

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

**ORDER NO. 00-002**

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER  
NOs. 94-183 and 96-089 FOR:

RICHARD T. PEERY, TRUSTEE OR SUCCESSOR TRUSTEE, UNDER TRUST  
AGREEMENT DATED 7/20/77 (RICHARD T. PEERY SEPARATE PROPERTY TRUST) AS  
AMENDED, AS TO AN UNDIVIDED ½ INTEREST; JOHN ARRILLAGA, TRUSTEE, OR  
SUCCESSOR TRUSTEE, UNDER TRUST AGREEMENT DATED 7/20/77 (THE  
ARRILLAGA FAMILY TRUST) AS AMENDED, AS TO AN UNDIVIDED ½ INTEREST;  
CORTELYOU & COLE, INC.; AND RICHARD STOFF DOING BUSINESS AS VALLEY  
INDUSTRIAL PUMPING

for the property located at

1089 ALTA AVENUE  
MOUNTAIN VIEW  
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter  
Board), finds that:

1. **Site Location:** The site is located on 1098 Alta Avenue in the city of Mountain View, in the far northwest corner of an area known as North Bayshore. North Bayshore is surrounded by Permanente Creek to the west, Shoreline Amphitheater and Mountain View Landfill to the north, Armand Avenue to the east, and Highway 101 to the south (see attached map). The property comprises an 80,000 square foot office building, parking areas, and landscaping. The land use of the site vicinity is primarily commercial and light industrial.
2. **Site History:** Peery/Arrillaga currently owns the subject property. Peery/Arrillaga purchased six individual parcels of land in late 1984 and early 1985 and redeveloped them to the existing office structure in 1988. The known site use history for the individual parcels is described below:

**APN 116-9-102:** Cortelyou & Cole, Inc., owned this parcel from 1965 to 1974. Between 1971 and 1974, the southern portion of this parcel was leased to Valley Industrial Pumping (VIP), a hazardous waste transportation and storage business owned and operated by Richard Stoff. VIP collected waste VOCs, acids, and other chemicals from businesses in the area. The VIP operations included storage of drums, use of above

ground tanks, and use of tanker trucks. Another portion of the parcel was used for a scaffolding business owned by Cortelyou & Cole, Inc. The scaffolding was damaged by chemical releases from the VIP operations.

In 1974, Cortelyou & Cole, Inc. sold the parcel to Wilfred and Shirley Nevis. The parcel was used for the office and house-moving operations of Anderson/Nevis House Movers until it was purchased by Peery/Arrillaga in September 1984. Peery/Arrillaga leased the parcel to Alan Hakala, who in turn subleased the property to Ernie's Auto Wreckers for storing cars. This storage business continued for about a year prior to commencement of construction of the present office building.

**APN 116-9-2:** This parcel was previously owned by Jack Small and had two residences on it. At the time the parcel was purchased by Peery/Arrillaga in 1984, a portion of the parcel was leased to Paul Shogren for his business, L&S Stakes. Mr. Shogren continued to lease the property for several months after 1984.

**APN 116-9-3:** This parcel was previously owned by Paul Shogren. The parcel was leased immediately to Alan Hakala after it was purchased by Peery/Arrillaga in December 1984. The tenant operated an auto body refinishing shop. The tenant sublet portions of the parcel to several subtenants, including a racetrack for small model cars, a scaffolding construction firm, and towing company for storage of impounded cars. There were reportedly two underground storage tanks located on the parcel. These tanks were removed in 1985.

**APN 116-9-88 and APN-116-9-90:** These parcels were previously owned by Helen Nagli-Colombini. The parcels contained two residences prior to purchase by Peery/Arrillaga. For a short time, Peery/Arrillaga leased the two parcels to a business that tested satellite equipment.

**APN 116-9-5:** This parcel, previously owned by Dai Chew, had a single residence on it.

3. **Named Dischargers:** Richard Stoff dba Valley Industrial Pumping is named as a discharger because of substantial evidence that he discharged pollutants to soil and groundwater at the site, including his handling, storing and transporting hazardous waste including VOCs from semiconductor manufacturing companies, and the presence of these same pollutants in soil and in groundwater at and down-gradient of the former storage area.

