

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**CLEANUP AND ABATEMENT ORDER NO. R6T-2002-0004  
WDID NO. 6A290007N03**

**Requiring Oliver Cross to  
Clean Up and Abate the Effects of the Discharge of  
Petroleum Products to the Ground Waters of the  
Truckee River Hydrologic Unit at the Pat & Ollies – Gateway Gasoline Station,  
10115 Donner Pass Road, Truckee, Nevada County  
Assessors Parcel Number 19-092-04**

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) finds:

1. The Pat & Ollies - Gateway Gasoline Station is located at 11015 Donner Pass Road in Truckee, Nevada County Assessors Parcel Number 19-092-04. The site has been an active gasoline station for over 50 years.
2. On December 21, 2001, a Fiberglass underground storage tank (UST) failed and released approximately 6,000-gallons of premium unleaded gasoline into the soil and underlying groundwater.
3. On December 24, 2001, four existing, onsite groundwater monitoring wells were gauged for the presence of free-phase petroleum product (free product). Two monitoring wells contained free product. To begin recovery of free product, air pumps were installed in the two monitoring wells that contained free product. The liquid (groundwater and free product) recovered from each monitoring well is pumped into an above ground 20,000-gallon tank for temporary storage. About 3,500 gallons of liquid have been extracted from the two wells as of January 8, 2002.
4. Regional Board staff (Board staff) reviewed the December 26, 2001, *UST Removal and Recovery Well Workplan* and the December 27, 2001, *Addendum for UST Removal and Recovery Well Workplan*. Both workplans were sent to this office via facsimile. Board staff approved the workplans on December 27, 2001, with modifications.
5. The 6,000-gallon UST was removed on December 27, 2001 from the site. The bottom of the UST had an approximate 1-inch diameter hole that is the suspected origin of the petroleum release. On December 28, 2001, following the UST removal, the contaminated soil in the tank cavity was overexcavated to an approximate depth of 14 feet below ground surface. The excavated soil was placed in roll-off bins pending analytical results for disposal. The excavation was backfilled with pea gravel. Free groundwater was not encountered during the excavation.

6. On January 3, 2002, the Discharger's consultant began installation of additional extraction wells to facilitate free product removal. As of January 9, 2002, seven additional extraction wells had been installed, and free product was being manually removed from each well with a bailer.
7. The beneficial uses of groundwater in the area as designated in the 1995 Water Quality Control Plan for the Lahontan Region are numerous. Some of the designations include municipal and domestic supply, agricultural supply, industrial service supply, groundwater recharge, and fresh water replenishment.
8. The 1995 Water Quality Control Plan for the Lahontan Region establishes water quality objectives for the protection of beneficial uses. Those objectives include the following Maximum Contaminants Levels (MCLs) and Action Levels (ALs) that have been established, stated in micrograms per liter ( $\mu\text{g/L}$ ), by the California Department of Health Services as safe levels to protect the public drinking water supply:

Benzene	1	$\mu\text{g/L}$ (MCL)
Toluene	150	$\mu\text{g/L}$ (MCL)
Ethylbenzene	700	$\mu\text{g/L}$ (MCL)
Xylenes	1750	$\mu\text{g/L}$ (MCL)
MtBE	13	$\mu\text{g/L}$ (AL)

The Water Quality Control Plan contains the following narrative taste and odor objectives for the Truckee River Hydrologic Unit:

Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwater designated as municipal and domestic supply, at a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in ... Title 22 of the California Code of Regulations which is incorporated by reference into this plan.

The following Taste and Odor Thresholds (TOT) are adopted or proposed as secondary water quality goals by the United States Environmental Protection Agency or the California Department of Health Services for drinking water. Petroleum concentrations above these levels would violate the narrative taste and odor objective in the Water Quality Control Plan:

Total Petroleum Hydrocarbons (Gasoline)	50	$\mu\text{g/L}$ (TOT)
Total Petroleum Hydrocarbons (Diesel)	100	$\mu\text{g/L}$ (TOT)
Toluene	42	$\mu\text{g/L}$ (TOT)
Ethylbenzene	29	$\mu\text{g/L}$ (TOT)
Xylenes	17	$\mu\text{g/L}$ (TOT)
MtBE	5	$\mu\text{g/L}$ (TOT)

The more stringent numeric standard is the applicable water quality objective for each constituent.

