



EXECUTIVE OFFICER’S REPORT • OCTOBER 2018
Covers August 16, 2018 – September 15, 2018

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State and Regional

1. Personnel Report – Eric Shay

New Hires

- Cynthia White, Office Technician, South Lake Tahoe. This position supports our technical staff by finalizing staff correspondence and board agenda packets.

Vacancies – We are currently recruiting for the following positions:

- Environmental Scientist, North Basin Regulatory Unit, South Lake Tahoe. This new position will primary work on Lake Tahoe water quality issues, including permitting for shoreline projects and scientific research.
- Engineering Geologist, Cleanup/Site Investigation & Enforcement Unit, South Lake Tahoe. This position provides oversight on Underground Storage Tank sites and other sites in the Emergency, Abandoned, and Recalcitrant Fund as well as the Expedited Claim Account Program. Oversight is also provided for mines and a Department of Defense site.
- Scientific Aid, Non-Point Source Unit, South Lake Tahoe. This position compiles and organizes scientific data from water quality investigations and implementation and

effectiveness monitoring reports; and assists technical staff in collecting data during field visits for various activities, including timber harvest, stream restoration, meadow restoration, and grazing projects.

- Associate Governmental Program Analyst, Victorville. This position provides administrative support to the region in the areas of personnel analysis, workforce planning and analysis, contract management, and procurement.
- Seasonal Clerk, Victorville. This position provides basic administrative support, such as typing and reception.

Departures – None

2. Eastern California Regional Cannabis Unit Activity from June 16, 2018 to August 15, 2018

– *Eric J. Taxer*

The Eastern California Cannabis Unit staff, representing the Lahontan and Colorado River Basin Regional Water Quality Control Boards, issued 9 Notice of Applicability (NOA)s in the Lahontan Region for indoor cannabis cultivation facilities. No NOAs were issued for outdoor cannabis cultivation facilities. For many cultivation facilities, particularly indoor ones, we requested additional information to ensure the cultivation practices will not adversely impact local water quality. Additionally, staff have issued written confirmations of Receipt of Applications and Fee Payments for cultivators upon fee payment whose California Department of Food and Agriculture (CDFA) temporary permits require immediate renewal. The written confirmation is intended to demonstrate to CalCannabis that the Cannabis General Order application for the proposed cultivation operation is being processed by staff. Finally, staff reviewed the Nitrogen Management Plan and Site Management Plan for a permitted outdoor cultivation facility.

Many indoor cannabis cultivators wish to dispose of their cannabis cultivation wastewater (classified as industrial waste) to onsite wastewater disposal systems (such as septic tanks) comingled with the domestic wastewater portion from their facilities. Staff have drafted a general permit for the Lahontan Region to begin addressing this demand. Staff also prepared and presented an overview of the permitting concept to the Cannabis Roundtable at its August 2, 2018 meeting.

A preliminary step for many cultivators seeking a local, County or City, cultivation permit is to obtain environmental review led by the local jurisdiction under the California Environmental Quality Act (CEQA). As a responsible agency, Eastern California Cannabis Unit staff submitted comments on nine CEQA documents for proposed projects in California City, Adelanto, and Lancaster.

Eastern California Cannabis Unit staff continued to conduct extensive outreach efforts. Staff provided application assistance to eleven individuals. Assistance included explaining the application process and alternative waste discharge options. Cultivators who had already submitted applications for NOA processing also received similar assistance. Staff coordinated with local agencies in the development of their cultivation ordinances. Nevada County, Riverside County, the City of South Lake Tahoe, and the City of Barstow are in varying stages of developing ordinances that would allow for cultivation.

Eastern California Cannabis Unit staff coordinated with the Central Valley Water Board and has begun implementing the Cannabis Identification Prioritization System (CIPS) within portions of eastern California.

Enforcement activities have begun for certain sites. A staff enforcement letter was issued to an outdoor cultivation facility that has not submitted its requires site management plan. An illicit cultivation site in Lassen County was referred to the Water Board to pursue cleanup efforts, and that our staff are currently investigation the site.

