis research and classroom activities.
- Sampling Truck (value \$30,000). The vehicle is specially designed to collect water samples downhole – equipped with twin generators and large capacity hydraulic system. Donated by Earth Technologies, Inc.
- Ford F-250 Pickup (\$8,000); Donated by URS Corporation
- Generator (\$2,500); Donated by Aquifer Science and Technology
- Software (Waterloo Hydrogeologic – Visual Modflow, AquiferTest and Aquachem) (\$10,000)
- Software (Groundwater Vistas) (\$2,500+\$2,250 for update)
- Conference table and chairs (\$500); Donated by URS Corporation
- Arboretum Groundwater Study (approximately \$10,000); Drilling and installation of 3 monitoring wells for the purpose of developing curriculum for general hydrogeology. These wells are part of a larger project to interpret the hydrogeology of CSUF and the local area.

## PROFESSIONAL PUBLICATIONS, ABSTRACTS, PRESENTATIONS and POSTERS

### Peer-Reviewed Publications (Published, Accepted, Submitted)

1. Laton, W.R., 2021. *Malibu, California: A Story of Wastewater, Politics, and Science*. The Professional Geologist. 2021; Vol. 58. No. 2, pages 15-19. USPS 590-810 and ISSN 0279-0521
2. Laton W.R., 2019. *New perspectives on horizontal to vertical well ratios for site cleanup*. Remediation. 2019; 30: 27–31. <https://doi.org/10.1002/rem.21628>
3. <sup>2</sup>D. Dailey, W. Sauck, M. Sultan, <sup>2</sup>A. Milewski, <sup>2</sup>M. Ahmed, W.R. Laton, R. Elkadiri, J. Foster, C. Schmidt, and T. Al Harbi., 2015. *Geophysical, geochemical, and remote sensing applications for a better understanding of the structural controls on groundwater flow in the Lucerne Valley, California*. Journal of Hydrology: Regional Studies 3 (2015) 211-232. <https://doi.org/10.1016/j.ejrh.2014.12.002>
4. Laton, W.R., 2006. *Building Groundwater Monitoring Wells on Campus – A Case Study and Primer*. Journal of Geoscience Education (Vol. 54, No. 1), pgs 50-53. <https://doi.org/10.5408/1089-9995-54.1.50>
5. Laton, W.R., Whitley, R.J., and Hromadka II, T.V., 2006. *A Methodology for Identifying the Potential Source of Groundwater Contamination in a Multiple Source Problem Using a New Mathematical Approach*. Hydrogeology Journal. DOI 10.1007/s10040-006-0106-4
6. Laton, W.R., Hromadka II, T.V. and Picciuto J.A., 2006. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. Hydrological Science and Technology, Volume 22, No.1-4.
7. Laton, W.R., 2004. *Seepage, Flow and Chemical Partitioning Between the City of Parchment Wellfield and the Kalamazoo River, Southern Michigan*. Journal of Floodplain Management (Vol. 4, No. 1), pgs 11-32.
8. Laton, W.R., Perez, R., Foster, J.F., *UAV Thermal Mapping of the High-Speed Rail (HSR) Route through the San Gabriel Mountains, California*. (in review)
9. Foster, J.F., Laton, W.R., and Perez, R., *Sudden Late Holocene closure of San Elijo Lagoon, northern San Diego County, California*. (in prep)
10. Perez, R., Foster, J.F. and Laton, W.R., *Hydrostratigraphy of Victorville Fan and Water Resources Implications*. (in prep)

### **Guidebooks, Full Paper Proceedings and Articles**

1. Laton, W.R., Perez, R., and Bausch, D., 2018. Hazard Maps for Riverside County, California. San Diego Association of Geologists annual field trip guidebook (update of earlier version).
2. Laton, W.R. and Krstich, B., 2010. *Zoom Zoom, Public works managers are now using Google Earth to track environmental and water resources*. Public Works Online. (Public Works Manual 2010)
3. Laton, W.R., 2005. The Cutting Edge “*Teaching Hydrogeology in the 21<sup>st</sup> Century*”. NGWA-AGWSE News and Views. (article September 2005)
4. Jenson, J. and Laton, W.R., 2005. Second Annual Groundwater Summit. NGWA-AGWSE News and Views. (article September 2005)
5. Laton, W.R., 2004. *Building Ground Water Monitoring Wells on Campus: A Case Study and Primer*. NGWA-AGWSE News and Views. Vol. 1, Issue 1.
6. D. Bausch, E. Gath, T. Gonzales, and R. Laton, 2000. *GIS-Based Hazard Mapping and Loss Estimation in the Safety Element of the General Plan for Riverside County, California*. California: EERI 6<sup>th</sup> International Conference on Seismic Zonation, Riverside County, California.
7. Laton, W.R., <sup>1</sup>Perez, R., and Bausch, D., 2000. *New Hazard Maps for Riverside County, California*. San Diego Association of Geologists annual field trip guidebook.
8. Laton, W.R., 1992. *Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement; Identification and Mapping*. OCEANS ‘92, Newport, Rhode Island.