Cortelyou & Cole, Inc., is named as a discharger because it owned the property when Valley Industrial Pumping occupied a portion of the site, had knowledge of the discharge or the activities that caused the discharge, and had the legal ability to prevent the discharge.

Richard T. Peery, Trustee, or successor Trustee, under Trust Agreement dated 7/20/77 (Richard T. Peery Separate Property Trust) as amended, as to an undivided ½ interest; and John Arrillaga, Trustee, or successor Trustee, under Trust Agreement dated 7/20/77 (the Arrillaga Family Trust) as amended, as to an undivided ½ interest (Peery/Arrillaga) are named as dischargers because they are the current owners of the property. Peery/Arrillaga has knowledge of the discharge and has the legal ability to prevent the ongoing discharge from previously contaminated soil and groundwater.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

4. **Regulatory Status:** This site is subject to the following Board order:

- NPDES General Permit (Order No. 94-087) adopted on July 20, 1994

This site was subject to the following Board orders:

- Cleanup and Abatement Order (Order No. 92-004) issued on January 17, 1992
- Site Cleanup Requirements (Order No. 94-183) adopted on December 14, 1994
- Amendment of Site Cleanup Requirements (Order No. 96-089) adopted June 19, 1996

4. **Site Hydrogeology:** The subsurface geology in the site vicinity generally consists of fine-grained alluvium deposited in the interfluvial basin between Permanente Creek and Stevens Creek. The sediments interfinger with and grade into Bay Mud or medium-grained alluvium. There are two major water-bearing aquifers encountered underneath the North Bayshore Area – an upper aquifer and a deep aquifer. The upper aquifer consists of approximately 70 feet of silty clay and clayey silt, interbedded with discontinuous sand and gravel lenses. The upper aquifer is subdivided into a shallow zone and an intermediate zone, separated by a 10 to 15 foot clay layer. The clay layer correlates with the semi-consolidated member of the Younger Bay Mud. The shallow zone is up to 10 feet thick and extends from approximately 5 feet below ground surface (bgs) to approximately 20 feet bgs. It consists of organic-rich clay and clayey silt, with interbedded sands.

The intermediate zone, extending from about 30 to about 70 feet bgs, consists of sand and gravel layers, interbedded with clay and silt. The intermediate zone is separated into an upper and lower zone. The lower zone has been investigated only on the up-gradient and cross-gradient sites, the Teledyne/Spectra-Physics plume in the North Bayshore area. The upper aquifer is underlain by 50 to 150 feet of marine silty clay. This unit is confining on the deep aquifer. The deep aquifer extends from approximately 150 to 1,000 feet bgs, and no investigation has been conducted in this aquifer.

The regional groundwater gradient direction in the shallow and upper-intermediate zones is north-northwest to north-northeast. The shallow and upper-intermediate aquifer zones were previously utilized for industrial and domestic water supply. Local groundwater extraction for such uses was discontinued in 1984 when Teledyne/Spectra-Physics funded connection of local businesses to the municipal water supply system as part of the City of Mountain View's efforts to upgrade development of the area. Groundwater extraction for water supply is restricted by a variety of institutional controls imposed by the City of Mountain View and the SCVWD.

The nearest surface water is Permanente Creek, which is located west of and adjacent to the Alta Avenue Property. Permanente Creek ultimately flows into San Francisco Bay. San Francisco Bay is located approximately one mile north of the subject property.

## 6. Remedial Investigation

- a. **Soil:** Initial remedial investigations began at the site in 1989. VOCs were detected in soil borings during sampling events in the early 1990s. The VOCs detected in soil include trichloroethene (TCE, up to 7.6 mg/kg), cis-1,2-dichloroethene (DCE, up to 2.1 mg/kg), tetrachloroethene (PCE, up to 1.3 mg/kg) and trichloroethane (TCA, up to 1.3 mg/kg). These VOCs are consistent with those that are related to recycling operation used by Valley Industrial Pumping.
- b. **Groundwater:** Peery/Arrillaga conducted on- and off-site groundwater investigation to characterize the site and define the contaminants and their impact to the water-bearing zones underneath the site. Currently, the monitoring well network has about 13 wells including 8 shallow zone and 5 upper intermediate zone wells. Water samples from the shallow zone detected up to 10,267 ppb and 853 of total VOCs in the on- and off-site wells, respectively.