9. The Truckee River, a municipal water supply, is located less than 5,000 feet, downgradient from the Pat & Ollies – Gateway Gasoline Station.
10. The discharge of petroleum products to the groundwater of the Truckee River Hydrologic Unit as described in Finding No. 2, above, violates a prohibition for the Truckee River Hydrologic Unit contained in the 1995 Water Quality Control Plan for the Lahontan Region. Specifically, the discharge violates and threatens to violate the following discharge prohibition in the Plan:  

*The discharge of ... waste as defined in Section 13050(d) of the California Water Code which would violate the water quality objectives of this plan, or otherwise adversely affect the beneficial uses of water designated by this plan, is prohibited.*
11. To protect groundwater quality and beneficial uses, additional investigation and remediation tasks are needed at the site. This Order lists additional tasks and compliance dates that require the Discharger to take all actions necessary to contain and remediate groundwater contamination associated with the Pat & Ollies – Gateway Gasoline Station and to restore the groundwater quality in a timely manner.
12. This enforcement action is being taken by this regulatory agency to enforce the provisions of the California Water Code and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et. Seq.) in accordance with Section 15321, Chapter 3, Title 14, of the California Code of Regulation.

**THEREFORE, IT IS HEREBY ORDERED** that pursuant to California Water Code Sections 13267 and 13304, the Discharger shall clean up and abate the discharge and threatened discharge of petroleum hydrocarbons and other wastes discharged to the waters of the State from the Pat & Ollies – Gateway Gasoline Station and shall comply with the provisions of this order:

1. Discharger shall conduct the investigation and cleanup tasks by or under the direction of a California registered geologist (RG) or civil engineer (PE) experienced in the area of groundwater pollution cleanup. The licensed RG or PE shall sign and stamp each technical report and monitoring report submitted to the Regional Board.
2. Discharger shall not cause or permit any additional waste to be discharged or deposited where it could be discharged into the waters of the State.

### 3. Provide Hydraulic Containment.

#### 3.1 Continue Free Product Removal.

Upon issuance of this order, the Discharger shall take all necessary steps to remove free product from the subsurface. Measurable (1/8 inch or more) free product in any well shall be removed. Maintain a log of free product thickness, depth to groundwater, amount of free product removed, disposal of free product, and cumulative volume removed from the site. Submit, via facsimile, biweekly reports summarizing the free product removal progress and include a copy of the logged information.

#### 3.2 Expand Free Product Removal System.

By **February 1, 2002**, the Discharger shall install and commence continuous extraction from at least six, four-inch diameter groundwater wells to remove the free product with an active pumping system. Board staff concurrence is required for active pumping system shutdown periods longer than two hours, such as for repair or for expanding or changing the system. If additional free product in the subsurface is found during the subsurface investigation required in Order No. 5.2, below, then additional extraction shall commence to provide continuous hydraulic containment and removal of the free product from the subsurface.

#### 3.3 Begin Groundwater Remediation.

3.3.1 **By February 1, 2002**, submit a workplan detailing installation and operation of an interim groundwater remediation system that will hydraulically contain and remove the known extent of petroleum hydrocarbon contamination to meet the most stringent water quality objectives set forth in Finding No. 8. The goal is to minimize the spread of contamination in the groundwater until the final remedy for aquifer restoration is implemented pursuant to Order No. 9, below.

3.3.2 **By February 19, 2002**, following approval by Regional Board staff, commence the interim groundwater remediation. Conduct monitoring and reporting pursuant to Order No. 6, below.

### 4. Remove the Contamination Source.

4.1. **By January 25, 2002**, commence removal of product-saturated soil from the site. This task may involve overexcavation and/or may also involve installing a soil vapor extraction or a dual phase (groundwater and vapor) extraction system. To the maximum extent practicable, remove all soil contaminated with total petroleum hydrocarbons as gasoline (TPHg) with concentrations in excess of 1,000 milligrams

per kilogram. Utilize appropriate field sensor equipment during the excavation process to monitor the progress of contaminated soil removal.

- 4.2. **By March 1, 2002**, submit a technical report documenting the source removal activities to date. In the report, include a workplan for additional source remediation activities at the site, if necessary.

**5. Identify the Extent of Subsurface Contamination.**

**5.1. Submit a Subsurface Investigation Workplan.**

**By February 1, 2002**, submit a workplan detailing a comprehensive subsurface investigation to define the horizontal and vertical extent of contamination. The workplan shall propose methods to define the soil contamination out to 5 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) for MTBE and BTEX constituents and 500  $\mu\text{g}/\text{kg}$  for Total Petroleum Hydrocarbons as Gasoline (TPHg) in all directions. The workplan shall also include methods to define the groundwater contamination out to 0.5  $\mu\text{g}/\text{L}$  for MTBE and BTEX constituents and 50  $\mu\text{g}/\text{L}$  for TPHg in all directions. The workplan shall also propose methodologies to continuously core representative borings and log the subsurface of each boring.

