

EXECUTIVE OFFICER'S REPORT

June 2002

NORTH BASIN

1. ***Meyers Beacon Gas Station, El Dorado County - Lisa Dernbach***

Board staff signed an emergency contract in May with Secor International for remediating the detached MTBE plume threatening the Upper Truckee River. The contract amount is just under \$100,000 and is being funded by the Emergency, Abandoned, and Recalcitrant (EAR) Account. The contract calls for Secor to install six off-site extraction wells and lay a pipeline to carry extracted groundwater 2,400 feet to the treatment system at the Beacon Gas Station. Access agreements have been obtained from the U.S. Forest Service, El Dorado County, California Tahoe Conservancy, and Tahoe Paradise Resort. Project tasks should be completed by the end of June. Pumping from off-site extraction wells is expected to begin in July, at a combined rate of 60 gallons per minute. The project was the most cost-effective option evaluated by Board staff and Secor.

Board staff is also working with the Department of General Services to prepare an amended contract for continuing corrective actions at the site until December 2003. The amended contract will allow for operation of the pump and treat system, installation of four monitoring wells, installation of a

soil vapor extraction system, and ground water monitoring and reporting. The amended contract amount is slightly less than \$373,000 and should be in place in July 2002.

2. ***Update on the Lake Tahoe and Donner Lake PAH Study - Mary Fiore-Wagner***

During the summer of 2002, principal investigators with the University of Nevada, Reno (UNR) and various sub-contractors will embark on an aggressive research schedule to collect data to further assess the impacts associated with polycyclic aromatic hydrocarbons (PAHs). On February 7, 2002, the State Board and UNR finalized the \$570,000 contract designed to study the impacts from PAHs by collecting data on ambient water quality, watercraft emission factors, aquatic toxicity and management measures.

During the first phase of the PAH Study, water samples were collected from both Lake Tahoe and Donner Lake and semi-permeable membrane devices (SPMDs) were deployed and collected in both lakes. SPMDs also known as "fat bags" are devices filled with lipid and used in water quality testing to collect fat soluble compounds like PAHs. In addition to the ambient water quality testing, researchers measured the relative

contribution of phototoxic PAHs from three types of marine engines at the California Air Resources Board test facility. Two bioassay experiments were conducted at the Tahoe Research Group's laboratory in Tahoe City under the direction of University of Miami, Ohio researchers. Both native and non-native species of Lake Tahoe and Donner Lake were used to test the toxicity of photo-activated PAHs.

Though the PAH Study focuses mainly on pollutants associated with motorized watercraft, since PAHs are a by-product of combustion, these pollutants can also be found in smoke generated from forest fires and wood burning stoves. Researchers took advantage of the occurrence of a large (16,000 + acre) forest fire to the southwest of the Tahoe-Truckee area in August of 2001, and collected surface water samples to assess the potential PAH contribution of such an event. To evaluate the PAH load associated with wood burning fireplaces, samples were also collected during the winter season.

Water samples have been collected and analyzed and the preliminary results indicate the most significant PAH loading occurs during the boating season. Atmospheric inputs of PAHs from wood smoke and the forest fire monitored appear to be relatively small. The relative contribution of PAHs generated from emissions of four-stroke marine engines is significantly less than those created from the operation of both direct-injection and carbureted two-stroke engines. Additional engine emissions testing will be conducted at the Southwest Research Institute in San Antonio Texas during the Summer of

2002. Researchers will also conduct more studies to investigate aquatic toxicity using native species.

Data collection and research for the PAH Study is expected to be finished by November 2002 with a final report due by mid-March 2003. Consultants working on the Tahoe Regional Planning Agency's Shorezone Environmental Impact Statement anticipate using data from the PAH Study to determine if the increased motorized watercraft activity expected to occur with continued shorezone development has the potential to create environmental impacts

3. ***Meeting with Alpine County officials to discuss projects involving land disturbance or alteration of waters - Jason Churchill***

As discussed in the May 2002 Executive Officer's report, staff had previously sent a letter to Alpine County officials, requesting the County's assistance in referring permit applicants to the Regional Board for projects involving activities that may impact water quality. Examples of such activities would include land disturbance in or adjacent to surface waters (including intermittent streams or wetlands), construction of stream crossings, installation of culverts, or streambank stabilization work. The letter also requested that the County provide a copy of its grading ordinance, and any grading permits issued.

We received a response letter in early May that included a copy of the 1997 Uniform California Building Code Section on Excavation and Grading, which the County uses as its standard in lieu of a County Grading Ordinance. A

meeting was held on May 30 between staff and County officials, including representatives of the Planning, Building, and Public Works Departments and the County's legal counsel. The purpose of the meeting was to discuss County and Regional Board project review and regulatory procedures and how we can cooperate and coordinate to better inform project proponents in the County of permitting requirements and about appropriate measures to protect water quality.

