Lahontan Regional Water Quality
Control Board

EXECUTIVE OFFICER'S REPORT

October 2003

NORTH BASIN

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

Board staff has reviewed a workplan to remediate soil contamination at this site, located just outside South Lake Tahoe. A 2001 investigation discovered up to 11,000 parts per million as total petroleum hydrocarbons in soil adjacent to the underground storage tank (UST) basin. This discovery confirmed that the source of the 1997 release that reached two municipal wells originated in a sump and piping at the UST basin. Contaminated soil could not be excavated in 2001 without compromising the basin backfill material that prevents collapse of the USTs. Hydrocarbons continue to leach to groundwater during periods of annual high water levels, causing water quality degradation.

The Regional Board's consultant, Secor International, has proposed to oxidize petroleum hydrocarbons in soil using an 8% hydrogen peroxide solution. The solution will be injected via four well points installed to a depth of nine feet below ground surface, adjacent to the UST basin. Two doses of hydrogen peroxide will be injected in a three-week period. The injections will be continuously monitored to ensure that the solution does not backflow to the surface. Secor also proposes to operate a nearby extraction well to remove any threat to water quality should the solution flush contaminants to groundwater.

Board staff plans to approve Secor's workplan for soil remediation. Hydrogen peroxide doses are scheduled for injection during October. Since no product exist in the USTs at the closed station, the remediation method poses no threat to public health and safety. The effectiveness of the remediation method will be determined by evaluating groundwater monitoring data before and after soil treatment. The Regional Board will be informed of the outcome of the project.

2. ***Polycyclic Aromatic Hydrocarbons (PAHs) in Lake Tahoe and Donner -*** *Lake-Mary Fiore-Wagner*

Studies of water from Lake Tahoe in 1998 that contained PAHs from watercraft emissions was found to be toxic to fathead minnows and zooplankton (Oris et al., 1998). Likely sources of PAHs in the Lake Tahoe Basin include automobile emissions, wood smoke, prescribed burns, wildfires, and motorized watercraft. PAHs are semi-volatile compounds released during combustion of organic material, such as wood and gasoline. Since PAHs are not very soluble in water, these compounds prefer to partition into biological material, like fish tissue. Under sunlight, the toxicity of PAHs increases (photo-enhanced toxicity).

However, existing literature on the biological communities present at Lake Tahoe and Donner Lake indicate that few organisms inhabit surface water (<5 m) during daylight hours. Avoidance behavior, such as vertical migration to deeper water, may protect some macro invertebrates, zooplankton, and fish from

potential photo-toxic effects associated with PAHs. Signs of toxicity can include mortality, erratic swimming behavior, reduced growth, and decreased reproduction measured by number of young produced per female.

With over half a million dollars in funding awarded May 2001 from the State Water Resources Control Board, principal investigator Dr. Glenn Miller from UNR collaborated with academia from the University of California, Davis, the University of Ohio, Miami, and staff with the USGS to conduct further research on PAH impacts to Lake Tahoe and Donner Lake (PAH Study). The PAH Study also included a regulatory assessment of management measures to control sources of PAH pollution.

Distribution and Occurrence

Researchers collected water samples at specific locations at different times during the year. The sampling schedule was designed to capture various sources of PAH smoke (i.e., emissions from motorized watercraft, forest fires, automobile emissions, and wood smoke). The samples collected during the active boating season (Memorial Day through Labor Day) contained the highest detections of PAHs for both Lake Tahoe and Donner Lake. Of the 12 photo-toxic PAHs monitored, fluoranthene and pyrene were the two most commonly detected PAHs.

Areas with the highest watercraft usage and limited flushing ability, like the Tahoe Keys Marina and the Donner Lake boat ramp (shallow water), contained the greatest number of individual PAHs at the highest concentrations with the most frequency. Areas receiving limited boat traffic rarely showed detection of photo-toxic PAHs, indicating that these compounds do not accumulate in open water. Since samples collected at the open-lake location and sampling at other lakes that do not allow boating contained low and non-detectable levels of PAHs, automobile exhaust which is a constant source of PAH in the Tahoe Basin, does not appear to be a major source of PAH to the water.

