

STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT  
Adriana Constantinescu  
MEETING DATE: May 9, 2007

**ITEM:** 10

**SUBJECT:** **Perkin-Elmer Corporation, Applera Corporation, and JR Realty #2, LLC, for the property located at 2690 Casey Avenue, Mountain View, Santa Clara County – Adoption of Site Cleanup Requirements**

**CHRONOLOGY:** The Water Board has not previously considered this item

**DISCUSSION:** The Revised Tentative Order issues site cleanup requirements for the 2690 Casey Avenue Site in Mountain View. The Site is located just north of Highway 101 and south of the Shoreline Park. Perkin-Elmer operated a stainless steel vacuum pump systems manufacturing facility from 1963 to 1984 at this Site. Perkin-Elmer used tetrachloroethene (PCE), sodium hydroxide, ammonia, methanol, and various acid solutions in its operations. Applera subsequently purchased the Perkin-Elmer business. The Site is currently owned by JR Realty #2, LLC, who purchased the property in 2001.

The groundwater, soil, and soil gas data indicate that a significant release of PCE occurred at the site in two locations: one on the western side of the Site building, and one along the northern property line area between the 2690 Casey Avenue and 1201 San Antonio Road properties. The 1201 San Antonio Road property is immediately to the north of, and downgradient of, the 2690 Casey Avenue property. Applera acknowledges its responsibility for the release of PCE on the western side of the Site building, but believes other parties were involved in the release along the northern property line. Applera has conducted soil cleanup for the western source area.

The Revised Tentative Order (Appendix A) requires Applera to investigate and define the extent of pollution, to implement interim remedial actions, and to propose final remedial actions. Our rationale for naming or not naming various parties is provided in the October 5, 2006, staff Memorandum (Appendix B) and the April 5, 2007, staff Supplemental Memorandum (Appendix C).

We received comments on the tentative order from three parties: 1) Applera, 2) Scientific Technologies, Inc. (past operator at 1201 San Antonio Road), and 3) Dymond Development Co. (owner of 1201 San Antonio Road) (see Appendix D. Our response to comments is contained in Appendix E.

Applera's main comments are: 1) there is no evidence that Applera's predecessor caused the release at the northern property line area, 2) a separate source of release exists on the 1201 San Antonio Road property, 3) the 1201 San Antonio Road property owner should be named as a responsible party on any Board Order, and 4) a Board Order is premature.

We disagree with Applera's comments. We conclude that both the western and northern releases were caused by Applera's predecessor because 1) it used and stored PCE at the Site, 2) it stored drums along the property line above the northern source area, and 3) the location of the highest concentration of PCE in soils in the property line area is south of the property line on 2690 Casey Avenue. Furthermore, there is no documented use or storage of the contaminants of concern at the 1201 San Antonio Road property, so operations from this site are an unlikely source. There is more than adequate evidence to adopt a Board order at this time and to name Perkin-Elmer, Applera, and JR Realty #2 to that order.

We expect Applera to contest the Revised Tentative Order. Conversely, Scientific Technologies, Inc. and Dymond Development Co. both support the Revised Tentative Order and are likely to provide testimony to that effect.

**RECOMMEN-  
DATION:**

Adopt the Revised Tentative Order

FILE No. 43S0938 (AVC)

Appendices:  
A - Revised Tentative Order  
B - Staff Memorandum of October 5, 2006  
C - Staff Supplemental Memorandum of April 5, 2007  
D - Correspondence  
E - Response to Comments

*Note* – Attachments to Correspondence provided to Board members only;  
Contact staff if you want a copy

**Appendix A**

**REVISED TENTATIVE ORDER**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**REVISED TENTATIVE ORDER R2-2007-XXXX**

**ADOPTION OF SITE CLEANUP REQUIREMENTS FOR:**

PERKIN-ELMER CORPORATION  
APPLERA CORPORATION and  
JR REALTY #2, LLC

for the property located at

2690 CASEY 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 subject property (hereinafter "Site") is located at 2690 Casey Avenue in Mountain View just north of Highway 101 (Figure 1). The 3.5 acre Site contains a 50,000 square-foot industrial/commercial building. The property is bordered by 1201 San Antonio Road and 2639 Terminal Boulevard to the north, Broderick Way to the east, Casey Avenue to the south, and San Antonio Road to the west (Figure 2). The Site is about one mile south of San Francisco Bay. Charleston Slough (which is connected to San Francisco Bay) is about 1000 feet to the northwest and Shoreline Lake is about 1000 feet to the east. Shoreline Park is located about 350 feet to the north. The local area is used primarily for commercial and industrial purposes, and for parkland.
2. **Site History:** The Site was vacant land prior to 1963 when the current building was constructed. Perkin-Elmer Corporation (Perkin-Elmer) operated a stainless steel vacuum pump systems manufacturing facility from 1963 to 1984. Perkin-Elmer's former facility had a machine shop, a waste storage area, an aluminum cleaning area, and outdoor chemical storage and treatment areas. Perkin-Elmer also operated a 1,000-gallon underground storage tank (UST) and several above ground storage tanks. Perkin-Elmer used tetrachloroethene (PCE), sodium hydroxide, ammonia, methanol, and various acid solutions in its operations (Safety Specialists, Inc report, January 26, 1984). Perkin-Elmer stored PCE and other chemicals in a 1,000-gallon UST, several above ground storage tanks, and in 55-gallons drums. Perkin-Elmer is now owned by Applera Corporation (Applera). From 1984 to 2001, Sun Microsystems (Sun) leased the site. From mid 1884 through early 1989, Sun performed manufacturing and/or computer assembly on portions of the property. After 1989, the property was used solely for office

and storage purposes. The building was vacant from 2001 until 2006 but it is now occupied by Google. JR Realty #2, LLC bought the property in 2001.

3. **Named Dischargers:** Perkin-Elmer Corporation and Applera Corporation are named as dischargers because of substantial evidence that they discharged pollutants to soil and groundwater at the Site, including chlorinated solvents from Perkin-Elmer's stainless steel vacuum pump systems manufacturing operations, the presence of these same pollutants in soil and groundwater, and because they had knowledge of the discharge or the activities that caused the discharge, and had the legal ability to prevent the discharge.

JR Realty #2, LLC, is named as a discharger because it owned the property after the time of the activity that resulted in the discharge, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to prevent the discharge.

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 currently not subject to Board order.
5. **Site Hydrogeology:** The topography is relatively flat with a gentle slope towards the north. The Site is approximately 5 feet above mean seal level, and it appears to have been created by importing fill material on top of the historical Bay margin sediments. There are three discontinuous groundwater-bearing zones. The first is a perched zone located at the interface of the fill material and native clay at depths of approximately 12 - 15 feet below ground surface (bgs). The second is a shallow sand and gravel water-bearing zone from 20 - 24 feet bgs. The third is a deeper, secondary water-bearing zone consisting of sand and gravel encountered at depths between approximately 40 - 53 feet bgs. Groundwater occurs initially at approximately 20-24 feet below ground surface (bgs) and rises to a level of about 11-12 feet bgs within 30 minutes, suggesting artesian conditions. This suggests that the uppermost water-bearing zone is presently under confined or semi-confined conditions.
6. **Remedial Investigation:** Since 1999, several investigations have taken place to determine the nature and extent of the contamination. These investigations have found significant concentrations of Volatile Organic Compounds (VOCs) in soil and groundwater in two areas of the property: the western side of the Site building and along the northern property line area. The contaminants consist primarily of tetrachloroethylene (PCE), and its breakdown products, as trichloroethylene (TCE), cis-1,2-dichloroethylene (DCE), and vinyl chloride. Groundwater and soil contamination has migrated off-site and the extent of the contamination has not been determined.