The Eastern California Cannabis Unit is currently working on these major tasks:

1. Development of an inspection safety protocol, specifically addressing the hazards associated with indoor cultivation.
2. Development of Watershed Enforcement Teams throughout the Eastern California Region, potentially focusing on groundwater basin areas.
3. Development of a public lands strategy to address water quality concerns created by illegal cultivation on public lands.
4. Development of an inspection prioritization scheme.
5. Expansion of the Cannabis Identification Prioritization System throughout the Eastern California Cannabis Region.
6. Continued outreach to cultivators with temporary CalCannabis licenses to obtain enrollment with the State Water Board's general order.
7. Continued development of regional general order for the onsite disposal of industrial wastewater associated with cannabis cultivation, including associated CEQA documentation.

North Lahontan Region

3. Laminar Flow Aeration Test Projects – *Russell Norman*

Two test projects within Lake Tahoe will evaluate the effects of Laminar Flow Aeration (LFA) on water quality. LFA systems provide bed sediment and water column aeration utilizing air compressor and patented diffuser disk technology.

On August 3, 2018, Ski Run Marina finished installing and started-up an LFA system consisting of five ceramic aeration disks and weighted airlines installed on the bed of Ski Run Marina and an air compressor installed on an upland area of the Marina. The Tahoe Keys Property Owners Association (TKPOA) is preparing to install a similar system in the Tahoe Keys and Tallac Lagoons in late 2018. The LFA systems are proposed to be operated year-around.

The goals of these test projects are to evaluate the expected strengths of LFA technology in: 1) reducing organic lake bed sediments by increasing bed sediment oxygen concentrations to encourage aerobic degradation, 2) breaking-up thermal and dissolved oxygen stratification within the water column, 3) increasing water body dissolved oxygen concentrations throughout the water column, 4) accelerating nutrient transformation processes in the water body and 5) creating conditions, by the above noted actions, that will limit aquatic invasive plant infestations and harmful algal blooms.

Permitting required for these projects includes a California Department of Fish and Wildlife Lake Bed Alteration Agreement, a U.S. Army Corps of Engineers Nationwide Permit (NWP) Number 5 (issued for Scientific Measurement Devices under section 404 of the Clean Water Act) and a 401 Certification with any applicable Basin Plan prohibition exemption issued by the Lahontan Water Board.

The permits for these projects will require water quality monitoring for turbidity, pH, nitrogen, and dissolved oxygen monitoring; sediment sampling for nitrogen, phosphorus and total organic

carbon, and collecting aquatic plant density, coverage, and composition data. Monitoring frequencies range from hourly for pre-startup and initial startup to varying frequencies over a projected five-year plan.

South Lahontan Region

4. Summary of Completed Field Work at Armitage Field OU Sites, China Lake Naval Air Weapons Station, CA – Omar Pacheco

The Navy has begun detailed site characterization field work at Installation Restoration Program (IRP) Sites 1 and 44 in accordance with the Final Record of Decision/Remedial Action Plan for the Armitage Field Operable Unit, dated September 2007. All field work is being performed in accordance with the final Remediation System Evaluation Work Plan for IRP Sites 1 and 44, dated December 4, 2017. The objective of this data collection effort is to reduce data gaps in the conceptual site models and to aid in the ongoing site cleanup process at these sites. During the first week of September, the Navy completed its first phase of data collection at IRP Sites 1 and 44. The Navy used innovative technologies such as direct push/direct reading tools and Ultra-Violet Optical Screening Tools (UVOST) to further delineate the lateral and vertical extent of light-nonaqueous phase liquid (LNAPL) in the subsurface. Water Board staff considers UVOST technology a more sophisticated LNAPL delineation technique than interpreting in-well thickness to determine the lateral and vertical extent of LNAPL. In addition, cone penetrometer testing (CPT) technology was used in conjunction with the hydraulic profile tool (HPT) to provide additional lithologic and hydrologic data at IRP Site 1 (Armitage Field dry wells) and IRP Site 44 (Armitage Field firefighting training area). The Navy measured LNAPL transmissivity by conducting LNAPL bail-down tests at groundwater monitoring wells located at these sites to evaluate LNAPL flow and recoverability potential. LNAPL samples were also collected from groundwater monitoring wells at these sites to characterize the physical and chemical properties of the LNAPL in the subsurface.