**5.2. Commence the Subsurface Investigation.**

**By February 19, 2002**, following approval by Regional Board staff, commence the subsurface investigation. Beginning March 1, 2002, and every two weeks thereafter until May 1, 2002, submit a status report on the investigation progress and include copies of boring logs for holes drilled during the previous two-week period.

**5.3. Submit a Subsurface Investigation Technical Report.**

**By May 1, 2002**, submit a technical report to the Regional Board that defines the full horizontal and vertical extent of soil and groundwater contamination from the gas station. At a minimum the report shall:

- 5.3.1. Provide a narrative description of work performed and information obtained.
- 5.3.2. Include boring logs, monitoring well designs, survey plat, and analytical data.
- 5.3.3. Include color-coded site maps showing the location of all monitoring wells, extraction wells, soil borings, and any public or private drinking water well within 1000 feet of the site. Show boundary lines of petroleum contamination in soil out to 5  $\mu\text{g}/\text{kg}$  for MTBE, 5  $\mu\text{g}/\text{kg}$  for BTEX and 500  $\mu\text{g}/\text{kg}$  for TPHg in all directions. Show boundary lines of petroleum contamination in groundwater out to 0.5  $\mu\text{g}/\text{L}$  for MTBE, 0.5  $\mu\text{g}/\text{L}$  for BTEX, and 50  $\mu\text{g}/\text{L}$  for TPHg in all directions.

- 5.3.4. Include color-coded geologic cross-sections that show the depth to groundwater and the vertical extent of petroleum contamination in soil and groundwater out to the levels listed in Order No. 5.3.3.
- 5.3.5. Describe whether or not the free-phase and dissolved petroleum contamination is following preferential pathways and the basis for that conclusion.
- 5.3.6. Analyze whether the groundwater extraction system is adequate to hydraulically contain the horizontal and vertical extent of contaminants in the saturated zone and prevent further migration.

## 6. Conduct Monitoring and Reporting.

The Discharger shall conduct monitoring and reporting actions as specified below.

### 6.1. Groundwater Sampling.

**Beginning February 1, 2002 and monthly thereafter**, collect water samples from all groundwater monitoring and extraction wells, including all wells as they are added in the future. Analyze all samples pursuant to the procedures detailed in Order 8. Submit, via facsimile, laboratory data sheets with sample results within two weeks of sampling.

### 6.2. Monthly Monitoring and Remediation Status Reports.

**Beginning March 15, 2002 and by the 15<sup>th</sup> of every month thereafter**, submit complete reports on the monitoring and status of the remediation system. At a minimum, the monthly reports shall contain the following information:

- 6.2.1. A narrative description and analysis of all information provided.
- 6.2.2. Calculation of vertical and horizontal hydraulic gradient, including the influence of groundwater extraction.
- 6.2.3. Potentiometric surface maps for groundwater elevation in all monitoring wells. Include specific maps for each discrete depth or zone monitored by the groundwater wells.
- 6.2.4. Color-coded site maps showing the location of all monitoring wells, remediation system wells, adjacent buildings, and surrounding streets. Show the groundwater flow direction and the boundary lines of the dissolved petroleum plume out to 0.5 µg/L MTBE, 0.5 µg/L Benzene, and 50 µg/L TPHg.
- 6.2.5. Tables and graphs showing the volume of groundwater and hydrocarbons extracted and the mass of TPHg, MTBE and Benzene removed.

- 6.2.6. Remediation system(s) downtime, cause of such downtime, and the steps taken to avoid such downtime in the future.
- 6.2.7. An overall evaluation of the remediation system effectiveness. Discuss progress towards meeting remediation objectives outlined in Order Nos. 3 and 4.
- 6.2.8. Discussion of whether the dissolved petroleum plume is migrating and whether gasoline constituents in groundwater are reducing in concentration. Describe the basis for all conclusions.
- 6.2.9. Identification of remedial actions planned for the next reporting period. Discuss steps to be taken to optimize mass removal of hydrocarbons. Implement the remedial actions **within 30 days**, unless notified not to by the Regional Board staff.

## 7. Well Survey.

A California licensed land surveyor shall survey all groundwater-monitoring and extraction wells, including any additional wells for the investigation and/or remediation at the site, within two weeks after the installation of the well(s). The survey, and subsequent surveys, shall be referenced to the North American Datum of 1927 (NAD27) and the National Geodetic Vertical Datum of 1929 (NGVD29). Groundwater elevations shall be reported in reference to these surveyed data. The latitude and longitude of the groundwater monitoring wells shall be surveyed to within one-foot accuracy and the groundwater elevation shall be surveyed to within one-tenth of a foot accuracy. Groundwater elevation data shall be collected from all wells at and around the site within an eight-hour period in order to produce comparable data.