Historically, the highest concentration of PCE (6,600,000  $\mu\text{g}/\text{kg}$ ) in soil at the Site was detected in a sample collected on the western side of the building located at 2690 Casey Avenue property. In the area along the property line, the highest concentration of volatile organic compounds (VOC), 210,280  $\mu\text{g}/\text{kg}$  of total VOCs as PCE, was detected in a soil sample collected at about 10 feet south of the property boundary, at 10 feet below ground surface at the Site. Because of the high specific gravity of PCE (1.6 at 20°C) and low viscosity, when a release happens, PCE sinks at the point of release. The fact that the highest concentration of PCE in soil along the property line is found 10 feet south of the property line indicates the PCE release was from Perkin-Elmer.

The highest concentrations of VOCs at the Site during the recent groundwater monitoring events (June 2006) were 170 micrograms per liter ( $\mu\text{g}/\text{l}$ ) of PCE and 560  $\mu\text{g}/\text{l}$  of TCE. The highest PCE concentration in groundwater during the last seven years, was 9,000  $\mu\text{g}/\text{L}$  on the western side of Casey Avenue property. The highest current concentration of PCE in groundwater is 2,700  $\mu\text{g}/\text{L}$  approximately 180 feet down gradient of the property line area. This distance is explained by the more than 30 years time frame between the time of release (1963 – 1984) and the present. For comparison, the maximum contaminant levels considered safe for drinking water are liter 5  $\mu\text{g}/\text{l}$  for PCE, and 5  $\mu\text{g}/\text{l}$  for TCE.

Soil gas samples collected at five feet below ground surface show two hot spots (concentrations > 10,000 ppb) on the northern side of the property line to the NW of the former drum storage area and two more under the property line. The northern hot spots are approximately 10 feet and 20 feet from the property line. This distance is explained by the more than 30 years time frame between the time of release and the present. As the groundwater plume migrates, soil gas continues to be emitted from the groundwater plume causing a soil gas plume to exist above the groundwater plume.

Additional information on the source, distribution and fate of PCE and TCE at the Site and the downgradient properties is presented in the staff Memorandum issued on October 5, 2006, the Supplemental Memorandum issued on April 5, 2007, and the Response to Comments document issued on April 27, 2007, which are incorporated by reference.

7. **Interim Remedial Measures:** In 1984, the former 1000 gallon UST located on the west side of the building was excavated and hauled off site. A soil excavation program was performed in the area of the former UST (western side of the Site building) in 2001.
8. **Basin Plan:** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water

quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, Office of Administrative Law and the U.S. EPA, where required.

The potential beneficial uses of groundwater underlying and adjacent to the site include:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply
- e. Freshwater replenishment to surface waters

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

9. **Other Board Policies:** 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.

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.

10. **State Water Board Policies:** State Water 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. Given the Board's past experience with groundwater pollution cases of this type, it is unlikely that background levels of water quality can be restored. This initial conclusion will be verified when a remedial action plan is prepared. This order and its requirements are consistent with Resolution No. 68-16.

State Water 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.

11. **Preliminary Cleanup Goals:** The discharger will need to make assumptions about

future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft remedial action plan. Pending the establishment of site-specific cleanup standards, the following preliminary cleanup goals should be used for these purposes:

- a. **Groundwater:** Applicable water quality objectives (e.g. lower of primary (toxicity) and secondary (taste and odor) maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, equivalent drinking water levels based on toxicity and taste and odor concerns.
  - b. **Soil:** Applicable screening levels as compiled in the Regional Board's draft Environmental Screening Levels<sup>1</sup> (ESLs) document or its equivalent. Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater. For purposes of this subsection, the discharger should assume that groundwater is a potential source of drinking water.
12. **Basis for 13304 Order:** California Water Code Section 13304 authorizes the Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has 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.
  13. **Cost Recovery:** Pursuant to California Water Code Section 13304, the discharger is 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.
  14. **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.
  15. **Notification:** The Board has notified the discharger 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.
  16. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

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<sup>1</sup> Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final – February 2005. San Francisco Bay Regional Water Quality Control Board.



**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. TASKS**

1. **REMEDIAL INVESTIGATION WORKPLAN**

COMPLIANCE DATE: July 1, 2007

Submit a workplan acceptable to the Executive Officer to define the vertical and lateral extent of soil and groundwater pollution. The workplan should specify investigation methods and a proposed time schedule. Work may be phased to allow the investigation to proceed efficiently, provided that this does not delay compliance.

2. **COMPLETION OF REMEDIAL INVESTIGATION**

COMPLIANCE DATE: October 15, 2007

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 1 workplan. The technical report should define the vertical and lateral extent of pollution down to concentrations at or below typical cleanup standards for soil and groundwater.

3. **INTERIM REMEDIAL ACTION WORKPLAN**

COMPLIANCE DATE: October 15, 2007

Submit a workplan acceptable to the Executive Officer to evaluate interim remedial action alternatives and to recommend one or more alternatives for implementation. The workplan should specify a proposed time schedule. Work may be phased to allow the investigation to proceed efficiently. If groundwater extraction is selected as an interim remedial action, then one task will be the completion of an NPDES permit application for discharge of extracted, treated groundwater to waters of the State. The application must demonstrate that neither reclamation nor discharge to the sanitary sewer is technically or economically feasible.

4. **COMPLETION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: January 30, 2008

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 3 workplan. For ongoing actions, such as soil vapor extraction or groundwater extraction, the report should document start-up as opposed to completion.

5. **DRAFT REMEDIAL ACTION PLAN INCLUDING DRAFT CLEANUP STANDARDS**

COMPLIANCE DATE: April 1, 2008

Submit a technical report acceptable to the Executive Officer containing:

- a. Results of the remedial investigation
- b. Evaluation of the installed interim remedial actions
- c. Feasibility study evaluating alternative final remedial actions
- d. Risk assessment for current and post-cleanup exposures
- e. Recommended final remedial actions and cleanup standards
- f. Implementation tasks and time schedule

Item c should include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through c should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Item e should consider the preliminary cleanup goals for soil and groundwater identified in finding 12 and should address the attainability of background levels of water quality (see finding 11).

6. **Delayed Compliance:** If the discharger is 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.

### C. 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 Operation and Maintenance (O&M):** The discharger 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 discharger 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 discharger 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 discharger shall permit the Board or its 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 discharger.
5. **Self-Monitoring Program:** The discharger 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, Department 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 discharger 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 discharger shall report such discharge to the Water Board by calling (510) 622-2300 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.