Ambient water sampling that was conducted in August 29, 2001 when smoke from a wildfire was prevalent in the Tahoe Basin, did not indicate an elevated presence of PAHs. Sampling conducted during the winter months which would capture effects from smoke from wood burning stoves and emissions from vehicular traffic also did not show elevated concentrations of PAHs. Though limited, these data indicate the primary source of PAH loading to Lake Tahoe appears to be from motorized watercraft use during the active boating season. Data provided by USGS staff Lico and Pennington (1999) indicated that spring runoff and base flow of six tributary streams to Lake Tahoe were not a major source of PAH to the lake; these results further suggest that emissions from motorized watercraft are the primary source of PAH loading to Lake Tahoe.

Engine Emissions and Photochemical Reactivity

Comparative tests to evaluate differences in PAH emissions among engine types were conducted using a 90-hp 4-cycle engine, a 90-hp direct fuel injected 2-cycle engine, and a 90-hp carbureted 2-cycle engine. The 4-cycle engine produced emissions that were 8-20 times lower, depending on the specific PAH, compared to the PAHs released from both of the 2-cycle engines. Though the newer direct fuel injected 2-cycle engines emit lower amounts of gasoline constituents (benzene, toluene, MTBE) when compared to 2-cycle carbureted engines, PAH releases were approximately equivalent for both the carbureted and fuel injected 2-cycle motors.

Regulatory Assessment and Potential Management Measures

At present, photo-toxic PAH compounds were not observed in any of the open water areas of Lake Tahoe at concentrations that would be expected to cause toxicity to aquatic organisms. Higher concentrations, "hot spots", were found in areas associated with high boat traffic, especially areas that had limited potential for dilution with open water (e.g., the Tahoe Keys Marina). PAH concentrations found in open-design marinas and open water areas of Lake Tahoe that receive heavy boat traffic (Sugar Pine Point) were at levels not believed to present direct or photo-enhanced toxicity to aquatic life. Management measures for PAH "hot spots" may be appropriate to reduce potential ecological impacts associated with PAH toxicity.

Possible management measures for a PAH "hot spot" could include establishing a ceiling for the number of motorized watercraft allowed to operate from a single location. The effects of PAHs are being evaluated by the Tahoe Regional Planning Agency as part of an EIS it is completing to complement proposed changes in how it regulates shorezone activities (marinas, buoy fields, private docks, etc.).

3. ***Caltrans Highway 50 Water Quality Project and Pilot Studies, El Dorado County, -*** *Robert Erlich*

Caltrans District 3 is completing construction of a water quality project to reduce erosion and treat Caltrans stormwater runoff from approximately one mile of Highway 50 just west of the South Lake Tahoe Airport. This project incorporates widely-used conveyance improvements such as curb and gutter, rock-lined ditches and storm drain culverts and treatment improvements such as infiltration basins. Additionally, Caltrans has stabilized, revegetating, and is protecting large areas of compacted or disturbed soils within its 100-foot wide right-of-way. Caltrans is also installing two full-scale pilot studies using activated alumina as the primary filter media in the two retention basins on this project. Stormwater runoff will filter through an overlying sand layer, then pass through the activated alumina filter media, before being discharged at the basin outfalls.

Caltrans has been conducting small-scale studies of new treament BMPs at a facility in Meyers for the two years. In the small scale studies, stormwater filtered through activated alumina media met the numeric effluent limitations for discharge to surface waters within the Lake Tahoe Basin. Caltrans and the Regional Board will be reviewing sampling results over the next few years to determine the effectiveness of this BMP in reducing pollutant loads, and to determine whether there may be any adverse impacts from the use of the filter media.

The two retention basins along Highway 50 will be the first full-scale test of this stormwater treatment technology in the Lake Tahoe Basin. There are only a few treatment BMPs approved by Caltrans for installation along state highways, and the approved BMPs will often not remove enough storm runoff pollutants to meet effluent standards. To address this problem, Regional Board staff has encouraged Caltrans to evaluate new treatment methods and to construct treatment BMP pilot studies in the Lake Tahoe Basin. Installation of other Caltrans full-scale pilot studies was set back one year when the Caltrans SR 267 Brockway Basin Retrofit project was postponed and other Caltrans projects where pilot studies could be conducted have also been delayed or eliminated. However, construction of the two full-scale pilot studies along the Highway 50 indicates Caltrans is making progress towards evaluating new treatment BMPs.

4. ***Storm Water Quality Improvement Committee Update -*** *Douglas F. Smith*

The Storm Water Quality Improvement Committee (SWQIC) convened in April 2002 to build consensus on storm water project design, improve the project review process, and resolve miscellaneous erosion control and storm water project design issues. SWQIC is comprised of agencies that implement, fund or regulate water quality improvement projects in the Lake Tahoe Basin. The committee agreed to identify and address project constraints and develop a project alternatives analysis process to be used by implementation, funding, and regulatory agencies. This effort is intended to streamline project implementation.