In the upper-intermediate zone, total VOC concentrations were detected up to 3,590 ppb and 3,258 ppb in the on- and off-site wells, respectively. The primary VOCs detected in groundwater include TCE, cis-1,2-DCE, and vinyl chloride. Other VOCs such as PCE and TCA were also detected at lower concentrations.

The groundwater plume is delineated, and no additional groundwater investigation is needed at this time.

7. **Adjacent Sites:** The Teledyne/Spectra-Physics Superfund site and the Montwood site are located south of and upgradient of the 1098 Alta Avenue site. The groundwater plume from the Teledyne/Spectra-Physics site has been defined, and site investigation and remediation has been underway since the 1980s. Teledyne/Spectra-Physics has been regulated pursuant to site cleanup requirement Order No. 91-025. Spectra-Physics has

been operating soil vapor extraction systems (SVE) to control the pollution sources. Teledyne's on-site groundwater extraction and treatment system has been controlling migration of VOCs from Teledyne/Spectra-Physics area since 1986. Groundwater flow direction in the Teledyne-Spectra-Physics/Montwood area is generally to the north.

The Teledyne/Spectra-Physics groundwater plume extends off-site about one mile north to the City of Mountain View landfill. Teledyne/Spectra-Physics' off-site groundwater extraction system, known as the North Bayshore Extraction System, is comprised of 17 extraction wells located in the North Bayshore Area. The system has been in operation since January of 1990, containing the regional plume ever since. This system does not capture the plume originating at the 1098 Alta Avenue site.

Montwood's plume is within the Teledyne/Spectra-Physics plume and within the capture zone of the treatment system installed by Teledyne/Spectra-Physics in January of 1990. The Board adopted site cleanup requirements for this site in 1993. The order required Montwood to identify the source and to fully characterize its site. Montwood has added on-site and off-site extraction wells to the North Bayshore System to remediate the plume originating at their site. Montwood is still conducting off-site investigation to determine the lateral extent of its plume, especially in the west and northwest part of the site. The plume originating at Montwood has migrated off-site and may have impacted down-gradient sites such as 1098 Alta Avenue. The Board will revise the site cleanup requirements for this site once the off-site investigation is finished.

8. **Interim Remedial Measures:** Peery/Arrillaga has implemented soil and groundwater interim remedial measures (IRMs) at this site, and has been conducting groundwater monitoring since 1991.

- a. **Interim Soil Remedial Measures**

In March 1995, Peery/Arrillaga implemented soil vapor extraction (SVE) system to remove VOCs, primarily cis-1,2-DCE and TCE, from the unsaturated soil at and near the former hazardous waste storage area. Peery/Arrillaga operated the system for approximately 32 months (from March 1995 to November 1997). The SVE system removed about 22 pounds of total VOCs and reached asymptotic removal levels in 1997. In November 1997, the Board approved Peery/Arrillaga's request to close the SVE system. The vapor extraction wells were destroyed in accordance with Santa Clara Valley Water District guidance in January 1998.

- b. **Interim Groundwater Remedial Measures**

Peery/Arrillaga initiated IRMs for the on-site groundwater in March 1995 and expanded the system in July 1998 to include the off-site plume. The IRMs consist of four extraction wells (two on-site and two off-site wells) and an aqueous-phase granular

activated carbon unit. Since 1995, the system has extracted and treated about 25.4 million gallons of groundwater from the shallow and upper intermediate zones and has removed about 124 pounds of total VOCs. The treated wastewater is discharged to a storm drain under the VOC general permit. The system has been effective in reducing VOC concentrations; however, elevated VOC concentrations are measured in the off-site monitoring wells. Additional extraction and monitoring wells are needed to effectively contain and monitor the off-site plume.