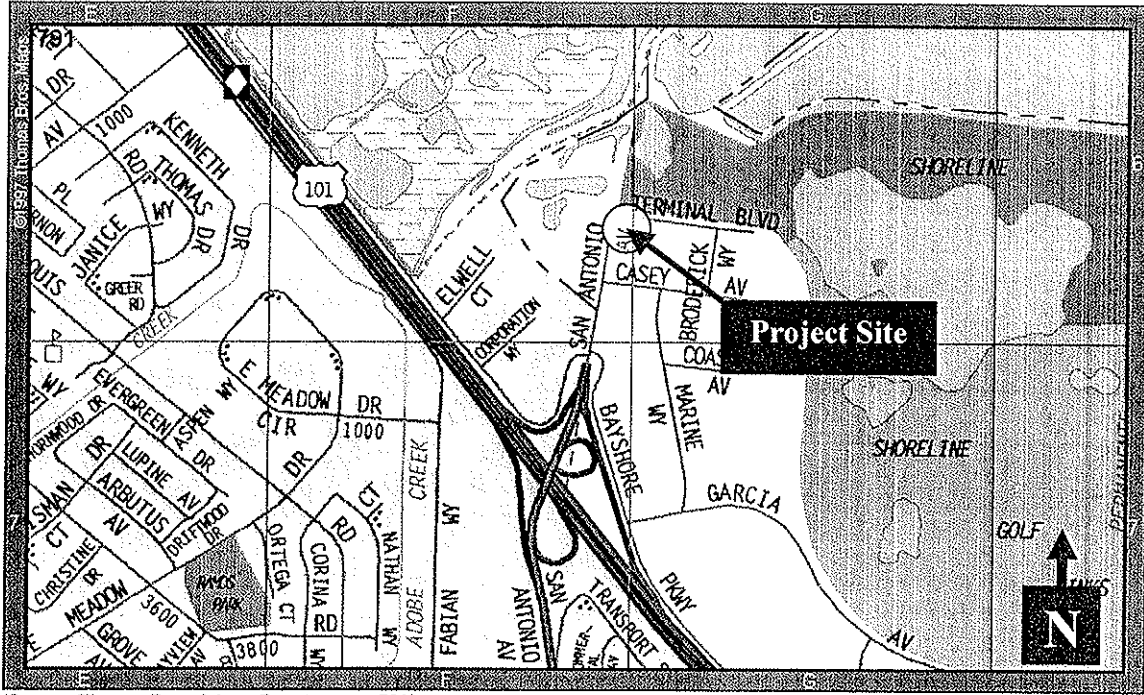
- 13. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on \_\_\_\_\_.

\_\_\_\_\_  
Bruce H. Wolfe  
Executive Officer

=====  
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  
=====

Attachments: Figure 1. Site Vicinity Map  
Figure 2. Site Map  
Self-Monitoring Program



(Source: Thomas Bros. Maps, Bay Area pg. 791)

**Site Vicinity Map**  
**1201 San Antonio Road**  
**Mountain View, California**

Figure 1.

Terminal Boulevard

1201 San Antonio  
Road

2639 Terminal  
Boulevard

San Antonio Road

2690 Casey Avenue

former UST  
waste treatment area

Casey Avenue

Marine Way

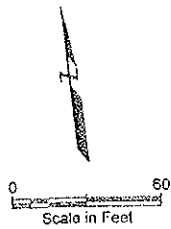


Figure 2. Site Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

PERKIN-ELMER CORPORATION  
APPLERA CORPORATION and  
JR REALITY #2, LLC

for the property located at

2690 CASEY 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. XX-XXX (site cleanup requirements).
2. **Monitoring:** The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following schedule:

Well #	Sampling Frequency	Analyses
MW-1, MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-12, MW-13, GW-1, GW-2, GW-3, GW-4, GW-5, GW-6	Semi-Annually	VOCs – Method 8260 or equivalent
MW-1, MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-12, MW-13, GW-1, GW-2, GW-3, GW-4, GW-5, GW-6	Semi-Annually	Natural attenuation parameters (pH, methane, dissolved oxygen, carbon dioxide, oxidation/reduction potential, total alkalinity, nitrate, sulfate, chloride, total iron, dissolved iron)

The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table.



The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Annual Monitoring Reports:** The discharger shall submit annual monitoring reports to the Board no later than 30 days following the end of each calendar year. 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 discharger's principal executive officer or his/her 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.
  - 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.
  - 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 also be included.
  - e. **Status Report:** The annual report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the reporting period.
4. **Violation Reports:** If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports:** The discharger 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.
6. **Record Keeping:** The discharger or his/her 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.
7. **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 discharger. 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.

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on \_\_\_\_\_.

Bruce H. Wolfe  
Executive Officer

**Appendix B**

**STAFF MEMORANDUM**  
**October 5, 2006**



Linda S. Adams  
Secretary for  
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612  
(510) 622-2300 • Fax (510) 622-2460  
<http://www.waterboards.ca.gov/sanfranciscobay>

Arnold Schwarzenegger  
Governor


MEMORANDUM

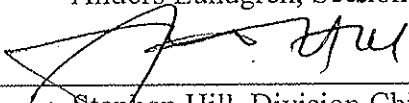
TO: Bruce H. Wolfe  
Executive Officer

FROM: Vincent Christian  
Associate Engineer

DATE: OCT 05 2006

SUBJECT: Groundwater Contamination at 2690 Casey Avenue and 1201 San Antonio Road, Mountain View, CA

Concur:   
Anders Lundgren, Section Leader

Concur:   
Stephen Hill, Division Chief

This memorandum reviews the site histories of subject properties and analyzes the probable cause(s) of the local groundwater contamination. It therefore provides a basis and recommendation for which responsible parties should be named in a cleanup Order.

Background

The property at 2690 Casey Avenue was formerly the site of an electronics manufacturing facility operated by Perkin-Elmer Corporation (Perkin-Elmer). Volatile Organic Compounds (VOCs) were stored and treated in a chemical storage/treatment area on the west side of the on-site building near MW-3A (Figure 1). VOC releases have occurred in this area causing soil and groundwater contamination, primarily from a leaking Underground Storage Tank (UST) that formerly existed in this area. Another source of contamination not related to the former chemical storage/treatment area appears to exist along the northern property line between 2690 Casey Avenue and 1201 San Antonio Road. Perkin-Elmer's successor corporation, Applera Corporation (Applera), does not deny that its operations caused the on-site contamination in the former chemical storage/treatment area on the west side of the building. However, Applera does not believe that contamination at the northern property line is related to former operations at 2690 Casey Avenue. Instead, Applera believes that this source of contamination is from former electronic manufacturing operations that occurred at 1201 San Antonio Road. Therefore,

Applera believes it should not be held responsible for cleaning up the San Antonio Road property.

Applera's belief that VOC releases occurred at 1201 San Antonio Road is based primarily on the fact that some VOC concentrations are higher on the San Antonio Road property than on the Casey Avenue property, and on information indicating that electronics manufacturing operations occurred at the San Antonio Road property as described in more detail below.