At the meeting, County staff indicated a willingness to assist by providing information to project applicants, referring cases to the Regional Board as necessary, and otherwise coordinating action with us. The possibility of developing a Memorandum of Understanding to guide interaction between our agencies was also discussed. The County Building Department offered to periodically provide copies of its departmental log to keep us informed of building projects in the County. Board staff is currently working on a fact sheet to provide the County with information about erosion and other construction-related water quality issues and policies, that can be shared with project proponents.

4. ***Caltrans Statewide Storm Water NPDES Permit - Bud Amorfini***

Overview

Storm water discharges from Caltrans facilities are regulated under the SWRCB's 1999 Caltrans Statewide Storm Water Permit. Specific implementation requirements are described in Caltrans' Storm Water

Management Plan (SWMP). A summary of key work conducted during fiscal year 2001/2002 and work anticipated for the next fiscal year is presented below.

Regional Work Plan Development

State Board, Regional Board, and Caltrans staff worked cooperatively to establish a standard statewide format for Caltrans' Regional Work Plans that describe specific implementation activities. The new format includes a list of significant construction and maintenance activities planned for the fiscal year. For the Lahontan Region, the work plans must include a list of all construction activities requiring staff input on project development and/or approval of a storm water pollution control plan. Staff will work with Caltrans during the next fiscal year to improve our ability to identify priority projects and request project-specific information to ensure that appropriate control measures are used.

SWMP Implementation and Issues

Project Development Process

The SWMP process to include early input by staff in the project development phase for projects in sensitive watersheds has not been entirely successful. The current system does not allow sufficient flexibility for water quality design changes due to the timing of the California Environmental Quality Act (CEQA) process and Caltrans' funding system. Staff requested that Caltrans establish a system to resolve water quality issues before the CEQA and funding processes are completed.

Treatment BMP Implementation

Caltrans is required to consider treatment BMPs for all new construction projects. The process includes prioritizing sites for BMP retrofit opportunities where projects have already been funded. We have requested that Caltrans provide more flexibility for Districts to work with individual Regions to address site-specific conditions and are emphasizing greater use of vegetated treatment systems where shallow groundwater conditions prevent use of other approved BMPs.

Treatment BMP Pilot Projects

Caltrans constructed a filter media pilot project at Meyers Maintenance Station to evaluate a variety of filter media and coagulants. The project includes an extensive sampling and analysis program of storm water used in the pilot test, which will supplement the storm water characterization activities conducted in the Lahontan Region (see Monitoring).

Traction Sand Assessment

Caltrans District 3 established specifications for use of lower total phosphorus-content sand (maximum 10 ppm) within the Tahoe Basin and is starting to implement this requirement. Staff also requested that District 10 evaluate its traction sand quality and use in the West Carson River Watershed. Staff requested that Caltrans improve the de-icer monitoring and reporting program and expand use of lower phosphorus-content sand/cinders on

roadways throughout the Lahontan Region.

Vegetated Slope Evaluation

The SWMP provides a mechanism to develop a vegetation control program, including a herbicide management program, and evaluate roadside vegetated slopes for remedial action. The program was not developed by the established due date of January 1, 2002. Caltrans should develop and implement the vegetation/slope control programs required by the SWMP.

Maintenance Practice Guidelines

Guidelines were revised to more clearly identify pollutants of concern associated with maintenance activities and describe the required BMPs. Staff requested additional specifications and improvement to address disposal/reuse of asphalt road grindings, shoulder widening during maintenance work, free-fall culvert cleaning (culvert discharging directly to surface waters), concrete waste management, and vector waste characterization and management.

Monitoring

Caltrans completed storm water runoff sampling at three locations in the Tahoe Basin and one location in Mono County. Staff requested additional monitoring at snow storage sites, in-field treatment BMPs, and vector waste disposal sites. Caltrans should also evaluate particle size distribution effects on treatment BMP effectiveness for use in the Tahoe Basin.

Regional Coordination

The SWMP established a requirement for Caltrans to periodically meet with Regional Boards to discuss issues of concern to each region. Regional coordination meetings covering the Lahontan Region were conducted in June 2002.

SOUTH BASIN

5. Mojave River/El Mirage/Dairy Issues, Status Report - Jehiel Cass

Following are status reports on activities within the Mojave River Watershed.

United States Geological Survey (USGS) Sampling in El Mirage Area – The USGS continues its study of desert basin ground water systems and in early June completed Phase 1 field sampling of wells in the El Mirage area. Many wells in the general area were sampled. The purpose of the study is to evaluate different isotopes of chromium to differentiate if the chromium is naturally occurring or from anthropogenic sources. The study is projected to be completed by late fall of this year.