During the past 18 months SWQIC has made significant progress toward its identified goals. Many agencies, including California Department of Transportation, El Dorado County, Placer County, Washoe County, Nevada State Lands, the California Tahoe Conservancy, the Tahoe Regional Planning Agency, and the Regional Board have actively participated in monthly meetings to forward the SWQIC agenda.

With funding assistance from the California Tahoe Conservancy and the Tahoe Regional Planning Agency, SWQIC hired Northwest Hydraulic Consultants (NHC) to help draft an alternatives analysis guidance document. The final draft, Formulating and Evaluating Alternatives for Water Quality Improvement Projects, should be submitted for comment mid-October 2003. This document provides implementers with a detailed process for developing project alternatives consistent with the preferred design approach supported by California and Nevada funding agencies. Technical appendices offer methods for analyzing existing conditions and checklists for alternatives evaluation. The process is a progressive step in comprehensive project planning and will assist in developing effective water quality improvement projects.

The U.S. Army Corps of Engineers (USACE) has offered to provide technical assistance to the SWQIC. In September 2003 SWQIC authorized USACE to begin developing criteria to standardize the baseline hydrologic information to be developed for all water quality improvement projects. The USACE is optimistic that federal funds will fully support the project and deliver the report to SWQIC in September 2004.

5. ***Squaw Creek TMDL Site Visit -*** *Chuck Curtis*

Regional Board staff who are developing the Squaw Creek sediment TMDL toured the Squaw Valley ski area portion of the watershed on September 3, 2003. Additional site visits throughout the watershed are also planned or have been conducted. The group walked from the base of the mountain up the North Fork of Squaw Creek to near the top of the ski area and down the South Fork of Squaw Creek. The visit revealed a range of conditions, from undisturbed areas with low or moderate levels of erosion, naturally erosive areas with both little disturbance and with significant man-caused disturbance, and areas where SVSC has implemented successful erosion control measures.

Regional Board TMDL staff are requesting these Squaw Creek watershed tours to familiarize themselves with the watershed in order to assist their completion of the Squaw Creek TMDL. Activities in these visits include observing sediment source areas and qualitatively evaluating their relative magnitudes, identifying areas for potential source reductions, considering site conditions and appropriate methods for sediment source

control, and "ground truthing" assessments made in contractors' reports. Staff plan to complete the TMDL in the Spring of 2004 and bring it to the Board for adoption in late Spring or Summer 2004.

6. *Squaw Valley Ski Corporation -*
Scott Ferguson

On December 18, 2001, the Regional Board issued Cleanup and Abatement Order (CAO) No. R6-2001-0074, which requires Squaw Valley Ski Corporation (SVSC), et al. to identify and evaluate pollutant sources at the Squaw Valley Ski Area. The CAO also required SVSC to develop a Critical Water Quality Improvement Plan (CWQIP) that identifies projects and/or best management practices (BMPs) that will be implemented by October 15, 2003. The CWQIP projects are to address pollutant sources requiring immediate attention as identified in SVSC's Facility Assessment. SVSC has submitted a CWQIP and subsequent revisions in response to Regional Board review and comments. Regional Board staff believe the revised CWQIP is acceptable and SVSC is currently implementing the proposed projects. Staff anticipates that SVSC will be able to complete the CWQIP projects by the October 15, 2003 compliance date.

The CAO also required SVSC to develop a Parking Lot Runoff Plan and to implement portions of the plan by October 15, 2003. SVSC has submitted the plan and staff has found it to be acceptable. The plan consists of routing parking lot storm water runoff through a passive filtration system and discharging the treated runoff to Squaw Creek. Another component of the plan is to store some parking lot snow in addition to the snow from Squaw Valley Road on the north side of Squaw Valley Road and to infiltrate the snowmelt. Snow from Squaw Valley Road has typically been stored in this area and allowed to melt and run off untreated into the roadside ditch that eventually discharges to Squaw Creek.

Concerns regarding the infiltration component's potential impacts on the valley's aquifer, which is the valley's sole drinking water supply, were raised during Placer County's early consultation process, which began in February/March 2003. SVSC worked through the summer with its consultant on estimating potential effects on ground water quality using the Squaw Valley Public Service District's ground water computer model. The modeling process was completed during July/August 2003 and SVSC produced a report responding to the concerns. SVSC's report concluded that the infiltration component would not adversely impact the ground water. The two water districts within Olympic Valley still have concerns regarding the infiltration component's potential for adversely impacting ground water quality based upon how the computer model was used, the assumptions made, and the data that was used. The water districts do not want the snowmelt to be infiltrated.