The Navy advanced, via direct push technology, a total of 25 test locations at IRP Site 1. The Navy used UVOST technology in 14 locations and CPT/HPT technology in 11 locations. The Navy completed two bail-down tests at IRP Site 1. Two LNAPL samples were also collected from two groundwater monitoring wells at IRP Site 1 for physical and chemical characterization.

The Navy advanced 19 direct push test locations at IRP Site 44. The Navy used UVOST technology in 11 locations and CPT/HPT technology at 8 locations. The Navy completed two bail-down tests at IRP Site 44. Three LNAPL samples were collected from three groundwater monitoring wells at IRP Site 44 for physical and chemical characterization. The Navy also began field work to install 10 subsurface carbon dioxide traps and 5 thermal monitoring stations above the LNAPL “body” to evaluate natural source zone depletion (NSZD). LNAPL NSZD occurs when certain natural processes act to physically redistribute LNAPL components into the aqueous or gaseous phase and biologically break down source zone components.

The Navy anticipates that the first phase of field work will be completed during the week of September 17, 2018, and plans to provide a draft report of findings by November 2018.

5. Environmental Crimes Enforcement Training in San Diego – Jeff Fitzsimmons

Water Board staff member, Jeff Fitzsimmons, attended a week-long “Introduction to Environmental Crimes Enforcement” training (Training) in San Diego in September 2018. The Training was provided by the Western States Project, whose members include the states of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, Oklahoma, Oregon,

Utah, and Washington, along with the Canadian provinces of Alberta, British Columbia, and Saskatchewan. The Western States Project is increasing environmental enforcement effectiveness through the coordination of enforcement activities since its inception in 1986. The group provides informational services and training, and serves as a resource for environmental professionals within the member area.

Over 100 attendees were present for the Training in San Diego. Attendees included regulators, environmental scientists, agricultural and environmental health inspectors, local enforcement and fire protection officers, and deputy district attorneys from city, county, state (or province) agencies. The Training was presented by practicing field personnel and based on various aspects of actual environmental crimes cases. The Training modules emphasized the necessity of consistent application of regulations, thorough documentation, and intra- and inter-agency communication and coordination to successfully protect the environment.

The Training complimented Water Board staff's understanding, regarding inter-communication and coordination between the Lahontan Water Board staff and other Water Board's as well as local, state, or federal agencies for the protection of water quality. The Training reaffirmed the importance for Water Board staff to continue attending the San Bernardino County Environmental Crimes Strike force meetings. Additionally, from the cases presented by guest speakers, Water Board staff received confirmation of the processes we currently use for documenting site conditions and identified areas where we may be able to refine documentation techniques.

6. Building 1807 at Edwards Air Force Base – *Alonzo Poach*

Vapor intrusion (VI) is a process by which volatile organic compounds (VOCs) in soil or groundwater migrate to indoor air above a contaminated site. Vapor intrusion concerns have been an ongoing problem at Building 1807 at Edwards Air Force Base for many years. Building 1807 is a general office space building used by Air Force, Navy and Marine Corps personnel. Building 1807 is in Operable Unit 1/8 at Edwards AFB and sits atop the Site 16 trichloroethene (TCE) source area. This TCE vapor issue is in a different Operable Unit at Edwards AFB and unrelated to the teracholorethylene (PCE) vapor issue dispute that we elevated, in support of CA Department of Toxic Substances Control, to US EPA Administrator in March 2018. Though US EPA has not made a final determination to resolve that PCE vapor dispute, the vapor intrusion mitigation system continues to operate to protect the public from potentially toxic PCE vapors.