### **Public Reports and White Papers**

1. Laton, W.R., Foster, J., Perez, R., and Becker, M., 2020. *Phase II Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High Speed Rail Authority.
2. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up*. EnRx.
3. Laton, W.R., 2016. *Phase I Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High Speed Rail Authority.
4. Laton, W.R., 2016. *DTSC Aquifer Test Guidance*. Reviewer for draft guidance document.
5. Laton, W.R., 2012. *Disposal of Desalination Effluent; Deep-Well Injection Feasibility San Nicolas Island, California*. US Navy.
6. Foster, J., Laton, W.R., et. al., 2008. *Geologic Map Series of Mojave Region*. (750, 500, 250, 24’ and 15’). Mojave Water Agency. Revised series, Fall 2010.
7. Laton, W.R., Foster, J., et. al., 2007. *Oeste Hydrologic Sub-Basin Report*. Mojave Water Agency.
8. Hromadka, II, T.V., Laton, W.R. and <sup>2</sup>Perez, R., 2006. *Hydrologic Data Report October 17-21, 2004 Storms*. Orange County Flood Control District.
9. Laton, W.R., Foster, J., et. al., 2007. *Groundwater Atlas of Oeste Hydrologic Sub-basin*. Mojave Water Agency.
10. Laton, W.R., Foster, J., <sup>2</sup>Ebbs, V., <sup>2</sup>Blazevic, M., and <sup>1</sup>Napoli, N., 2007. *Harper Lake Hydrologic Sub-Basin Report*. Mojave Water Agency.
11. Laton, W.R., <sup>1</sup>Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Baja Hydrologic Sub-Basin to Afton Canyon Report*. Mojave Water Agency.
12. Laton, W.R., <sup>2</sup>Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Este to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
13. Laton, W.R., <sup>2</sup>Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Oeste to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
14. Laton, W.R., <sup>2</sup>Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Alto to Centro Hydrologic Sub-Basins Report*. Mojave Water Agency.

15. Laton, W.R., <sup>1</sup>Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Centro to Baja Hydrologic Sub-Basins Report*. Mojave Water Agency.
16. Hromadka, II, T.V., Laton, W.R., and Picciuto, J.A., 2005. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. San Bernardino County Flood Control District.
17. Laton, W.R., Foster, J., et. al., 2004. *Este Hydrologic Sub-Basin Report*. Mojave Water Agency.
18. Laton, W.R., Foster, J., et. al., 2004. *Groundwater Atlas of Este Hydrologic Sub-basin*. Mojave Water Agency.
19. Laton, W.R., et. al., 2004. *San Gabriel River Watershed Atlas*. Friends of the San Gabriel River.
20. Laton, W.R., et. al., 2004. *San Gabriel River Watershed QAPP and Sampling Manual*. Friends of the San Gabriel River.
21. Laton, W.R., <sup>2</sup>Kendall, D. and <sup>2</sup>Lizzy, A., 2004. *Drilling Methods and Materials*. On-line course material for NGWA.
22. <sup>1</sup>Blazevic, M. and Laton, W.R., 2004. *Mojave River Stream Gauging*. Mojave Water Agency
23. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy.
24. Laton, W.R. and Foster, J., 2001. *Sediment Quality and Depositional Environment of San Elijo Lagoon, San Diego County, California*. San Elijo Nature Conservancy and Fish and Wildlife Service.
25. Laton, W.R. and Foster, J., 2001. *Santa Clara River Watershed Inventory*. Los Angeles Regional Water Quality Control Board.
26. Laton, W.R. and Foster, J., 2000. *The San Gabriel River Watershed GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach*. Los Angeles Regional Water Quality Control Board.
27. Straw, W.T., <sup>2</sup>Hascall, A.P., <sup>2</sup>Laton, W.R., and <sup>1</sup>Dalman, M., 1997. *Groundwater – Surface Water Interaction Study in Ross Township*. City of Kalamazoo, Michigan.
28. Straw, W.T. and <sup>2</sup>Laton, W.R., 1993. *WMU Austin Lake Aeration Feasibility Study Evaluation*. City of Portage, Portage, Michigan.
29. Straw, W.T., <sup>2</sup>Wardwell, D.A. and <sup>2</sup>Laton, W.R., 1992. *An Evaluation of Undercurrent Stabilization Anchor System Installation at Douglas and Tawas City, Michigan*. Michigan Department of Natural Resources.

<sup>1</sup>Undergraduate Student

<sup>2</sup>Graduate Student

### **Abstracts, Presentations and Posters**

1. Laton, W.R., 2022. *UAV Thermal Mapping to Develop Baseline Conditions for California High Speed Rail through San Gabriel Mountains!* (SCGC Invited)
2. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (GRAC Invited)
3. Laton, W.R., 2021. *Working with that new Geologist in the field*. (NGWA Expo - workshop)
4. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (ENST Invited)
5. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems*. Florida Remediation Conference (recorded virtual presentation).
6. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2021. *Fundamentals of Horizontal Well Systems and Modeling Tools*. AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual - Workshop)
7. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems*. AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual - Presentation)
8. Laton, W.R., 2021. *Groundwater of California*. WMU Geology (Invited)

9. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2020. *Fundamentals of Horizontal Well Systems and Modeling Tools*. AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual - Workshop)
10. Laton, W.R., 2020. *Groundwater of the States: California*. NGWA Webinar Series.
11. Laton, W.R., 2020. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems*. AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual). (abstract/presentation)
12. Laton, W.R., 2020. *New Perspectives on Horizontal to Vertical Well Ratios for Site Cleanup*. 12<sup>th</sup> International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Battelle, Portland, OR. (abstract/presentation) (conference postponed)
13. Laton, W.R., 2020. *Malibu California, Wastewater and Politics* Cal State University, Fresno, CA. (Invited)
14. \*Alonzo, T., Laton, W.R., Hanna, T., 2019. *Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Design and Construction*. NGWA Expo, Las Vegas, NV. (abstract/presentation) (Outstanding Research Award)
15. Laton, W.R., 2019. *The Concept of Sustainability and the Recruiting of Younger Millennials*. NGWA Expo, Las Vegas, NV. (workshop)
16. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up*. AEHS, 29<sup>th</sup> Annual International Conference on Soil, Water, Energy, and Air. San Diego, CA. (abstract/presentation)
17. Laton, W.R., 2018. *Take my Job*. NGWA Expo, Las Vegas, NV. (workshop)
18. Laton, W.R., 2018. *Groundwater – The Water beneath Our Feet*. CSUF Fullerton Arboretum. (Invited)
19. \*Perez, R. and \*Laton, W.R., 2018. *The Use of UAVs for Groundwater Research*. California State University, San Bernardino. (Invited)
20. \*Perez, R. and Laton, W.R., 2017. *UAV's for Use in Groundwater Resources*. NGWA Expo, Nashville, TN. (workshop)
21. Laton, W.R., 2017. *Introduction to Borehole Geophysics*. NGWA Expo, Nashville, TN. (workshop)
22. Laton, W.R., 2017. *Malibu California, Wastewater and Politics*. Southern California Chapter of AEG. (Invited)
23. Laton, W.R., 2017. *Low Altitude Photography Utilizing UAVs – Geologic and Hydrologic Applications*. Los Angeles Basin Geological Society. (Invited)
24. Laton, W.R., 2016. *Preparing for the Field, What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
25. Laton, W.R., 2016. *Wastewater, Politics and Science*. South Coast Geological Society (Invited).
26. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. Western Michigan University. (Invited)
27. Laton, W.R., 2016. *Holding Back the Ocean and Recharging Aquifers with Treated Wastewater*. Minnesota Groundwater Association, Annual Meeting. (Invited)
28. Laton, W.R., 2016. *UAV Mapping and Business Opportunities*. Ground Water Institute. Tucson, AZ. (Invited)
29. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. GSA Section meeting, Ontario, CA. (abstract/presentation)
30. \*Perez, R., Laton, W.R., Cruikshank, M. and <sup>1</sup>Hugh, C., 2016. *UAV Imagery and Mapping: What are the Capabilities and Limitations?* SAGEEP 2016, Denver, CO. (abstract/presentation)
31. Laton, W.R., 2015. *Sounder Selection – Show and Tell*. NGWA Expo, Las Vegas, NV. (workshop)
32. Laton, W.R., 2015. *Preparing for the Field – What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
33. Laton, W.R., 2015. *Using Sand Tank Models to Explain Groundwater Flow*. NGWA Expo, Las Vegas, NV. (workshop)



34. Laton, W.R., 2015. *When does it make Sense to Learn from a Person vs. Learn from a Device?* NGWA Expo, Las Vegas, NV. (workshop)
35. Laton, W.R. and Perez, R., 2015. *Low Altitude Photography Utilizing UAV's*. Long Beach State University – GIS Day Mixer. (Invited)
36. \*Laton, W.R., \*Perez, R. and \*Cruikshank, M., 2015. *Low Altitude Photography utilizing UAV's – Geologic and Hydrologic Applications*. IGS, Riverside, CA. (Invited)
37. Laton, W.R. 2015. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint and Drones for Use in Water Resources*. Mountain States Groundwater Expo, Laughlin, NV. (Invited)
38. Laton, W.R. 2015. *Backyard Soils*. Natural OC, Santa Ana, CA. (Invited)
39. Laton, W.R. 2014. *Using Google Earth for Hydrogeological Problem Solving*. NGWA Expo, Las Vegas, NV. (workshop)
40. Laton, W.R. and \*Perez, R., 2013. *Got Geological Problems-How to Use Innovative Multimedia Applications to Identify and Analyze Them*. NGWA Expo, Nashville, TN. (workshop)
41. Laton, W.R., 2013. *Hydrogeology 101*. NGWA Expo, Nashville, TN. (lecture)
42. Laton, W.R., 2012. *Hydrogeology 101*. NGWA Expo, Las Vegas, NV. (lecture)
43. Laton, W.R., 2012. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
44. Laton, W.R., 2012. *Geothermal Forum: Business Success Through Excellent Performance – Hydrogeology (Really) Does Matter*. NGWA Expo, Las Vegas, NV (lecture)
45. Laton, W.R., 2011. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
46. \*<sup>2</sup>Dailey, D.R., Sauck, W.A., Sultan, M., <sup>2</sup>Milewski, A., Laton, W.R. and Foster, J.H., 2011. *Geophysical and Remote Sensing Applications for better understanding of the Structural (Faults/Basement Uplifts) Controls on Groundwater Flow in the Lucerne Valley, California*. GSA Annual Meeting. (abstract/presentation)
47. Laton, W.R., 2011. *Implications of Surface Water/Groundwater Interaction or Groundwater and the Impacts on Surface Water Delivery*. Declining Groundwater Levels: Measuring, Monitoring, and Mitigation. NGWA Virtual Conference.
48. Laton, W.R., 2011. *Hydrogeology 101*. Santa Susana Field Laboratory seminar series. (workshop)
49. \*<sup>2</sup>Barker, S., Laton, W.R. and Foster, J.H., 2010. *An investigation of potential surficial recharge in the Lucerne Valley groundwater basin, Mojave Desert, CA*. Anaheim, CA. GSA Abstract with Programs. Vol. 42, No. 4, p. 97, Paper No. 45-2.
50. Laton, W.R., 2010. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. GRA Webinar.
51. Laton, W.R., 2010. *Using Google Earth in Water Resources Research*. NGWA Webinar.
52. Laton, W.R., 2010. *Hydrogeology 101*. NGWA National McElhiney Lecture 2010, Sponsored by the NGWAREF (Invited 7 presentations throughout the U.S.)
53. Laton, Richard, \*<sup>2</sup>Al Harbi, Talal, Sauck, William A., Foster, John, Sultan, Mohamed, <sup>2</sup>Milewski, Adam, <sup>2</sup>Marsala, Peter, <sup>2</sup>Balekai, Rajesh, and <sup>2</sup>Salim, Hassan, 2009. *Use of Geophysical and Remote Sensing Data for a Better Understanding of the Hydrologic Role of Faults in the Mojave Desert*. GSA Annual Meeting. (abstract/poster)
54. Laton, W.R., 2009. *Using Google Earth*. NGWA Expo, New Orleans, LA. (workshop)
55. Laton, W.R., 2009. *Hydrogeology 101*. NGWA Expo, New Orleans, LA. (workshop)
56. Laton, W.R., 2009. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. NGWA National McElhiney Lecture 2009, Sponsored by NGWAREF. (Invited 30+ presentations throughout North America)
57. Foster, J.H. and \*Laton, W.R., 2008. *Groundwater Resources Sustainability in the Victorville Area: Results from the Oro Grande Wash Recharge Pilot Study*. Association of Engineering Geologist. (abstract/presentation)