9. **Feasibility Study:** Peery/Arrillaga developed and evaluated a list of possible alternatives for remediating the contaminated shallow and upper-intermediate zones underneath the 1098 Alta Avenue site. The screening of technologies was based on their applicability to site characteristics, on the properties of the chemicals, and on reliability and performance of treatment technologies. The six remedial alternatives include:

- 1) "no further action",
- 2) limited action/monitoring only,
- 3) enhanced monitored natural attenuation,
- 4) in-situ reactive wall using zero-valent iron,
- 5) continued operation of the existing groundwater extraction and air stripping, and
- 6) expanded groundwater extraction and air stripping

These alternatives were further evaluated on the basis of implementability, effectiveness and environmental and public health impacts. Peery/Arrillaga selected the sixth alternative as a final remedy for the site due to reliability, implementability, performance, acceptability, and cost effectiveness.

10. **Cleanup Plan:** Peery/Arrillaga submitted a draft final remedial action (FRAP) on December 15, 1998 and on June 11, 1999, a revised draft FRAP. Peery/Arrillaga submitted a revised FRAP on November 3, 1999 and a Revised FRAP on January 13, 2000. The Revised FRAP summarizes the remedial investigation and interim remedial measures, evaluates cleanup alternatives and proposes expanded groundwater extraction and air stripping as final remedy including installation of two groundwater extraction and two monitoring wells. The Revised FRAP proposes cleanup standards for groundwater and evaluates risk to human health. It also includes a responsiveness summary. The Board approves the Revised FRAP. The dischargers may modify the selected remediation alternative subject to the Board's approval.

11. **Risk Assessment:** The shallow and upper-intermediate water-bearing zones underneath the site are not currently used for domestic supply. The risk assessment section of Peery/Arrillaga's revised FRAP assumed that the VOC impacted water-bearing zones underneath the site would in future be used as domestic water supplies. Two scenarios were evaluated during the risk assessment. Scenario 1 evaluated current site conditions using most recent maximum groundwater VOC concentrations. Scenario 2 evaluated

future conditions assuming attainment of maximum contaminant levels (MCLs). Both scenarios considered groundwater ingestion as a potential exposure pathway. The assessment determined the primary chemicals of concern and their toxicity. Then, the assessment computed risks for carcinogenic and non-carcinogenic chemicals in the groundwater, and compared them to the EPA recommended risk range. For comparison, the Board considers the following risks to be acceptable at remediation sites: a hazard index of 1.0 or less for non-carcinogens, and an excess cancer risk of  $10^{-4}$  or less for carcinogens.

**Toxicity Classification for Chemicals of Interest:** Cis-1,2-DCE, TCE and vinyl chloride has been consistently detected above their respective MCLs in the shallow and upper-intermediate water-bearing zones underneath the site; however, the risk assessment included seven additional compounds that were detected at or lower than their respective MCLs. These compounds are: 1,2-dichlorobenzene, 1,1-DCA, 1,1-DCE, trans-1,2-DCE, Freon113, PCE and 1,1,1-TCA.

Five of the 10 chemicals of concern are classified as carcinogens: vinyl chloride, PCE, TCE, 1,1-DCA and 1,1-DCE. Based on EPA's classification, vinyl chloride is class "A" carcinogen (sufficient human evidence). PCE and TCE are class "B2" carcinogens (inferring probable human carcinogen, with inadequate human evidence and sufficient evidence from animal experiments). 1,1-DCA and 1,1-DCE are class "C" carcinogens (possible human carcinogen, limited evidence of carcinogenicity in animals with inadequate human data). 1,2-dichlorobenzene, cis- and trans-1,2-DCE, Freon 113 and 1,1,1-TCA are non-carcinogens (class "D").

**Exposure Assessment:** Under the current use of the site, there appear to be no complete exposure pathways. The vinyl chloride, cis-1,2-DCE and TCE concentrations in the shallow and upper-intermediate water-bearing zones are greater than drinking water standards; however, these water bearing zones are currently not being used for drinking water. The deeper aquifer that is used for drinking water has not been impacted by VOCs. In both scenarios, it assumed ingestion of groundwater from a hypothetical domestic well as the exposure route.