For the TCE vapor issue at Building 1807, approximate TCE concentrations in the underlying groundwater range from 1,000 micrograms per liter ($\mu\text{g/L}$) to as high as 14,000 $\mu\text{g/L}$ (see figure). In March 2018, the Air Force sampled Building 1807 indoor air for VOCs and discovered a TCE concentration of approximately 20 micrograms per cubic meter ($\mu\text{g/m}^3$). This indoor air TCE concentration was almost 3 times higher than the accelerated response action level of 7 $\mu\text{g/m}^3$ established by the California Department of Toxic Substances Control and the United States Environmental Protection Agency. These results prompted evacuation of the building, and the Air Force evaluated the building to confirm the conditions and rule-out potential indoor sources. After several rounds of indoor air sampling, the Air Force confirmed TCE was apparently entering the building during non-business hours when the heating, ventilation, and air conditioning (HVAC) was not running. Because the HVAC system on the building appears to be mitigating TCE in the indoor air of Building 1807, the Air Force modified the HVAC system so the system brings in additional fresh air, and the circulation fan runs 24 hours a day, 7 days a week. After additional indoor air sampling confirmed TCE concentrations were beneath the established action level, Air Force staff were then permitted to re-occupy the building. On August 15, 2018, the HVAC system was upgraded with a new HVAC unit and permanently modified to circulate air in the building 24 hours per day, 7 days per week. The building has one main ingress point. As an additional mitigation measure, a warning light was installed just outside the entrance to the building and was

wired to light up indicating that the air circulation fan is running. Staff that work in the building were notified not to enter the building if the warning light is not illuminated.

These engineering controls are considered temporary mitigation measures to control the VI into the building. The Air Force is currently evaluating permanent mitigation measures to ensure site workers are protected from VI in Building 1807.