58. <sup>\*1</sup>Dailey, D., Laton, W.R., and Foster, J.H., 2008. *New Detailed Model for El Mirage Subsurface Geology, El Mirage, CA*. GRA Annual Meeting. (abstract/poster)
59. <sup>\*1</sup>Velarde, J.C., Foster, J.H., and Laton, W.R., 2008. *The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County California*. GRA Annual Meeting. (abstract/poster)
60. <sup>\*2</sup>Monzon, E. and Laton, W.R., 2008. *Estimating Applied Irrigation for Urban Landscapes in South Coast California, using Theoretical and Conventional Means*. GRA Annual Meeting. (abstract/poster)
61. <sup>\*2</sup>Lizzi, A., Laton, W.R., Foster, J.H., 2008. *Evaluation of the Potential Groundwater Resources of A Confined Aquifer, San Diego County, California*. NGWA Groundwater Summit (abstract/presentation)
62. Laton, W.R., 2006. *Surface Water and Ground Water: How the Two Interact*. NGWA National Meeting. (Invited)
63. <sup>\*1</sup>Cruikshank, M.J., Foster, J.H. and Laton W.R., 2006. *Presence of Deep High-Quality Ground Water in El Mirage Valley, San Bernardino County, California*. NGWA Groundwater Summit (abstract/poster) (Outstanding Research Award)
64. <sup>\*2</sup>Surko, T., Armstrong, P.A. and Laton, W.R., 2006. *Gravity Survey of Lucerne Valley Ground Water Basin, Mojave Desert, Southern California: Implications for Basin Geometry and Structure*. NGWA Groundwater Summit (abstract/presentation)
65. <sup>\*2</sup>Barthel, P.S. and Laton, W.R., 2006. *Desert Studies Center: A Hydrogeologic Model and Water Budget*. NGWA Groundwater Summit (abstract/presentation)
66. Laton, W.R., 2005. *Methods to Determine Basin Yield*. GRA Groundwater Resources Series – Basin Yield and Overdraft: Scientific and Legal Perspective. (Invited)
67. Laton, W.R., 2005. *Borehole Logging from Sample Collection to Borehole Geophysics*. Presented at NSF Workshop on “Teaching Hydrogeology in the 21<sup>st</sup> Century”. (presentation/lab write-up)
68. Laton, W.R., 2005. *Water Budget Analysis – A Story of Two Arid Region Groundwater Basins*. CEA-Crest Symposium on Arid Hydrology. (abstract/presentation)
69. <sup>\*</sup>Laton, W.R., Hromadka, T., Yeager, M., Picciuto, J. and Whitely, B., 2005. *A New Method for Estimating Runoff Quantities for Flow and Volume-based BMP Design*. CASQA Conference. (abstract/presentation)
70. <sup>\*2</sup>Lizzi, A.L., Laton, W.R. and Foster, J., 2005. *Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
71. <sup>\*2</sup>Boeke, B., Laton, W.R. and Foster, J., 2005. *Groundwater Potential for Harper Dry Lake: Implications for Ground Water Availability in Harper Valley, San Bernardino County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
72. <sup>\*2</sup>Kolstad, K. and Laton, W.R., 2005. *Hydrocarbon Soil Vapor: Actual vs Predicted*. NGWA 2005 Groundwater Summit. (abstract/poster)
73. <sup>\*1</sup>Napoli, N. and Laton, W.R., 2005. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
74. <sup>\*2</sup>Perez, R. Foster, J. and Laton, W.R., 2005. *The Redefining of a Groundwater Basin, Alto Sub Basin, Southwestern Mojave Desert, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
75. <sup>\*2</sup>Surko, T.L., Armstrong, P. and Laton, W.R., 2005. *Gravity Survey of Lucerne Valley Groundwater Basin, Mojave Desert, Southern California: implications for basin geometry and structure*. NGWA 2005 Groundwater Summit. (abstract/poster)
76. <sup>\*1</sup>Blazevic, M., <sup>1</sup>Napoli, N., Foster, J. and Laton, W.R., 2004. *Subsurface Geologic Investigation of a closed Alluvial Basin: Lucerne Valley, San Bernardino County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)