Mojave Water Agency (MWA) – Regional Water Management Plan (RWMP) Update – The MWA has prepared the Phase I RWMP and circulated it for comments. The Phase 1 report discusses the physical setting of the MWA service area, infrastructure and institutional changes that have occurred since 1994, update the Mojave Basin water budget and establish goals for specific projects to be developed in a future Phase 2 report. Board staff

reviewed the RWMP and provided written comments related to water quality and water conservation issues.

Desert View Dairy Issues – I previously issued a 13267 letter that required a Work Plan for ground water monitoring and characterization. The Work Plan was found to be incomplete and staff met with the Discharger and its consultant and provided comments on the deficiencies of the Work Plan.

The Discharger has provided additional information and proposes to install an adequate number of monitoring wells and determine upgradient and downgradient ground water quality from the dairy. These monitoring wells are expected to be complete by the end of August 2002.

6. Molycorp Cleanup and Abatement Order (CAO) Compliance Status Update - Steve Fischenich

Revised Waste Discharge Requirements (WDRs) require Molycorp to stop the Mill discharge to the North Tailings Pond (P-16) by November 6, 2002 and begin closure. To dispose of the Mill discharge after this date, the Discharger is proposing a New Waste Management Unit (New WMU) at a location other than the P-16 site.

Currently, most of the P-16 leakage is occurring through drainage of free liquid from tailings solids discharged to P-16 between 1967 and April 1, 2000. In March 2001, I issued an Amended CAO (Amended CAO). The Amended CAO requires Molycorp to improve existing systems that capture P-16 leakage so that the systems capture at least 85% of the

leakage by March 2002. By March 2001, the Discharger completed improvement of the system (addition of two additional extraction wells). An April 2002 report prepared by the Discharger's consultant shows that the improved system is meeting the performance goal prescribed in the Amended CAO.

As required by the Amended CAO, the Discharger submitted a report by March 29, 2002 evaluating the effectiveness of the corrective actions for the P-1 ground water plume. Existing ground-water-extraction wells are containing most of the plume including the source area at P-1. The western portion of the plume is not contained and continues to migrate offsite to the west. The Discharger cannot begin design for a containment system until it can resolve the offsite-property-access issue described below. The Discharger constructed a new extraction well adjacent to P-1 in 2001. Molycorp still does not have approval of the Bureau of Land Management (BLM) for offsite-property-access to drill mine site ground water monitoring wells. These wells are needed to complete the investigation of Mine Site ground water plumes. On December 13, 2001, BLM sent the Biological Evaluation to the U.S. Fish and Wildlife Service (USFWS) for review and consideration of approval. USFWS reviews are reportedly taking longer than several months to complete. It has almost been seven months since USFWS had the information for their review and approval. Regional Board staff has called BLM management to expedite the review and approval process.

The Alternate Sources Investigation was undertaken to assess if mine related material has been released offsite and to assess its distribution. Five areas were investigated including; 1) windblown material from the P-16 tailings pond; 2) the area downwind of the New Ivanpah Evaporation Ponds; 3) the area downwind from the Old Ivanpah Evaporation Ponds; 4) the borrow pits; and 5) the confluence of Farmer's and Wheaton washes. A Draft Alternate Sources Report was submitted that describes the results of field work and laboratory analysis that was conducted to verify impacted areas identified in a remote sensing aerial survey and historical data evaluation. Molycorp concluded that all of the areas investigated, excluding the Old Ivanpah Evaporation Ponds, contained some amount of mine related materials. In addition, a draft report which evaluates the potential threat to ground water from mine related constituents was also submitted. Board staff is currently reviewing these submittals.

After permission was received from the BLM, a monitoring well was installed on the Ivanpah Playa north of the New Ivanpah Evaporation Ponds. During drilling of the pilot hole for the well, Board staff observed that the encountered soils mainly consisted of clay, similar to that of the other Ivanpah Playa monitoring wells. The well will be used to delineate the extent of hydraulic influence (mounding) believed to have resulted from previous operation of the New Ivanpah Evaporation Ponds. Sampling results should be available after the next quarterly monitoring event scheduled for July of this year.

7. **IMCC Chemicals Inc. (IMCC), Trona – Kai Dunn**

Compliance Status

Results from daily sampling of effluent shows that the Trona plant effluent exceeded the interim effluent limits for total petroleum hydrocarbon (TPH) kerosene and total recoverable petroleum hydrocarbons (TRPH) once and the Argus effluent exceeded the TRPH limit once during the month of May 2002. Nineteen (19) bird deaths were reported during the same period.