**Baseline Risk:** The site is now used for commercial/industrial, and the shallow and upper-intermediate water-bearing zones are not used for water supply at this time. There is no complete exposure pathway under the current land use scenario. However, the current VOC concentrations at the site may pose threat to human health if the impacted water-bearing zones are used for domestic use pending remediation. The excess cancer risks were estimated at  $4.2 \times 10^{-5}$  and  $4.2 \times 10^{-4}$  for the hypothetical industrial worker and resident, respectively. The total non-carcinogenic hazard indices (HI) for the hypothetical industrial worker and resident were determined to be 1.1 and 6.7, respectively. For comparison, the Board considers the following risk to be acceptable at remediation sites:

a HI of 1.0 or less for non-carcinogens, and a cumulative excess cancer risk of  $10^{-4}$  or less for carcinogens.

The baseline risk assessment did not identify soil as an exposure medium because there is no significant VOC concentrations in the subsurface soil.

The current VOC concentrations may pose non-carcinogenic and carcinogenic excessive risks if the shallow and upper-intermediate water-bearing zones are used for domestic purpose. Therefore, institutional constraints are appropriate to limit to groundwater exposure. Institutional constraints include a deed restriction that notifies future owners of sub-surface contamination and prohibits the use of the upper two water-bearing zones beneath the site as a source of drinking water until cleanup standards are met.

**Post-Remediation Risk:** Attainment of cleanup standards will protect human health in the event that shallow groundwater is used for domestic purposes. For the carcinogenic chemicals, the excess cancer risks for the hypothetical industrial worker and resident predicted by this analysis are about  $4.0 \times 10^{-5}$  and  $4.5 \times 10^{-5}$ , respectively. The total HI for the hypothetical industrial worker and resident were determined to be 0.25 and 1.6, respectively. The cancer risk lies within the Board's acceptable risk range. The total HI for resident is above the Board's acceptable level (i.e., 1.0). However, the analysis assumes some chemicals that are detected below their respective MCLs. The land use of the site vicinity is also designated as a commercial/industrial. Therefore, the HI value for the industrial worker scenario is appropriate to this site.

## 12. **Basis for Cleanup Standards**

- a. **General:** State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. The previously-cited cleanup plan confirms the Board's initial conclusion that background levels of water quality cannot be restored. This order and its requirements are consistent with Resolution No. 68-16.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

- b. **Beneficial Uses:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23, California Code of Regulations, Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the site qualifies as a potential source of drinking water.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the site:

- o Municipal and domestic water supply
- o Industrial process water supply
- o Industrial service water supply
- o Agricultural water supply

At present, there is no known use of groundwater underlying the site for the above purposes.

- c. **Basis for Groundwater Cleanup Standards:** The groundwater cleanup standards for the site are based on applicable water quality objectives and are the more stringent of EPA and California primary maximum contaminant levels (MCLs). Cleanup to this level will result in acceptable residual risk to humans.
13. **Future Changes to Cleanup Standards:** The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the discharger may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.

14. **Reuse or Disposal of Extracted Groundwater:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.
15. **Basis for 13304 Order:** The dischargers have caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
16. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
17. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
18. **Notification:** The Board has notified the dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments. In addition, the Board held an initial public hearing on September 15 and public meeting on September 21, 1999, to solicit comments on the revised draft FRAP and draft site cleanup requirements. No comments were submitted at the initial public hearing or public meeting.
19. **Public Hearing:** The Board held an initial public hearing on September 15, 1999, and Board staff held a public workshop on December 13, 1999.