77. <sup>\*1</sup>Napoli, N., <sup>1</sup>Blazevic, M., Laton, W.R. and Foster, J., 2004. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
78. <sup>\*2</sup>Perez, R., Foster, J. and Laton, W.R., 2004. *Just how deep is it? Alto Deep Well and its impacts to Alto Groundwater Sub-Basin Geology*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
79. <sup>2</sup>Hunt, S. and <sup>\*</sup>Laton, W.R., 2004. *Update on Geochemical Analysis of the Central Basin, Los Angeles County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
80. <sup>\*2</sup>Haj-Manouchehri, D. and Laton, W.R., 2003. *Water Quality in Relation to Watershed Management in the Lower San Gabriel River, Southern California*. WRI conference (abstract/poster)
81. Laton, W.R., 2003. *Lessons Learned; Groundwater Flow Model – Taylor Yard, Los Angeles*. South Coast Geological Society. October 6, 2003. (Invited)
82. <sup>\*</sup>Laton, W.R. and <sup>1</sup>Dolmat, J., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. National Ground Water Conference. (abstract/TIPS)
83. <sup>2</sup>Figueroa, O. and <sup>\*</sup>Laton, W.R., 2003. *Ground Water Modeling of a Coastal Aquifer Malibu, California*. National Ground Water Conference. (abstract/TIPS)
84. <sup>\*2</sup>Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Water Level Monitoring, Lower Borrego Canyon Wash, Irvine CA*. National Ground Water Conference. (abstract/TIPS)
85. <sup>\*2</sup>Hasegawa, S. and Laton, W.R., 2003. *Risk Assessment of Point and Non-Point Source Pollution on Water Resources along the Santa Ana River*. California Groundwater Conference. (abstract/poster)
86. <sup>\*1</sup>Dolmat, J. and Laton, W.R., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. California Groundwater Conference. (abstract/poster)
87. <sup>\*2</sup>Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Precipitation Induced Recharge Data Lower Borrego Canyon Wash, Orange County California*. California Groundwater Conference. (abstract/poster)
88. <sup>2</sup>Hunt, S. and <sup>\*</sup>Laton, W.R., 2003. *Geochemical Analysis of the Central Basin, Los Angeles County, California*. California Groundwater Conference. (abstract/poster)
89. Laton, W.R., 2002. *Taylor Yard and Los Angeles River, Preliminary Groundwater and Surface Water Study Groundwater Model of Taylor Yard and Vicinity Los Angeles, California*. NGWA National Meeting. (abstract/poster)
90. <sup>1</sup>Otto Figueroa and <sup>\*</sup>Laton, W.R., 2002. *Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California*. NGWA National Meeting. (abstract/poster)
91. <sup>\*</sup>Laton, W.R., <sup>2</sup>Sean Hunt, and Foster, J., 2002. *The Impact of Groundwater – Surface Water Interaction on Contaminant Distribution, San Elijo Lagoon, California*. NGWA National Meeting. (abstract/poster)
92. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy. (Invited)
93. Laton, W.R., 2001. *Distance Calibration of Earth Images – To design and develop a Web delivered lesson showing an Advance in Information Technology that can be used in a Science Learning Environment for In-service Teachers* (online lesson plan).
94. Laton, W.R., 2001. *The Role of Groundwater in Geologic Hazards*. California Science Academy (CEA-Crest). (abstract/presentation)
95. Laton, W.R., 2001. *Natural Hazards Mapping, Thailand*. Thailand Geological Survey. (Invited)

96. Laton, W.R., 2001. *Subsidence evaluation and assessment, Bangkok, Thailand*. Thailand Geological Survey. (Invited)
97. \*Laton, W.R., <sup>\*1</sup>Perez, R., and <sup>\*1</sup>Figuerola, O., 2000. *Natural Hazard Mapping – A GIS Approach*. CSUF Geology Department.
98. Laton, W.R., 2000. *Natural Hazards Assessment of Temecula, California*. San Diego Association of Geologists annual field trip. (Invited)
99. \*Sauck, W. A., Laton, W.R., <sup>2</sup>Seng, D.L., and <sup>2</sup>Vandereide, M.A., 2000. *Ground-penetrating radar investigations of nearshore sediments of eastern Lake Michigan*. IAGLR 2000.
100. Laton, W.R., 1999. *Watershed Management and Sampling Protocol*. Korean Ministry of Environment and Environmental Management Corporation short course. (Invited)
101. Laton, W.R., 1999. *Environmental Sampling – what, when and why*. Port of Los Angeles, Environmental Group. (Invited)
102. Laton, W.R., 1998. *Single Point Pneumatic Slug Test, Soil Vapor Extraction (SVE) Testing During Initial Site Investigation*. Hazardous Waste Section, SMARTech '98, Raleigh, NC. (abstract/presentation)
103. Laton, W.R., 1998. *SimulProbe® Environmental Core Barrel*. EPA National Site Assessment Conference. Denver, CO. (Invited)
104. \*Marcus, D.L., <sup>2</sup>Bonds, C.L. and Laton, W.R., 1997. *Rapid Screening using the SimulProbe Multimedia Sampler – Case Histories and Future Directions*. New England Environmental Exposition. (abstract/presentation)
105. <sup>\*2</sup>Laton, W.R., <sup>2</sup>Hascall, A.P., <sup>2</sup>Atekewana, E.A., Hampton, D.R., 1996. *Seepage Meter Spatial and Temporal Variability in the Study of Groundwater Interaction with Surface Water Features*. American Geophysical Union, San Francisco, CA. (abstract/presentation)
106. <sup>2</sup>Laton, W.R., 1996. *Well Grouting Research*. Michigan Environmental Health Association, Ground Water Conference, Thompsonville, MI. (Invited)
107. <sup>2</sup>Laton, W.R., 1996. *SimulProbe Sampling in Contaminated Areas*. University of Michigan Summer Hydrogeology Field Course, Wurtsmith Research Center, MI. (demonstration/presentation)
108. \*Barnes, D.A., <sup>2</sup>Kovacich, M.S., <sup>2</sup>Limez, S., and <sup>2</sup>Laton, W.R., 1995. *Error Analysis in Great Lakes Beach Profile Surveying Techniques*. Canadian Coastal Conference, Dartmouth, Nova Scotia. (abstract/presentation)
109. <sup>2</sup>Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Colloquium on Environmental Earth Science, Western Michigan University, Kalamazoo, MI.
110. <sup>2</sup>Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Hi-Shots International Conference, Saint Louis, Missouri. (Invited)
111. \*Mackey, S.D., Guy, D.E., <sup>2</sup>Laton, W.R., and <sup>2</sup>Kovacich, M., 1994. *Geologic Framework of an Eroded Lake Erie Coastal Marsh – Metzger Marsh, Ohio*. North-Central Geological Society of America, Kalamazoo, Michigan. (abstract/presentation)
112. \*Vincent, R.K., <sup>2</sup>Laton, W.R. and <sup>2</sup>Sattler, J., 1993. *Detailed Modeling of Solid Waste Landfill Surface Water Run-off from High Resolution Elevation Data Automatically extracted From Stereo Photos Taken by a Camera on a Tethered Balloon Platform*. Association of Engineering Geologists, San Antonio, Texas. (abstract/presentation)
113. <sup>2</sup>Laton, W.R., 1993. *Site Characterization and Mapping Utilizing a Tethered Balloon System*. HI-SHOTS International Convention, Saint Louis, Missouri. (Invited)
114. <sup>2</sup>Laton, W.R., 1992. *Coastal Processes and Use of a Blimp*. Shoreline Erosion and Coastal Processes in Berrien County, Lake Michigan College Environmental Center, St. Joseph, Michigan. (abstract/presentation)
115. <sup>\*2</sup>Laton, W.R. and Straw, W.T., 1992. *Small-Scale Coastal Cells; Identification and Mapping*. First Thematic Conference, Remote Sensing for Marine and Coastal Environments, New Orleans, Louisiana. (abstract/poster)