IMCC continues to operate the bird pool with flow through of brackish water. The volume of flow was increased in May to compensate for warm weather and increased evaporation rates. The bird pool is experiencing some usage, mainly by shore birds.

Basin Plan Beneficial Uses

Board staff received a letter from Department of Fish and Game (DFG), Office of Spill Prevention and Response (OSPR) staff responding to questions raised by the Board at its April 2002 meeting. A workshop is scheduled for (July 2002) Board meeting to discuss interpretation of bird mortality data by DFG staff and IMCC consultants.

Improving Technology

As part of the Administrative Civil Liability settlement, IMCC has prepared design plans for a new Argus skimmer to enhance petroleum removal from the Argus effluent. The Argus skimmer design proposal has been submitted to

Board staff and is currently under review.

8. **Rush Creek Four Lane Project - Caltrans – Doug Feay**

Caltrans and Yeager Construction (contractor) completed the final stream diversion of Rush Creek for its Highway 395 Four Lane Project located near Lee Vining. On May 16, 2002, Rush Creek was diverted from the original channel into a newly constructed permanent channel. Board staff was at the site to observe the diversion. The diversion was observed to have minimal soil discharge to the stream. Some turbidity was observed near the work area. BMPs were implemented to limit discharges to the extent possible while the stream was diverted into the new channel. Caltrans took water samples before, during and after the diversion work. The results of the sampling showed some short-term turbidity increases in the receiving water. On May 17, 2002, DFG staff, along with a Caltrans stream hydrologist, inspected the new permanent channel. DFG recommended additional large rocks be placed in the new channel to create pools to increase spawning areas. Caltrans will be taking water samples and photographs of the additional rock placement work to be completed by end of June.

9. **Antelope Valley Aquifer Storage and Recovery Project – Tim E. Post**

Los Angeles County Department of Public Works (LADPW) released a *Draft Environmental Impact Report, Antelope Valley Aquifer Storage and Recovery Project* on May 17, 2002. The Department is proposing to construct

and operate 15 dual-use injection/extraction wells at five locations within the Lancaster Hydrologic Area of the Antelope Hydrologic Unit. The proposed Project would inject treated water from the State Water Project for later recovery during droughts or periods of high demand. The proposed wells would be installed to a depth of 500 to 650 feet, fully penetrating the Principal Aquifer and terminating at the top of the regional Blue Clay layer. LADPW estimates that, on a yearly average, 6,843 acre-feet of water would be injected, and 13,282 acre-feet of water would be extracted. Water would not be extracted every year.

A Pilot Project, performed between 1995 and 1998, to assess the viability of recharging the Principal Aquifer determined that trihalomethanes (THMs) formed during the treatment process and after the water had been injected into the subsurface. Trihalomethanes are disinfection by-products formed by the reaction between dissolved organic carbon (DOC) and chlorine. During the Pilot Project the concentration of trihalomethanes in extracted ground water exceeded the maximum contaminant level of 80 parts per million.

In an attempt to minimize or eliminate the formation of trihalomethanes, the Environmental Impact Report (EIR) assessed nanofiltration, coagulation/sedimentation, and granular activated carbon (GAC) treatment technologies to determine if the DOC and chlorine could be removed before the water is injected. LADPW determined that treatment by GAC was

the most economical and effective and is planning to install a GAC treatment system at the Quartz Hill Water Treatment Plant. During the summer, approximately half of the plant's 65 million gallons per day capacity would be treated by GAC before distribution. During the winter, when DOC is the lowest, all of the water would be treated by GAC. GAC is capable of reducing DOC to within the target range of 0.5 to 1.0 part per million and thus reduce the formation of THMs to a great extent.

10. ***Field Tests at Edwards Air Force Base Show Potential for Total Destruction of Perchlorate – Liz Lafferty***

At Edwards Air Force Base (EAFB), results of field tests suggest that an emerging technology using selective cation exchange resins may completely remove and destroy perchlorate from ground water. The treatment process selectively removes perchlorate from ground water and concentrates it on a resin column. After the resin is exhausted, it is recharged on site and regenerant waste containing perchlorate is captured by tanks of granular activated carbon.

Field-testing at EAFB is being performed in conjunction with Oak Ridge National Laboratories (ORNL). Only the functional resin and regeneration process, have been field tested at EAFB. The high pressure/high temperature unit to destroy perchlorate is still under development at ORNL.

The functional resin has proven its ability to attract and remove low levels of perchlorate to non-detectable concentrations and the chemical

regeneration of the resin was nearly 100% efficient. This technology offers a cost-effective means to remove perchlorate from contaminated ground water with significantly reduced waste generation and operational cost. Field-testing at EAFB is intended to promote development of this new technology, validate its effectiveness, and develop detailed costs of the treatment method.