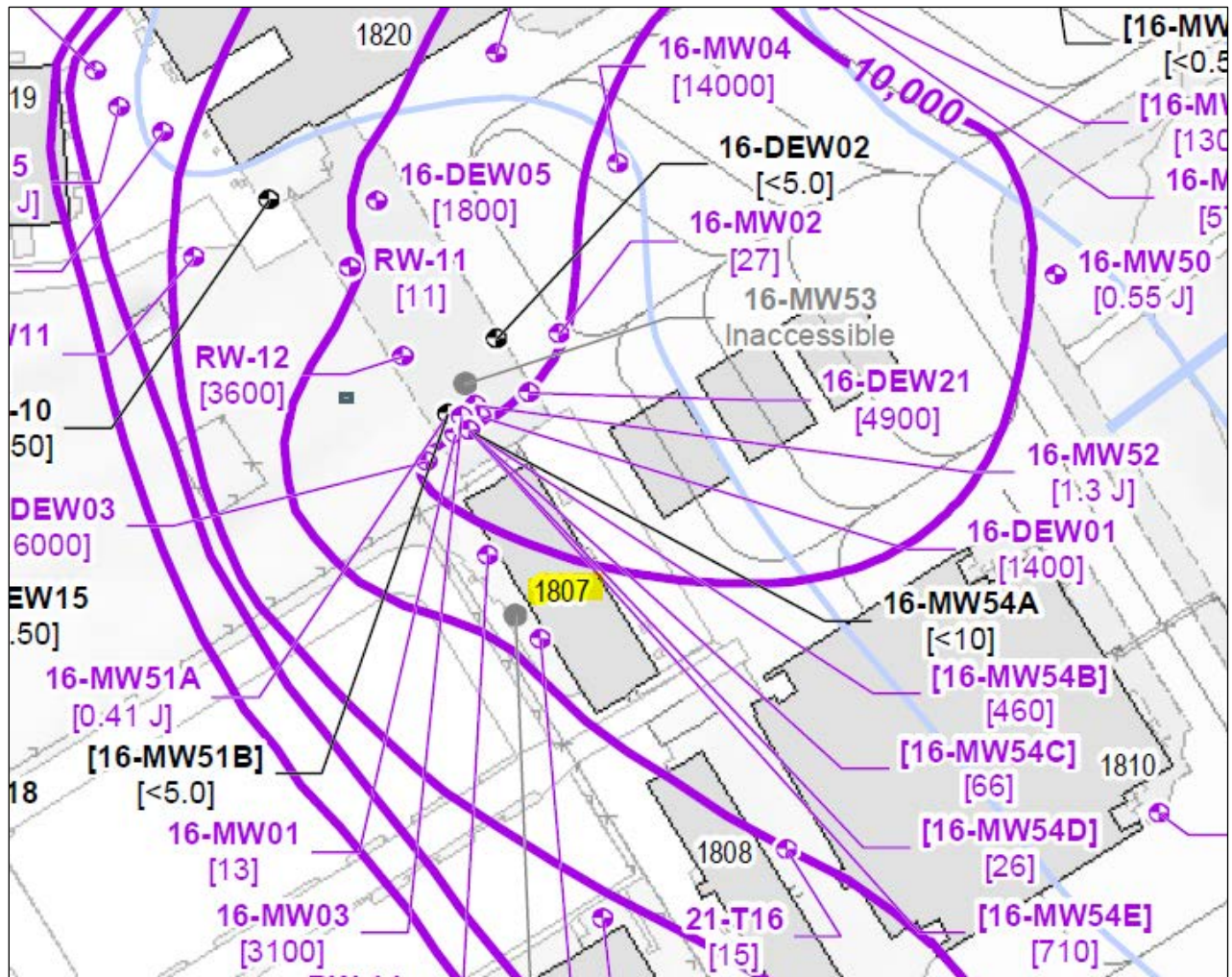


Figure 1 - Excerpt from 2017 Operable Unit 1/8 Groundwater Monitoring Report (Tetra Tech, 2018). Figure shows Building 1807 (yellow highlight) and interpreted TCE concentrations in µg/L in the surrounding groundwater.

7. The Third Annual San Bernardino County Water Conservation Fair – Tiffany Steinert

Lahontan Water Board staff members Shelby Barker, Tiffany Steinert, and Jan Zimmerman, volunteered to represent the Lahontan Water Board at the Third Annual Water Conservation Fair (Fair) hosted by the County of San Bernardino Special Districts at the Oak Hills Old Fire Station on Saturday, September 8. The Fair was a public outreach event intended to educate the general public in the greater Oak Hills area of San Bernardino County on the value of our groundwater resources, where our drinking water comes from, and the importance of water conservation in the high desert. Other agencies attending the Fair included the San Bernardino County Fire Department, the San Bernardino County Search and Rescue Squad, Oak Hills Community Association, Alliance for Water Awareness and Conservation (AWAC), and the City of Victorville Water Conservation Department.

Water Board staff setup and manned a booth to introduce the public to who we are and what we do to protect water quality in the region. The main attraction of our booth was an Enviroscape diorama model that demonstrates how storm water, streams, lakes, and groundwater can be polluted by urban runoff and waste spills. The diorama was used to demonstrate how sewage is collected and treated and how drinking water and the aquifer can be impacted. Children and adults alike were fascinated by the demonstration. Staff also distributed free literature, pencils, pens, and other complementary items provided by the State Water Board.

In addition, Ms. Barker presented a 30-minute PowerPoint titled “Groundwater in the High Desert” followed by a 10-minute question and answer session. Ms. Barker’s presentation highlighted the Lahontan Water Board’s role in protecting water resources, discussed local drinking water sources, touched on several low-impact development strategies to improve water quality, and emphasized the importance of the public’s role in protecting and conserving our water resources. Members of the audience were most fascinated by drought tolerant and septic-safe vegetation and storm water management strategies that they could employ in and around their own homes.

The County Water Drop character made its debut at the event with Ms. Steinert playing the part. Her dancing and waving at passing cars encouraged those whom otherwise might not have stopped to stop and check out the Fair. Ms. Steinert posed for pictures with event staff, young Fair goers, and Sparky the Dog.

San Bernardino County Special Districts will be hosting another Water Conservation Fair on October 13 at the Spring Valley Lake Community Center in Victorville. Water Board staff members Amanda Lopez and Tom Browne of the Victorville office have volunteered to serve at that event.



Ms. Barker manning the Lahontan Water Board booth at the water conservation fair.



Water Drop (aka, Tiffany Steinert) with Sparky the Dog.