116. <sup>2</sup>Laton, W.R., 1991. *Undercurrent Stabilization Anchor Systems at Tawas on Lake Huron and Douglas on Lake Michigan – A One-Year Study*. Michigan Academy of Science, Ypsilanti, Michigan. (abstract/presentation)

<sup>1</sup>Undergraduate Student; <sup>2</sup>Graduate Student; \* Presenter



## SUPERVISED COMPLETED THESES

Student Name	Year	Degree	Thesis Title
Esparza, Nestor	2022	BS	Fate and Transport of Contaminants in the South Basin Plume
Velasco, Melissa	2022	BS	Chino Basin Dairy Farm Nitrate Contributions
Kreller, Ethan	2021	BS	Analysis of Caltrans Boring Logs to evaluate the Shallow Subsurface Vulnerabilities
Nagata, Brayden	2021	BS	Relationship Between Groundwater, Selenium Concentration, and the Corcoran Clay, NW Fresno County, CA
Zeko, Mike	2021	BS	Pomona Perchlorate Study
Strohm, Chelsea	2021	MS-ENST	The Use of Physical Groundwater Models in Higher Education
Allen, Ronald	2020	BS	The Carboniferous and Pleistocene; An Analysis on the Genus Preset within Geologic Time
Rangel, Liliana	2020	BS	Water Budget of the San Geronio Mountains Mill Creek and Santa Ana River Water Basin
Martinez, Charles	2020	BS	Implications of Grain Size on Hydraulic Conductivity
Murphy, Patrick	2020	MS-ENST	Evaluating the Fate of Legacy 1,4-Dioxane and NDMA in Orange County's Coastal Aquifers
Severin, Vitoria	2020	MS-ENST	Analyzing the Mission Valley Aquifer as a Groundwater Source in San Diego, CA.
Barragan, Adrian	2019	BS	Examining the Water Quality from a Section of the Santiago Creek
Alonzo, Terrinda	2018	BS	13-Year Analysis of Water Pressure and Chemical Changes from Well CSF-1, Fullerton, CA
Case, Aaron	2018	MS-ENST	Perchlorate in Urban and Industrial Environments
Cragg, Byron	2018	BS	Designing Scientific Payloads for Use on Extra-Planetary Rovers
Emilio, Chelsea	2018	MS-ENST	Urban Firework Fallout
Escobar, Adrian	2018	BS	Ground Source Heat Pump Potential Characterization for California State University, Fullerton
Lopez, Daniel	2018	MS-ENST	Should California Price Water as a Commodity to Increase Conservation?
Meadows, Adam	2018	BS	Investigation and Monitoring the Spread of Water Contaminates Using an Open-Source Database in the Orange County Area
Offner, Erica	2018	MS-ENST	Carbon Dioxide Levels in Water Vapor
Vanderwal, Joshua	2018	BS	Safety Element for Cal State University Fullerton – Understanding of Hazards Surrounding the Campus
Grajeda, Remington	2017	MS-ENST	Shaping Environmental Attitudes in Students: An Inquiry-based Approach
Kennedy, Taylor	2017	MS-ENST	Investigation of the Laguna Cell Beaches Using Lidar and Erosional Examination
Masters, John Paul	2017	MS-ENST	Subsurface Analysis of Orange County Water District's La Palma Groundwater Recharge Basin in Anaheim, California
Forester, Dinielle	2017	BS	Water Budget and Audit: Premier Color Nursery
Ibarra, Nancy	2016	BS	Drilling Methodology: A Field Guide and its Use for the Drilling Industry
Pham, Christine	2016	MS-ENST	Efficacy of Capsaicin-based epoxy coating for preventing attachment of Quagga mussels ( <i>Dreissena Bugensis</i> )