## 8. Sampling and Analytical Criteria

All samples collected for chemical analyses shall be analyzed for volatile organic compounds using EPA Method 8260B. Initially, this method includes more than 30 constituents. After the constituents of concern are determined, a reduced list of analytes can follow. Detection limits for BTEX and oxygenates shall not be greater than 0.5 µg/L in aqueous samples and 5 µg/kg in soil samples; detection limit for tertiary butyl alcohol (TBA) shall not be greater than 5 µg/L in aqueous samples and 250 µg/kg in soil samples; detection limit for TPH-g shall not be greater than 50 µg/L for aqueous samples and 500 µg/kg in soil samples. QA/QC samples shall include 1) one trip blank per cooler and 2) one equipment blank per piece of sampling equipment (sample bailer, sample pump, etc.); if disposable bailers are used for sampling, one equipment blank shall be submitted from one representative bailer per sampling round. Laboratory QA/QC samples shall be analyzed for TPHg, BTEX, and oxygenates.

## **9. Conduct Final Remedial Action for Aquifer Restoration.**

The goal of the remedial action's to restore the aquifer to background conditions. To achieve this, the Discharger shall take all necessary steps to design, construct, and begin operating a remediation system to restore contaminated groundwater at all monitoring locations to background concentrations in accordance with State Water Resources Control Board (SWRCB) Resolution No. 68-16. Background concentrations are "non detect" levels quantified by minimum laboratory reporting limits. These cleanup levels shall remain in effect unless the Discharger can demonstrate the levels can not be met. In the latter instance, the Discharger may propose alternative cleanup levels, as described in SWRCB Resolution No. 92-49, that (1) are consistent with maximum benefit to the people of the state, (2) do not unreasonably affect present and anticipated beneficial use of the water, and (3) do not result in water quality less than prescribed in the Water Quality Control Plan and Policies adopted by the State and Regional Boards. As part of this effort, the Discharger shall conduct the following actions:

### **9.1 Final Remedy Proposal.**

**By June 1, 2002**, submit a plan with remediation options and estimated cleanup times for achieving the objectives set forth in Order No. 9. Recommend a preferred option for implementation and state the reason for the recommended option. Describe the necessary equipment, materials and methods, design schematics, and permits required to implement the plan. Include a performance monitoring plan and an operations and maintenance plan. Provide a projected timeline for aquifer restoration required in Order No. 9.

### **9.2 Implement Final Remedy.**

**By August 1, 2002**, following approval by Regional Board staff (either orally or in writing), install and begin operating the remediation system detailed in the design produced by Order No. 9.1. and in accordance with any Board-directed modifications.




**10. Summary of Ordered Tasks**

A summary of the Ordered task deliverables follows and may be revised from time to time by the Regional Board:

<u>Order</u>	<u>Task Deliverable</u>	<u>Date Due</u>
3.1	Continue Free Product Removal	Immediately
3.2	Expand Free Product Removal System	February 1, 2002
3.3.1	Submit Interim Groundwater Remediation Workplan	February 1, 2002
3.3.2	Commence Interim Groundwater Remediation	February 19, 2002
4.1	Commence Additional Source Contamination Removal	January 25, 2002
4.2	Submit Technical Report of Source Removal	March 1, 2002
5.1	Submit a Subsurface Investigation Workplan	February 1, 2002
5.2	Commence Subsurface Investigation	February 19, 2002
5.2	Submit Biweekly Status Reports on Subsurface Investigation	Begin March 1, 2002
5.3	Submit a Subsurface Investigation Report	May 1, 2002
6.1	Conduct Monthly Sampling & Analyses	Begin February 1, 2002
6.2	Submit Monthly Monitoring Reports	Begin March 15, 2002
9.1	Submit Final Remedy Proposal	June 1, 2002
9.2	Implement Final Remedy	August 1, 2002

Failure to comply with the terms or conditions of this Cleanup and Abatement Order will result in additional enforcement action, which may include the imposition of administrative civil liability pursuant to Sections 13268 and 13350 of the California Water Code or referral to the Attorney General of the State of California for such legal action as he or she may deem appropriate.

Ordered by:  Dated: Jan 18, 2002  
HAROLD J. SINGER  
EXECUTIVE OFFICER