#### 2690 Casey Avenue Site History

Perkin-Elmer operated a semiconductor manufacturing facility from 1963 to 1984 at this site. It is currently owned by JR Realty #2 which purchased the property in 2000. Perkin-Elmer's former facility had a machine shop, a waste storage area, an aluminum cleaning area, and outdoor chemical storage and treatment areas. They also operated a 1,000-gallon underground storage tank (UST) and several above ground storage tanks. Perkin-Elmer used tetrachloroethene (PCE), sodium hydroxide, ammonia, methanol, and various acid solutions in its operations<sup>1</sup>. From 1984 to 2004, Sun Microsystems (Sun) leased the site for development of new semiconductor products. In 2000, Sun ceased semiconductor operations on site and used the property for equipment storage and offices. Sun ceased all operations in about 2004. The building is now occupied by a tenant and Proposition 65 warnings related to air quality have been posted.

#### 1201 San Antonio Road Site Use History

Scientific Technologies, Inc. (STI), operated at the site from about 1975 to 1988, and Sun Microsystems (Sun) operated at the site from about 1988 to 2004. The building is now vacant.

On September 20, 2001, the Water Board requested information from STI about their former operations at the San Antonio property. STI responded that they manufactured electronic safety equipment and sensors, and that most of their operations consisted of assembling pre-manufactured parts. They also manufactured small quantities printed circuit boards, but they did not use VOCs in their processes. Instead, they manufactured the circuit boards by applying etch resistant soluble ink onto a copper clad fiberglass laminate. The laminate was then dipped into a ferric chloride solution that etched away the unwanted copper.

Sun did not use the facility for manufacturing. They leased the building to Johnson Controls, and later to Cushman & Wakefield. Both of these companies performed maintenance at Sun's other off-site facilities, and they did not use or store VOCs at the San Antonio Road property. Chemicals stored at the site were limited to paints, silicon products, coil cleaners, greases, antifreeze, waste oil, gasoline, adhesives, biocides, and floor waxes and sealers.

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<sup>1</sup> Further Site Characterization Report, November 30, 2004. Northgate Environmental Management. pg. 4.

### Aerial Photographs

Aerial photographs from 1974 and 1976 (Figures 2 & 3, respectively) indicate that drums were stored along the property line between the two properties near the present-day highest VOC soil and groundwater concentrations. Figure 2 shows the 1201 San Antonio buildings under construction. There is a row of small white circles along the property line just north of the 2690 Casey Avenue building. I interpret these circles to be 55-gallon drums. This interpretation is based on their size relative to the cars in the photograph, and on my best professional judgment. Electronic manufacturing facilities during this era commonly used drums to store chemicals, and it was common for drums to be stored outside. Furthermore, there is no other viable explanation for the presence of small white circles in the location and configuration shown in the photo. Applera has not confirmed or denied that these are drums, nor have provided any explanation for the existence of the small white circles. Figure 3 shows the 1976 photo in which the buildings on the San Antonio Road property are now complete. There are fewer small white circles along the property line and the configuration has changed. This indicates that the small white circles were relatively mobile further supporting my interpretation that these were drums.

### Groundwater

Figure 4 shows the groundwater isoconcentration plume for total VOCs. The plume starts at the former chemical storage/waste treatment area and migrates northward in the direction of groundwater flow across the San Antonio Road property. The down gradient extent of the plume has not been defined. VOC concentrations in the former chemical storage/waste treatment area and immediately down gradient of this area are relatively low although higher concentrations have been measured in the past. They increase by over an order of magnitude at the property line near the former drum storage area, indicating there was a release at or near this location.

### Soil and Soil Gas Data

Many soil and soil gas samples have been collected between the two buildings. Figure 5 shows the VOC isocontour lines for the soil gas. The center of this plume is on the San Antonio Road property just north of the property line where the drums were formerly stored by Perkin-Elmer. Figure 6 shows the VOC isocontour lines for soil at five feet below ground surface (bgs). There are two hot spots (isocontours >10,000ppb) in this plume; one on the north side of the property line to the northwest of the former drum storage area and one under the property line directly underneath the former drum storage area. Figure 7 shows the VOC isocontour lines for the deeper soil at ten feet bgs. This also shows the center of the plume directly under the property line where the former drum storage area.

### Discussion

The groundwater data, soil data, and soil gas data indicate that a significant release of VOCs occurred along the property line between the two buildings where drums were stored. VOC concentrations of all three media were highest in this area. This release was most likely caused by Perkin-Elmer because 1) it used and stored large quantities of solvents on site including those found in the soil and groundwater, and 2) Perkin-Elmer stored drums along the property line between the two properties in the area near the present-day source area. Furthermore, there is no documented use or storage of VOCs at the 1201 San Antonio Road property, so operations from this site are an unlikely source.

### Conclusion

The most likely source of the VOC contamination at the San Antonio property appears to be related to improper chemical handling and/or storage practices by Perkin-Elmer along the property line between the two properties, and by groundwater migration from this source area.

### Recommendation

I recommend the Board consider adoption of Site Cleanup Requirements naming Applera Corporation (formerly Perkin-Elmer), a former operator, and JR Realty #2, the current property owner of 2690 Casey Avenue, as responsible parties for the cleanup of VOCs at 2690 Casey Avenue and any properties down gradient that have been impacted as a result of the release(s).