Battig, Lisa	2015	MS-ENST	An Educational Kit Elucidating the Connections Between Sanitation, Hygiene and Waterborne Disease
Masters, John Paul	2015	BS	Subsurface Analysis of fluvial sediments from the Holocene-Pleistocene Epochs at California State University, Fullerton, California
Natividad, Anthony	2015	BS	A Hydrogeological Survey of a Mountainous Region: The Significance of Monitoring a Water Budget at a Localized Source
Carreon, Rosangela	2014	MS-ENST	Remote Sensing Climatic Impact on Snow Cover for the San Gabriel Mountains in Southern California
Cortez, Lucy	2014	BS	Wetlands Delineation using Dendrochronology and Historical Rainfall Data to Cross-date the Climatic Stress Regimes in the Prado Dam Basin Located in Corona, Riverside County, California
Law, Natalie	2014	BA	Evolution and Growth of a Mitigation Wetland: A Case Study in Norco, California
Morlan, Randall	2014	MS	The Effects of Agricultural Activities on the Migration of the Hinkley Chromium Plume, San Bernardino County, California
Dubberke, Kirk	2013	BS	Malibu Creek Watershed – Aquifer Testing Analysis
Irani, Fabian	2013	BS	The Use of Groundwater Fluctuations in a Tidal Zone for the Determination of Aquifer Properties
Lockhart, Benjamin	2013	MS-ENST	Colonial Nesting Seabirds in Burris Basin: Forage Prey Availability Assessment and Habitat Enhancement Suggestions
Maine, Lindsay	2013	MS-ENST	Media Blending: Which Combination is Best for Stormwater Discharge from Scrap Metal Recycling Operations?
Vavricka, Emily	2013	MS-ENST	A Forensic Evaluation of Dry Cleaners: A Case Study in Santa Ana, California
Cadaret, Erik	2012	BS	Hydrogeologic Investigation and Geochemistry Analysis of the Sheep Creek Fans Regional Aquifer, San Bernardino County, CA
Dotzer, Alec	2012	BS	Lithologic Analysis of a Soil Layer at Various Points via a Biosparge Pilot Test at a Contaminant Impacted Site in Coachella Valley, Riverside County, CA
Hoffman, Michael	2012	MS	Hydraulic Tomographic Modeling of the Yorba Linda Water Well Field, Yorba Linda, California
Martin, Allen	2012	MS-ENST	Lower Owens River Project, Recovery: A longitudinal imagery analysis of near river vegetation change along the Owens River, Owens Valley, Inyo County, California
Sickler, Heidi	2012	MS-ENST	Environmental Change in the Wetland Ecosystem of Fish Slough in Bishop, California Derived from Wetland Delineation Methods and Aerial Photography
Xayarath, Van	2012	MS-ENST	Orange County's Water Supply: A preliminary research to convert storm channels to natural bottom streams for basin recharge
Evans, Patrick James	2011	MS-ENST	Desalination in Southern California: The Inevitable wave of the future!
Rimbenieks, Mikaila	2011	MS-ENST	Quantifying Forest Natural Background and Road Sediment Yield in Big Bear Lake, California
Barker, Shelby	2010	MS	An Investigation of the Potential for Surficial Recharge in the Lucerne Valley Groundwater Basin, Mojave Desert, CA
Luedy, Justin	2009	MS-ENST	Testing the Relationship of Dissolved Metals in Stormwater, Newport Beach, California

Barthel, Peggy	2008	MS	Water Budget and Hydrogeologic Model of Spring Flow at Limestone Hill, Zzyzx Desert Studies Center
Daley, Dale	2008	BS	Subsurface Mapping of the El Mirage Groundwater Barrier, San Bernardino County, California
Monzon, Eric	2008	MS-ENST	Estimating Applied Irrigation for Urban Landscapes in South Coast Southern California, Using Theoretical and Conventional Means
Ebbs, Veva	2007	MS-ENST	Quantification of Sub-Surface Groundwater Flow from Middle Mojave River Valley Basin into the Harper Lake Basin
Kolstad, Kenneth	2007	MS	Analysis of a Steady-State Model: Prediction of Trichloroethylene Vapor Concentration, Using Known Dissolved Phase Concentration
Lizzi, Anthony	2007	MS	Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California
Patschull, Eric	2007	MS	Evidence of a North Projecting Ancient Boulder Thalweg in Latest Quaternary Deposits of the Santa Ana River, Orange County, California
Cruikshank, Michael	2006	BS	Hydrogeological Investigation of an Open Alluvial Basin: Oeste Hydrologic Sub-basin, San Bernardino County, California
Dolmat, Joan	2006	BS	Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting
Hunt, Sean	2006	MS	Artificial Recharge as Possible Causes of Observed Long –Term Change in Transmissivity for the Aquifers of the San Pedro Formation in the Central Basin of the Greater Los Angeles Basin, California
Williams, Steve	2006	MS	Hydrogeologic Investigation of a Shallow Aquifer System with Emphasis on Precipitation Induced Groundwater
Surko, Tammy	2006	MS	Gravity survey of Lucerne Valley, San Bernardino County, Mojave Desert, southern California: implications for basin geometry and structure
Blazevic, Mike	2005	BS	Hydrogeological Investigation of a Closed Alluvial Basin: Lucerne Valley, San Bernardino County, California
Napoli, Nick	2005	BS	Change in Groundwater Storage in the Lucerne Valley Groundwater Sub-Basin — 1954 To 2002, Lucerne Valley, California
Nguyen, Chinh	2005	MS-ENST	Application of Convex Hull in Identifying Pollution Sources in the Central and West Coast Basins, Los Angeles County, California
Brendle, Christine	2004	BS	Remediation of Soil and Groundwater at a Former Service Station
Hajmanouchehri, Daneh	2004	MS-ENST	Water Quality in Relation to Watershed Management in The Lower San Gabriel River, Southern California
McCurdy, Jim	2004	MS-ENST	Water Chemistry and Groundwater Flow for the San Bernardino Mountains
Versluis, Patrick	2004	MS-ENST	The Fate of Perchlorate: A Look at Perchlorate Entering Orange County's Groundwater
Yuen, Pansy	2004	MS-ENST	Performance Assessment on Water Quality and Biological Effects of Urban Stormwater Runoff, Norco Hills Wetland, Riverside County, California
Evans, Rachel	2003	BS	Water Quality Analysis – Yellowstone National Park
Figueroa, Otto	2003	MS	Groundwater Flow Model of a Coastal Aquifer, Malibu, California
Hasegawa, Shuichi	2003	MS-ENST	Environmental Hazard Risk Assessment on Water Resources along the Santa Ana River
Kerza-Kwiatecki, Paul	2003	MS-ENST	Monitoring the Rocky Inter-Tidal Zone of Crystal Cove State Park; Creation of an interactive GIS bio-database