These unresolved issues have prevented SVSC from obtaining Placer County's authorization. Placer County staff has yet to develop a CEQA document, which it has determined will be necessary for issuing County permits for implementing the Parking Lot Runoff Plan, as currently proposed. Therefore, SVSC will not be able to implement the Parking Lot Plan, as currently proposed, by October 15, 2003. Regional Board staff will be working with all parties to see if there is some compromise which may allow portions of the plan to be implemented this year. There seems to be general consensus that the parking lot treatment system would provide adequate protection of both surface and ground water quality; and therefore, it may be possible for all parties to agree to have it implemented. If all parties agree on the parking lot component, implementing the that component this year would depend upon

SVSC being able to quickly secure the necessary permits, the treatment system and associated infrastructure, and weather conditions.

SOUTH BASIN

7. ***Molycorp Compliance Status Update -*** *Curt Shifrer*

As required by Waste Discharge Requirements (WDRs), Molycorp filed information to complete a Revised Report of Waste Discharge (RWD) for closure of the North Tailings Pond (P-16). The WDRs also require that Molycorp begin construction for closure by January 1, 2004, and complete construction by October 1, 2004. San Bernardino County (County), the lead agency under the California Environmental Quality Act, has completed a Negative Declaration for closure of P-16. Board staff is drafting Proposed Closure Requirements scheduled for the scheduled for consideration at your November 2003 meeting.

Molycorp has proposed to construct a New Tailings Disposal Facility. The County is preparing an Environmental Impact Report (EIR) for the New Facility. The April 2003 Draft EIR evaluates two alternatives for tailings disposal. Both alternatives involve lined disposal facilities that would meet or exceed the liner performance standards that are promulgated in State regulations. The County has not indicated when it intends to finalize the EIR.

Molycorp is required by a Cleanup and Abatement Order to investigate a release from its facility. Portions of this investigation necessitates the drilling of monitoring wells on U.S. Government land to delineate the extent of groundwater impacted by mining wastes. The Bureau of Land Management (BLM) and National Park Service (NPS) have not granted Molycorp Right-of-Way Permits (ROW Permits) to conduct the investigation on lands that those agencies administer. As discussed in previous Executive Officer Reports, Molycorp initially sent ROW Applications to those agencies more than five years ago.

Federal agencies are required to obtain input from the US Fish and Wildlife Service before making decisions that could adversely impact endangered species (in this situation the desert tortoise). BLM has recently received this input and is processing the ROW permits

8. ***Los Angeles Department of Water and Power (LADWP) Los Angeles Aqueduct -*** *Gene Rondash*

A series of summer thunder storms came through the Lone Pine area between July 31 to August 1, 2003. On July 31, 2003, intense rain washed mud and rocks into the Los Angeles Aqueduct (LAA), five miles south of Lone Pine, causing the water to backup in the LAA and discharge at overflows installed to address this type of situation. The overflow of more than 3,000 acre feet of water flooded Highways 395, 190, and 136 near Owens Lake.

LADWP dispatched a crew to clean the spillways, divert the water upstream from the blocked section, remove most of the debris and sediment. This action caused a turbid water slug (>1,000 NTUs) to move down-gradient to North Haiwee Reservoir and mix with normal stormwater discharges (of approximately 60

NTUs). Citizen reports stated dead fish were observed in the area after the flooding.

On August 1, 2003, LADWP began treating the water above North Haiwee with a polymer material to settle out the suspended solids. On August 3, LADWP notified DFG that approximately 30 to 40 fish had not survived the treatment action and were found near the Merritt Dam/Haiwee Bypass just above the Merritt Cut Pump Station. Board staff inquired about the amount and chemical composition of the polymer and other water quality data from both LADWP and DFG. LADWP's biologists have been working with DFG to determine the cause of the fish kills and alternative methods and procedures to avoid a recurrence of this event. LADWP's report of the incident was received on September 10, 2003. The report was inconclusive on what killed the fish. The report identified the amount, duration, and chemical composition of the polymer used; and concluded that the combination of turbid waters and polymer may have contributed to the fish kills; and reported that surveys of the areas around Haiwee did not result in observation of any other fish kills. Board staff has requested additional information from LADWP regarding its emergency and maintenance procedures to determine if reasonable measures could minimize water quality effects from future similar events.