Terminal Boulevard

1201 San Antonio  
Road

2639 Terminal  
Boulevard

Property Line

2690 Casey Avenue

Former UST  
Waste Treatment Area

San Antonio Road

Casey Avenue

Marine Way

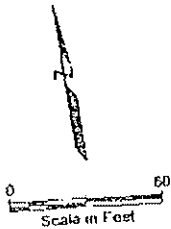


Figure 1. Site Map



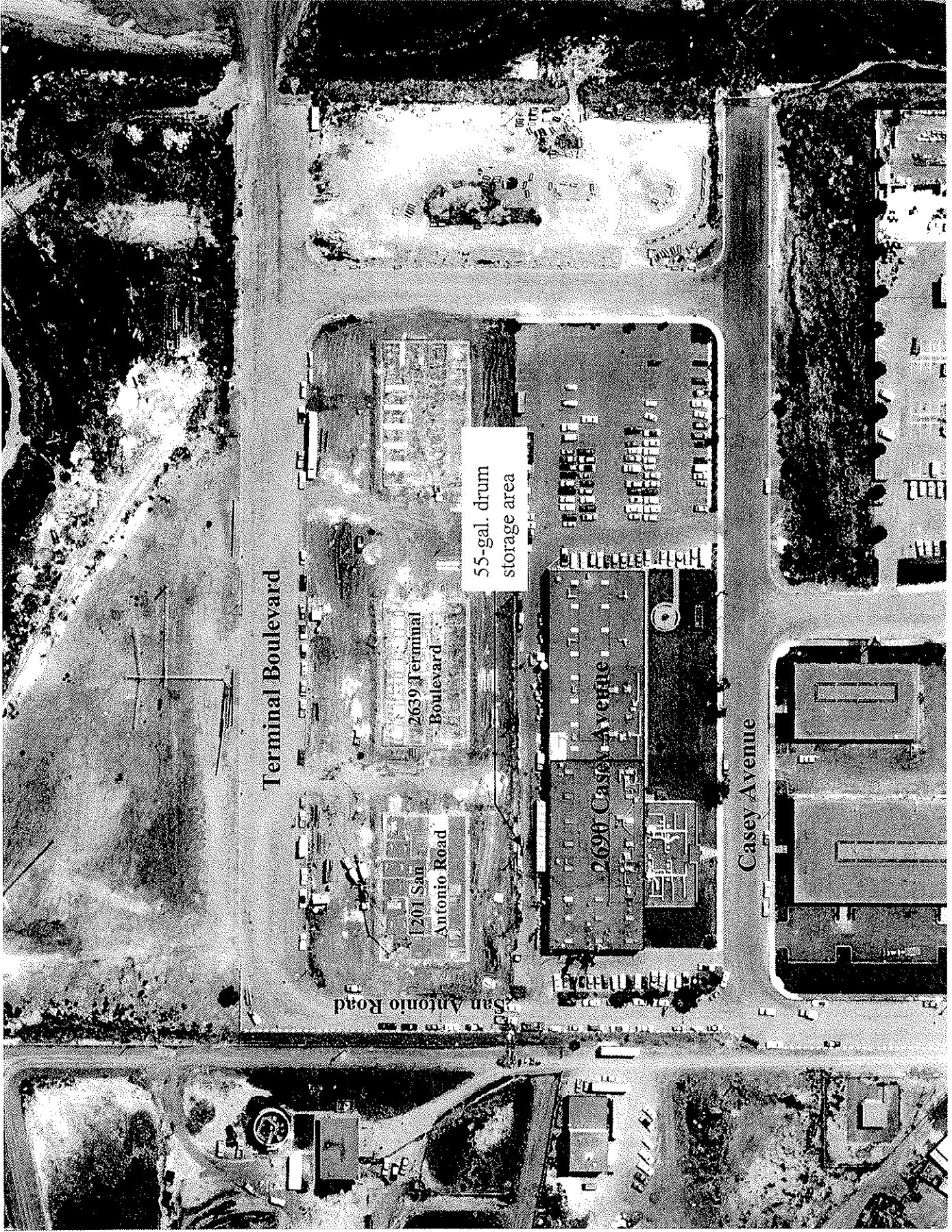


Figure 2. Aerial Photograph taken on April 28, 1974 by Pacific Aerial Photography, negative #AV1138-2-4