Springer, Ben	2003	MS-ENST	The Importance of Wetland Monitoring: A Case Study of a Restored Wetland in Norco, California
Thomas, Sean	2003	BS	Dewatering Plan for the El Toro Area
DeKraker, Dan	2003	BS	Development of a Ninth Grade Earth Science Course
Brand, Randy	2002	BS	Hydrogeologic and Geologic Considerations for Selected sites near the Santa Margarita, Upper Ysidora, and Lower Ysidora Groundwater Basins in Southern California
Figuerola, Otto	2002	BS	Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California
Rosales, Tom	2002	MS-ENST	An examination of the benefits and costs to implement the Municipal Storm Water Permit for Orange County – similarities and differences between coastal and inland cities
Schmucker, Kelly	2002	MS-ENST	Water Quality of a Wetland A Case Study in Norco, CA
Wiles, Steffy	2002	BS	Angels Camp – Gamma Ray Logging Examination and Correlation
Eckhart, Lance	2001	MS-ENST	Vertical Gradient Investigation of a Southern California Landfill
Fields, David	2001	BS	Orange County Groundwater Contour Maps for 2000
Rashidi-Fard, Shaghayegh	2001	BS	Water Quality Testing and Monitoring Program at the Santa Rosa Ecological Reserve
Vortis, Kevin	2001	BS	Geologic History of San Elijo Lagoon San Diego County, California
Mathew Blinstub	2000	MS-ENST	Spatial and Temporal Differences in Surface Water Quality in Newport Bay and San Diego Creek, Orange County, California from 1976 to 1996

## SELECTED SHORT-COURSES, WORKSHOPS ATTENDED

- Johnson Screens – Groundwater and Wells
- IGSHPA – Train the Trainer Course
- NGWA – Keeping the Pump Primed, Aquifer Sustainability
- AAPG – Environmental Regulatory Course
- Advanced Technologies for Accelerated Natural Attenuation
- Applied Microbiology – Understanding Bacterial Augmentation, Montreal, Canada
- Baroid Industrial Drilling Products – Drilling and Boring Fluids
- CWEA – How to Start, Perform and Complete a Successful Public Works Water/Wastewater Project
- EPA – Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluations
- EPA – Natural Attenuation; EPA – Statistical Analysis of Ground Water Data (GRITSTAT)
- EPO/GRA – Aquifer Remediation: Bioremediation and Oxidation Technologies
- FEMA – Advanced HAZUS Training for GIS Professionals
- Managing Toxics in Michigan – Air, Waste and Remediation
- MGWA & MDPH – Ground Water & Wells Fundamentals
- Michigan Citizens Conference/Workshop on Great Lakes Areas of Concern
- NGWA – Remediation of Ground Water Contamination
- NSF – The Cutting Edge “*Teaching Hydrogeology in the 21<sup>st</sup> Century*”
- EPA - Protecting Water Quality through Land Use Planning & Zoning
- Reducing Risk in High Seismic Hazard Zones
- Seismic Reflection/Refraction Interpretation

## AFFILIATIONS

- California Groundwater Association
- Groundwater Resources Association of California
- International Association of Hydrogeology
- National Ground Water Association
- South Coast Geological Society
- International Ground Source Heat Pump Association
- American Institute of Professional Geologists

## VOLUNTEER WORK

- WMU Spring Geobree (2021 – present)
- WMU Alumni Gathering (2019 - present)
- CSUF Alumni Fall Dinner (2013 - present)
- CSUF Geology Research Day (2017 - present)
- Santiago Middle School – Taught Plate Tectonics and Science (2018)
- Science Olympiad Assistant (2013 - 17)
- Elementary School presentations annually: “*The Water Cycle*”
- Little League: Coaching assistant, score keeper (2010 – 15)
- CSUF – Gerontology Seminar Series (2005)
- Boy Scouts of America Troop, Identification of Rocks (2000 – 2008)
- NGWA – Developed on-line Well Construction and Development Course (2004)
- El Dorado Nature Center – Provided expertise for a variety of activities.
- National Sanitary Foundation – Worked on task force to rewrite standards for water well materials.



**Dalton Conservation Commission**

**756 Dalton Road**

**Dalton, NH 03598**

Date:

To: Treasurer, Town of Dalton

The Dalton Conservation Commission requests a check be issued as follows:

Pay to: Earth Forensics, Inc

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Payment for: Environmental Consulting in the sum of \$15,000

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Invoice #: Feb 16, 2023 Proposal

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Payment due no later than:  
ASAP

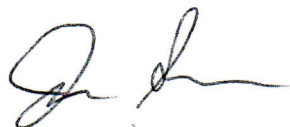
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Requested by: Jon Swan, Chairman, DCC

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Sincerely,

Dalton Conservation Commission

  
Marianne Caldwell  
Treasurer