**IT IS HEREBY ORDERED**, pursuant to Section 13304 of the California Water Code, that the dischargers (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

**A. PROHIBITIONS**

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

**B. CLEANUP PLAN AND CLEANUP STANDARDS**

1. **Implement Cleanup Plan:** The dischargers shall implement the cleanup plan described in finding 10 or an alternative cleanup plan approved by the Board.
2. **Groundwater Cleanup Standards:** The following groundwater cleanup standards shall be met in all wells identified in the Self-Monitoring Program:

Constituent	Standard (µg/l)	Basis
1,2-Dichlorobenzene	600	EPA/California MLC
1,1-Dichloroethane	5	California MCL
1,1-Dichloroethene	6	California MCL
Cis-1,2-dichloroethene	6	California MCL
Trans-1,2-dichloroethene	10	California MCL
Freon 113	1,200	California MCL
Tetrachloroethene	5	EPA/California MCL
1,1,1-Trichloroethane	200	EPA/California MCL
Trichloroethene	5	EPA/California MCL
Vinyl chloride	0.5	California MCL
<b>MCL = Maximum Contaminant Level</b>		

**C. TASKS**

**1. WORKPLAN FOR EXPANDED REMEDIATION SYSTEM**

COMPLIANCE DATE

March 15, 2000

Submit a workplan acceptable to the Executive Officer for installation of the expanded groundwater remediation. The workplan should describe all significant implementation steps and should include an implementation schedule.

## **2. IMPLEMENTATION OF EXPANDED REMEDIATION SYSTEM**

COMPLIANCE DATE: September 15, 2000

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 1 workplan. For ongoing actions, such as soil vapor and groundwater extraction, the report should document system start-up (as opposed to completion) and should present initial results on system effectiveness (e.g. capture zone or area of influence). Proposals for further system expansion or modification may be included in annual reports (see Self-Monitoring Program).

## **3. PROPOSED INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: March 15, 2000

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by the dischargers to prevent or minimize human exposure to groundwater contamination prior to meeting cleanup standards. Such procedures shall include a deed restriction prohibiting the use of shallow and upper-intermediate groundwater as a source of drinking water.

## **4. IMPLEMENTATION OF INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting that the proposed institutional constraints have been implemented.

## **5. FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: September 15, 2005

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved cleanup plan. The report should include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup standards
- c. Comparison of anticipated versus actual costs of cleanup activities

- d. Performance data (e.g. groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted)
- e. Cost effectiveness data (e.g. cost per pound of contaminant removed)
- f. Summary of additional investigations (including results) and significant modifications to remediation systems
- g. Additional remedial actions proposed to meet cleanup standards (if applicable) including time schedule

If cleanup standards have not been met and are not projected to be met within a reasonable time, the report should assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

## **6. PROPOSED CURTAILMENT**

COMPLIANCE DATE: 60 days prior to proposed curtailment

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g. well abandonment), system suspension (e.g. cease extraction but wells retained), and significant system modification (e.g. major reduction in extraction rates, closure of individual extraction wells within extraction network). The report should include the rationale for curtailment. Proposals for final closure should demonstrate that cleanup standards have been met, contaminant concentrations are stable, and contaminant migration potential is minimal.

## **7. IMPLEMENTATION OF CURTAILMENT**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 6.

## **8. EVALUATION OF NEW HEALTH CRITERIA**

COMPLIANCE DATE: 90 days after requested by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved cleanup plan of revising one or more cleanup standards in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

## **9. EVALUATION OF NEW TECHNICAL INFORMATION**

COMPLIANCE DATE: 90 days after requested by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new technical information which bears on the approved cleanup plan and cleanup standards for this site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be requested unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved cleanup plan or cleanup standards.

10. **Delayed Compliance:** If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

#### D. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good O&M:** The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or their authorized representative:
  - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
  - b. Access to copy any records required to be kept under the requirements of this Order.