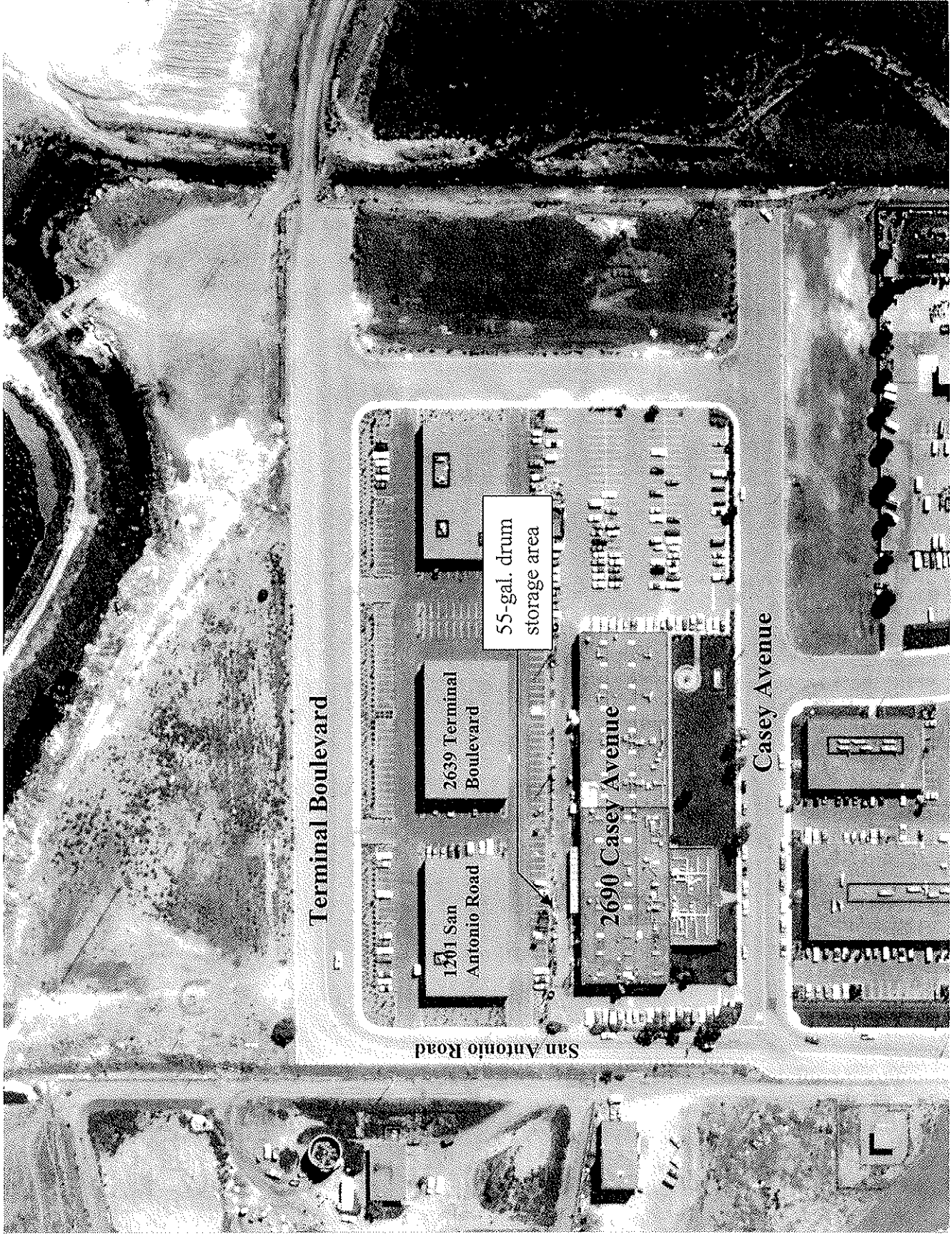
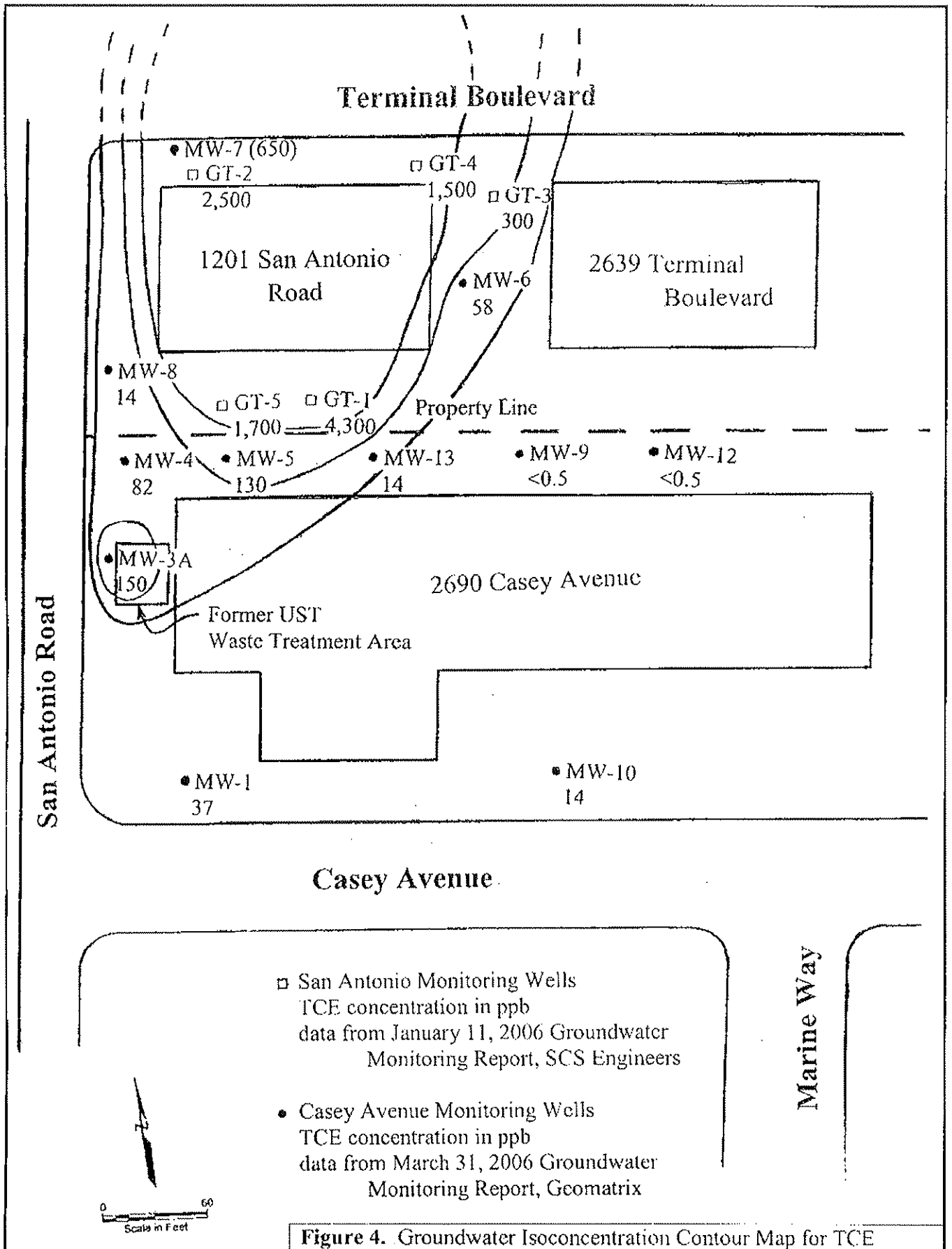
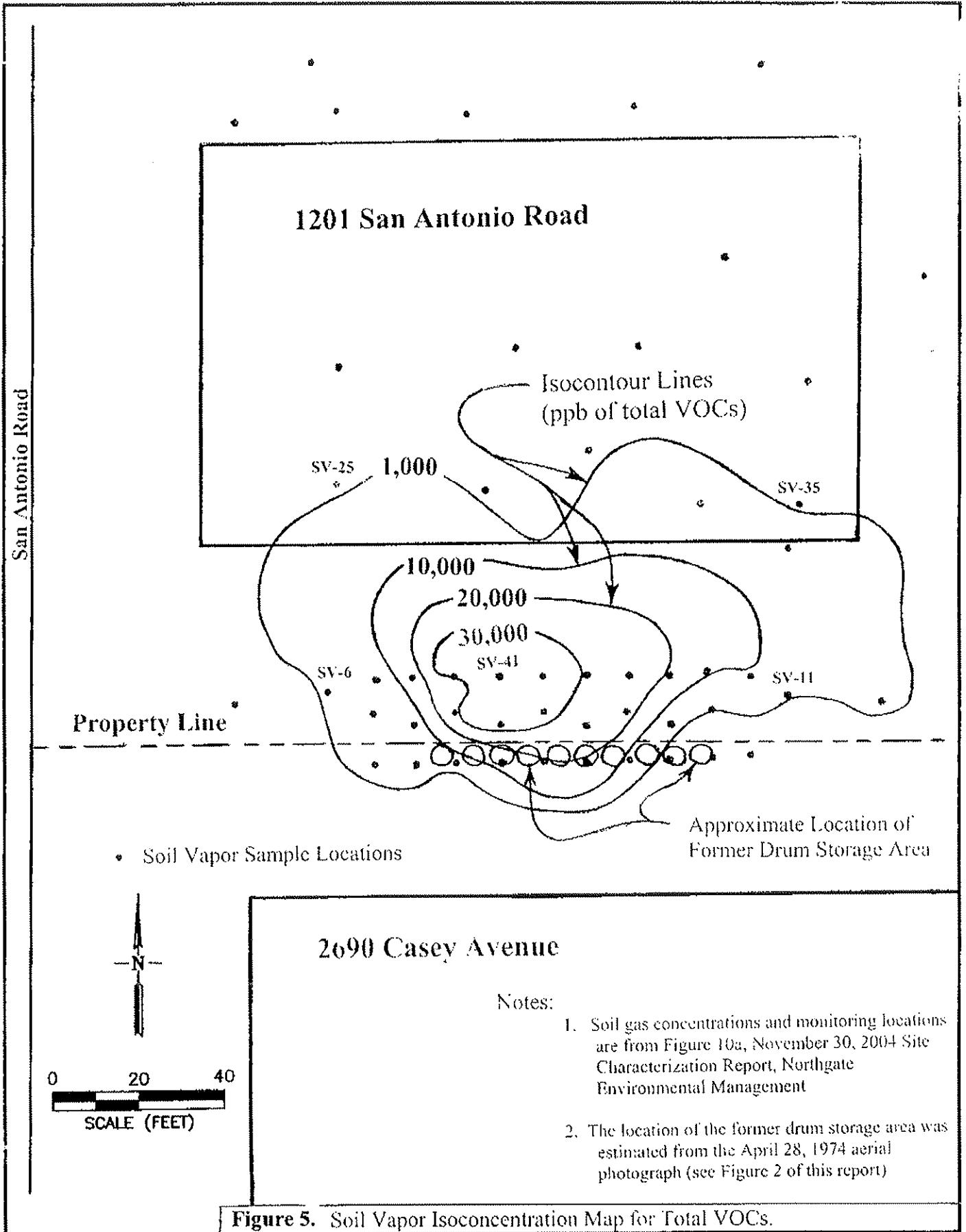