9. ***Town of Mammoth Lakes - Erosion Control -*** *Doug Feay*

According to the agreement between the Board and the Town, the Town of Mammoth Lakes staff is providing day-to-day oversight and inspections of on-going construction projects to ensure appropriate erosion control measures are implemented. Town staff communicates with Board staff mainly by phone and has provided electronic copies of photos documenting the status of implementation of stormwater best management practices (BMP) used at the construction projects. Board staff conducted independent inspections and coordinated with Town staff regarding inspection results. The BMPs generally appear satisfactory and appropriate for site conditions with some maintenance needed at certain sites. Construction projects underway within the Mammoth area include; the North Village and Gondola Project; other commercial and housing projects; and flood control, utility and road projects being completed by Mammoth Community Water District and the Town.

10. ***A & H Dairy -*** *Christy Hunter*

Owners of the A & H Dairy in El Mirage submitted data from two monitoring wells, installed in 2002, showing that groundwater under the dairy is polluted. The monitoring wells showed concentrations of nitrate (as N) at 78.8mg/L and total dissolved solids (TDS) at 3,010 mg/L. Board staff has asked for further groundwater monitoring sites to be proposed in a workplan that would assess the groundwater flow, the extent and the source of the impacts. Staff recently met with the consultant for A & H Dairy and reviewed plans for installation of additional groundwater monitoring wells. The additional groundwater monitoring wells are expected to be installed by the end of October and will be sampled for TDS and nitrate.

Board staff also asked for and received from the dairy owner a time schedule for implementation of various improvements, which include: 1) installation of a solids separator; 2) construction/lining of two stormwater ponds; 3) a technical report on the future wash water disposal practices; and 4) a plan for using dairy wash water to irrigate crops.

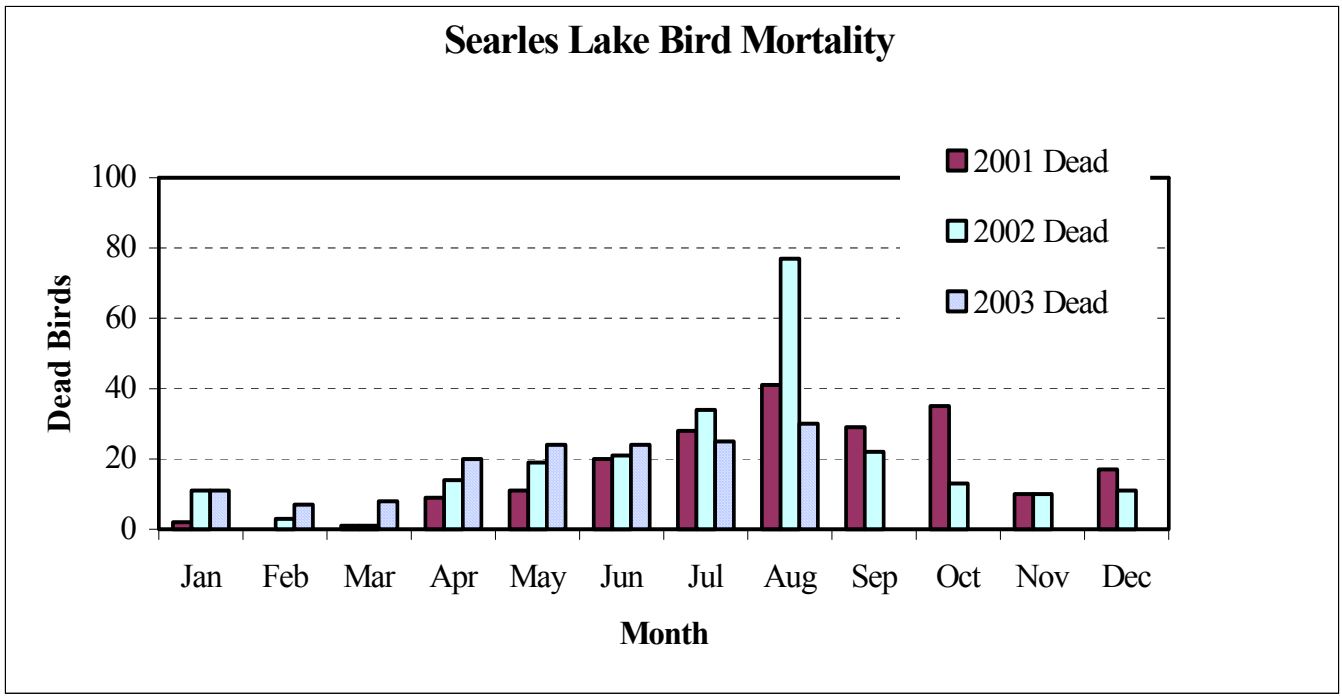
11. ***IMC Chemicals Inc., (IMCC) -*** *Kai Dunn*