- c. Inspection of any monitoring or remediation facilities installed in response to this Order.
  - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
5. **Self-Monitoring Program:** The dischargers shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
  6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
  7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).
  8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
    - a. City of Mountain View
    - b. County of Santa Clara Dept. of Environmental Health
    - c. Santa Clara Valley Water District

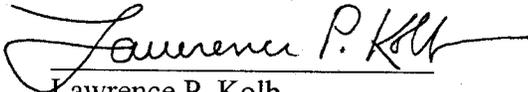
The Executive Officer may modify this distribution list as needed.
  9. **Reporting of Changed Owner or Operator:** The dischargers shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
  10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers shall report such discharge to the Regional Board by calling (510) 286-1255 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

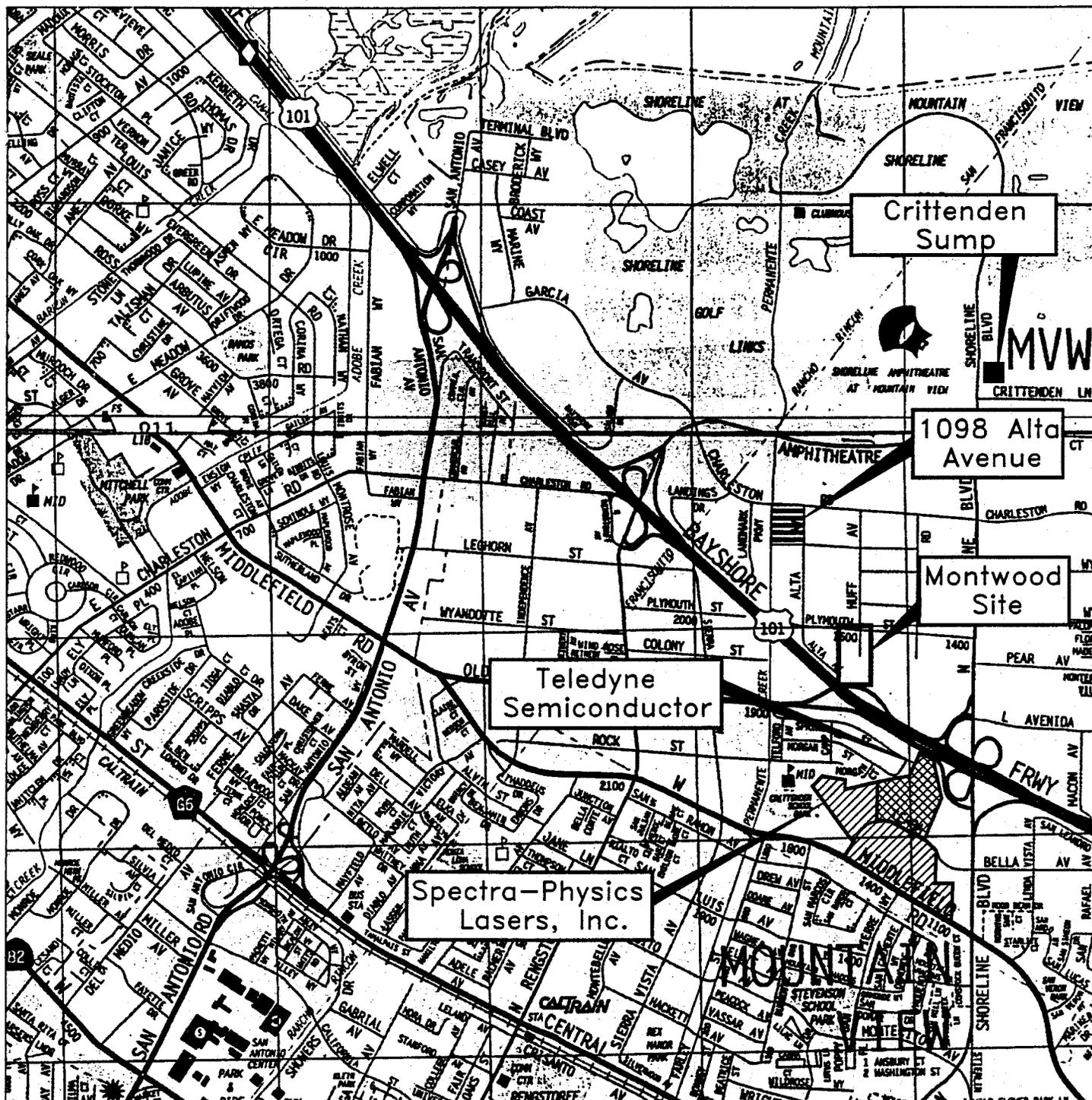
11. **Rescission of Existing Order:** This Order supercedes and rescinds Order Nos. 94-183 and 96-089.
12. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary.

FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY.

  
Lawrence P. Kolb  
Assistant Executive Officer

1/14/00  
Date

Attachments: Site Map  
Self-Monitoring Program



Source: Erler & Kalinowski, Inc.; 21 March 1997; Workplan for Offsite Interim Groundwater Remediation.

## Erler & Kalinowski, Inc.

Vicinity Map

Final Remedial Action Plan  
1098 Alta Avenue  
Mountain View, CA

June 1999  
EKI 950023.03

Figure 1



0 1900 3800



(Approximate Scale in Feet)

**Notes:**

1. All locations are approximate.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

RICHARD T. PEERY, TRUSTEE, OR SUCCESSOR TRUSTEE, UNDER TRUST AGREEMENT DATED 7/20/77 (RICHARD T. PEERY SEPARATE PROPERTY TRUST) AS AMENDED, AS TO AN UNDIVIDED ½ INTEREST; JOHN ARRILLAGA, TRUSTEE, OR SUCCESSOR TRUSTEE, UNDER TRUST AGREEMENT DATED 7/20/77 (THE ARRILLAGA FAMILY TUST) AS AMENDED, AS TO AN UNDIVIDED ½ INTEREST; CORTELYOU & COLE, INC.; AND RICHARD STOFF DOING BUSINESS AS VALLEY INDUSTRIAL PUMPING

for the property located at

1089 ALTA AVENUE  
MOUNTAIN VIEW  
SANTA CLARA COUNTY

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 00-002 (site cleanup requirements).
2. **Monitoring:** The dischargers shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the attached monitoring schedule.

The dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The dischargers may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

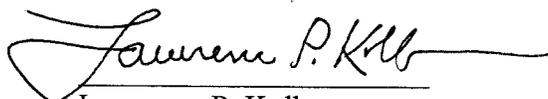
3. **Semi-annual Monitoring Reports:** The dischargers shall submit semi-annual monitoring reports to the Board no later than 30 days following the end of the second and fourth quarters (e.g. report for first semi-annual of the year due July 31. The first semi-annual monitoring report shall be due on July 31, 2000. The reports shall include:
  - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the dischargers' principal executive officer or their duly authorized representative, and shall include a statement by the official, under

penalty of perjury, that the report is true and correct to the best of the official's knowledge.

- b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the second semi-annual report each year.
  - c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).
  - d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.
  - e. **Status Report:** The semi-annual report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.
5. **Violation Reports:** If the dischargers violate requirements in the Site Cleanup Requirements, then the dischargers shall notify the Board office by telephone as soon as practicable once the dischargers have knowledge of the violation. Board staff may, depending on violation severity, require the dischargers to submit a separate technical report on the violation within five working days of telephone notification.
6. **Other Reports:** The dischargers shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

7. **Record Keeping:** The dischargers or their agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
8. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the dischargers. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

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Lawrence P. Kolb  
Assistant Executive Officer

1/14/2000  
Date

Attachment: Table of Monitoring Schedule

**Attachment  
Monitoring Schedule**

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
MW-1	A	8010/8240	PA-8	SA	8010/8240
MW-2	A	8010/8240	PA-9	SA	8010/8240
PA-1	A	8010/8240	PA-10	SA	8010/8240
PA-2	SA	8010/8240	PA-11	SA	8010/8240
PA-3	A	8010/8240	PA-12	A	8010/8240
PA-4	SA	8010/8240	PA-13	A	8010/8240
PA-5	A	8010/8240	OEXS-1	SA	8010/8240
PA-6	A	8010/8240	IZGWE-1	SA	8010/8240
PA-7	SA	8010/8240	OEXI-1	SA	8010/8240

Key: 8010 = EPA Method 8010 or equivalent  
 SA = Semi-Annually                      8020 = EPA Method 8020 or equivalent  
 A = Annually                                8240 = EPA Method 8240 or equivalent  
 8010/8240 = EPA Method 8240 in lieu of 8010 for fourth quarter