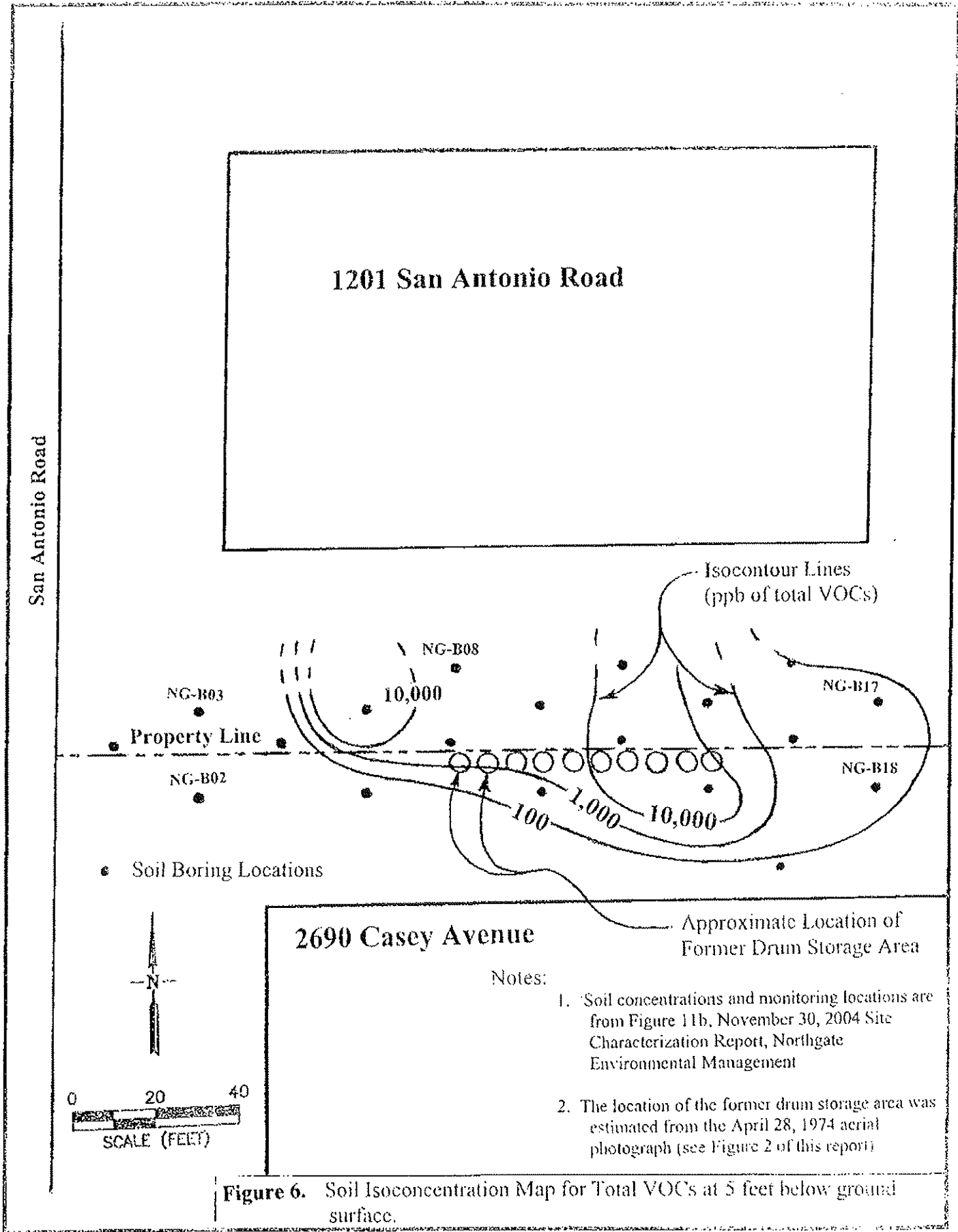
Figure 3. Aerial Photograph taken on August 26, 1976 by Pacific Aerial Photography, negative #AV1277-2-4



**Figure 4. Groundwater Isoconcentration Contour Map for TCE**



**Figure 5.** Soil Vapor Isoconcentration Map for Total VOCs.



1201 San Antonio Road

San Antonio Road

Isocontour Lines  
(ppb of total VOCs)

Property Line

NG-B03

10,000

NG-B08

NG-B17

NG-B02

NG-B18

100 1,000 10,000

• Soil Boring Locations

2690 Casey Avenue

Approximate Location of  
Former Drum Storage Area

Notes:

1. Soil concentrations and monitoring locations are from Figure 11b, November 30, 2004 Site Characterization Report, Northgate Environmental Management
2. The location of the former drum storage area was estimated from the April 28, 1974 aerial photograph (see Figure 2 of this report)



**Figure 6.** Soil Isoconcentration Map for Total VOC's at 5 feet below ground surface.

**Appendix C**

**STAFF SUPPLEMENTAL MEMORANDUM**

**April 5, 2007**



# California Regional Water Quality Control Board

## San Francisco Bay Region



Linda S. Adams  
Secretary for  
Environmental Protection

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<http://www.waterboards.ca.gov/sanfranciscobay>

Arnold Schwarzenegger  
Governor

### SUPPLEMENTAL MEMORANDUM

**TO:** Bruce H. Wolfe  
Executive Officer

**DATE:** April 5, 2007  
**File No.** 43S0938 (AVC)

**FROM:** *Adriana Constantinescu*  
Adriana Constantinescu, Engineering Geologist

**SUBJECT:** **Review of Sun Microsystems Site History Technical Report for the Properties Located at 2690 Casey Avenue and 1201 San Antonio Road, Mountain View, Santa Clara County**

**Concur:** *John D. Wolfenden*  
John D. Wolfenden, Section Leader

**Concur:** *Stephen A. Hill*  
Stephen A. Hill, Division Chief

This memorandum supplements the October 2006 staff Memorandum. This memorandum presents our review of the site history technical report for the subject properties and provides a basis for not naming Sun Microsystems (Sun) as a responsible party in a Tentative Order (TO) for cleanup of the 2690 Casey Avenue property and any downgradient property affected by the volatile organic compounds (VOCs) plume.

#### Background

The location of the two properties is depicted in Figure 1 attached to the October 2006 staff Memorandum. We released the TO for public comments and review on October 5, 2006. On October 20, 2006, and November 17, 2006, we received comments from Applera that Sun should be named as a discharger on the TO. Applera cited evidence that Sun operated a leaking solvent degreaser at the 2690 Casey Avenue property and disposed of hazardous waste from the 1201 San Antonio Road property. Responses to the Applera's comments will be presented in the Responses to Comments as part of the TO package.

On December 21, 2006, the Water Board required information under Water Code §13267 from Sun about its former operations at the 2690 Casey Avenue and 1201 San Antonio Road

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properties. Sun responded on February 21, 2007. A summary of Sun's response concerning its activities is presented below, for each property.

#### 2690 Casey Avenue Property

Sun was a tenant on this property from July 1984 through August 2001. From 1984 through 1989, Sun performed manufacturing and/or computer assembly on portions of the property. According to Sun's site history report, the term "manufacturing" most frequently describes the assembly of component parts that have been fabricated elsewhere, not the fabrication of such parts. The report does not indicate whether the manufacturing activities conducted by Sun on site were limited to assembly or whether those activities also included fabrication. From mid-1989 through 2001, it used this property for office and storage purposes. It stored booths, displays, fixtures and related equipment used by Sun for presentations and trade shows across the country.