Compliance Status

Daily reporting data from IMCC shows that the interim effluent limitations set forth in the WDRs have not been exceeded at any of IMCC's facilities during the month of August 2003. It appears that the new Argus skimmer is providing the additional treatment needed to adequately maintain IMCC's effluent in compliance. Thirty-eight birds were picked up during the same period; thirty of them were dead. The total birds found this year through the month of June were 212 with 149 dead and 63 alive. The dead birds reported in the year 2001, 2002, and 2003 are shown in the figure below.

New Argus Skimmer Status

IMCC continues to recover surface hydrocarbons on the skimmer. Absorbent booms have been installed on all four sections of the skimmer to contain the surface hydrocarbons and make vacuuming more efficient.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

REPORT ON STATUS OF STANDING ITEMS
October 2003

The Regional Board has requested that it be kept informed of the status of a number of issues. The following table lists the items, the reporting frequency and where the report can be found.

ISSUE	REPORT FREQUENCY	STATUS/COMMENT
IMC Chemicals - Compliance Status	Monthly	Item No. 11 of October 2003 EO's Report
Meyers Beacon UST Site	Quarterly	Item No. 1 of October 2003 EO's Report
Mojave River/El Mirage Dairy Issues	Quarterly	Items No. 10 of October 2003 EO's Report
Progress of Cleanup at Molycorp	Quarterly	Item No. 7 of October 2003 EO's Report
Town of Mammoth Lakes - Erosion Control	Quarterly	Item No. 9 of October 2003 EO's Report
Caltrans-Tahoe Basin	Annually	Due November 2003 Board Meeting
Tahoe Municipal Permit	Annually	Due November 2003 Board Meeting
Wetland Restoration Progress in Mono County	Annually	Due November 2003 Board Meeting
Eagle Lake Spalding	Semi-Annual	Due March 2004 Board Meeting
Caltrans-General Permit	Annually	Due September 2004 Board Meeting

Frequency	**Board Meeting Month**
Quarterly	July, October, January & April.
Semi-Annual	September & March
Annually	Varied

EO'S MONTHLY REPORT FOR OCTOBER 2003

UNAUTHORIZED WASTE DISCHARGES

DISCHARGER	FACILITY	LOCATION	BASIN	REG. FACILITY	SUBSTANCE DISCHARGED	HAZAR-DOUS	DATE REPORTED	DISCHARGE VOLUME	DESCRIPTION OF FAILURE	DISCHARGE TO	PROP 65	STATUS
**COUNTY -	Kern											
US Borax	US Borax	Boron facility pipeline to "R" ponds	S	Y	Wastewater	N	9/10/2003	8000 gals	Weld on plastic pipeline failed. Pipe repaired. WW & soil cleanup completed.	Ground	N	New replacement steel pipeline being installed & will be complete by 10/15/03. Followup on installation. No Further Action Recommended.

CASE CLOSURE REPORT

State of California
Lahontan Regional Water Quality Control Board

Date Closure Issued	Site Name	Site Address	Case Number	Case Type	Remaining Groundwater Concentrations above Water Quality Objectives (in micrograms per liter)	Remaining Soil Concentrations (in milligrams per kilogram)	Distance from Site to Nearest Receptor	Remedial Methods Used
Sept. 15, 2003	Marine Corps Moutain Warfare Training Center	State Highway 108, Bridgeport	T6S025	SLIC	None	TPHd: 390 mg/Kg	Municipal well 1300 feet away and upgradient from fuel bladder leak	Monitored natural attenuation 1994-2003
Sept. 18, 2003	Tahoe City Public Utilities District, Meeks Bay Station	7913 Highway 89, Meeks Bay	6T0195A	UST	None	TPHd: 1500 mg/Kg	Municipal well greater than 1 mile away	Excavation and disposal of 60 cubic yards of soil

Notes:
SLIC = Spills, Leaks, Investigation and Cleanup Program
UST = Underground storage tank program
TPHd = total petroleum hydrocarbons as diesel
mg/Kg = miligrams per Kilogram (parts per million)