During the 1970s and 80s, as concerns about workplace exposure to solvents mounted, many manufacturers switched from using PCE/TCE to less-toxic alternatives such as Freon-113. Sun makes the statement that it "never used, stored or disposed of PCE or TCE at or from this property." From 1984 through 1989, Sun did have a degreaser and a wipe cleaning operation at this property. The degreaser and the wipe cleaning operation used trichlorotrifluoroethene (Freon-113) as an active ingredient. During the sampling events performed between 1999 and 2006, Freon-113 has been detected in groundwater samples at a maximum level of 170 µg/L. This value is well below the 4,000 µg/L California public health goal (PHG) in drinking water. The tentative order does not address Freon-113. We normally do not recommend cleanup at sites where the dissolved chemicals detected in groundwater are at levels significantly below the California PHG for drinking water or maximum contaminant levels. If Freon-113 were the only contaminant at this site, we would not be recommending a site cleanup order.

#### 1201 San Antonio Road Property

From May 1988 through August 2003, Sun leased and occupied the property at 1201 San Antonio Road. It used that property to house the facilities management personnel required to support 52 of its Bay Area buildings. Sun used approximately 70% of the property as administrative and office space to house personnel and 30% of the property was used primarily for storage purposes. Services coordinated from the property included building-cleaning and maintenance, relocation/energy/ furniture management, fire and life safety assurance, and the purchase and storage of related supplies, tools, and equipment, including uniforms, vehicles, maintenance supplies, electrical supplies, and furniture.

Except as noted, Sun's report states that all cleaning products used by Sun at the property were water based and all of the machine parts stored at the site were new. Sun states they did not clean, recondition or otherwise service machine parts at the property. There was a chemical storage area in the building for chemicals related to building maintenance. Chemicals stored included paints, polishes, batteries, standard commercial cleaning products, and lubricants,



including oils. Waste oil was stored from the replacement of oil in HVAC motors. Sun states it “never used, stored or disposed of tetrachloroethylene or trichloroethylene at this site.”

From 1988 through 1995, Sun employees performed facilities management activities directly. From 1995 through 2003, Sun contracted the services with three different companies: The Koll Company, Johnson Controls, Inc., and Cushman & Wakefield. During its tenancy, Sun performed or oversaw all environmental reporting obligations, including manifests for waste disposal.

A waste manifest issued on November 12, 1998, by Sun describes waste consisting of used oil with greater than 1,000 parts per million of halogenated solvents. Although “halogenated solvents” can include PCE and TCE, Sun notes that the phrase as used here refers to Freon-113. Sun explains the waste manifest documents the disposal of oil from an HVAC unit where the compressor, which contained and used Freon as a refrigerant, burned out, allowing the Freon to mix with and contaminate the oil used to lubricate the HVAC motor. The mixture of oil and refrigerant are the basis for the waste description. There is no indication that the oil/refrigerant mixture was spilled on the site.

The site history report contains information on an offsite disposal of oil spill cleanup materials (1992) and an offsite disposal of materials indicated as “hazardous waste solid...gas/diesel spill cleanup” (1996). Sun does not provide additional information on the events on site that triggered the need to clean up materials related to oil spill, hazardous waste, gas or diesel spills. It states that “is not aware of any spills or releases of hazardous materials during its tenancy at this property.”

There is no substantial evidence of a PCE/TCE release by Sun at 1201 San Antonio Road. Any releases by Sun at this site would have been minor and would have involved petroleum constituents. We do not see oil, diesel, or gasoline detected in the groundwater samples collected for the last 3 years. See next section for the interpretation of the laboratory results.

#### Anomalous Laboratory Results

Laboratory analysis found that in addition to the VOCs at the 2690 Casey Avenue site, there were detections reported as gasoline range organics (GROs) for the last 3 years of groundwater sampling. The reported GRO concentrations were up to 1,300 µg/L in the area located downgradient of Perking Elmer’s hazardous materials storage area, on the western side of the building. In addition to the VOCs at the 1201 San Antonio site, detections reported as GRO were found for the last 3 years of groundwater sampling. The reported GRO concentrations were up to 6,500 µg/L.

One possible interpretation of this result is that there was a separate release of petroleum hydrocarbons in the vicinity of the hazardous materials storage area, during either the Perkin Elmer or Sun tenancy. We conclude that this interpretation is incorrect and that what has been reported as “GRO” by the analytical lab is actually interfering chlorinated VOCs such as TCE or

PCE. This scenario is consistent with an already-established chlorinated VOC release from the Perkin Elmer hazardous materials storage area.

Perkin Elmer appears to agree with our interpretation. Geomatrix's March 23, 2007, "Groundwater Monitoring Report, December 2006 Monitoring Event" for the property located at 2690 Casey Avenue presents a request for discontinuing GRO monitoring. The Geomatrix report states that the "GRO detected in samples are likely due to the quantification of interfering chlorinated VOCs (e.g., TCE) present in the samples. Additionally, no gasoline-related VOCs (i.e., benzene, toluene, ethylbenzene, xylenes, trimethylbenzene, naphthalene, or isopropylbenzene which are on the EPA Method 8260 analytes list) have been detected in any of the groundwater samples."

### Conclusion

Based on our evaluation of Sun's site history report, we do not recommend naming Sun Microsystems as a responsible party for the cleanup of VOCs at 2690 Casey Avenue and any properties down gradient that have been impacted as a result of the release(s).

## **Appendix D**

### **CORRESPONDENCE**

- 1. Applera's Comments Received on October 20, 2006 (with Attachments for Board members)**
- 2. Applera's Comments Received on November 17, 2006 (with Attachments for Board members)**
- 3. Applera's Comments Received on April 16, 2007**
- 4. STI's Comments Received on October 20, 2006**
- 5. Dymond's Comments Received on October 20, 2006**
- 6. Dymond's Comments Received on November 17, 2006 (with Attachments for Board members)**
- 7. Dymond's Comments Received April 16, 2007**

*Note* – Attachments to Correspondence provided to Board members only;  
Contact staff if you want a copy

OCT 9 2 2006

Karen J. Nardi  
 Direct Phone: (415) 393-2050  
 Direct Fax: (415) 393-2286  
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October 20, 2006

**Via Email**

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 Walnut Creek  
 Washington

Bruce H. Wolfe, Executive Officer  
 California Regional Water Quality Control Board  
 San Francisco Bay Region  
 1515 Clay Street, Suite 1400  
 Oakland, CA 94612

Attention: Adriana Constantinescu

**Re: Tentative Order — Site Cleanup Requirements  
 Perkin-Elmer Corporation, Applera Corporation, and JR Realty #2  
 2690 Casey Avenue, Mountain View**

Dear Mr. Wolfe:

This letter provides comments by Applera Corporation concerning the Tentative Order (“TO”) for the 2690 Casey Avenue site in Mountain View and the supporting Memorandum from Vincent Christian to you (“Staff Memo”).

**1.0 Executive Summary / Overview**

For many years, parties affiliated with both the 2690 Casey Avenue property (“2690 Site”) and adjacent 1201 San Antonio Road property (“1201 Site”) have discussed the need to clean up contamination found along the common property boundary. We appreciate that this matter now appears to be moving toward resolution.

In 2001, Applera (formerly Perkin-Elmer or PE) actively remediated contamination in the western area of the 2690 Site, apparently associated with a former chemical storage and treatment area, including a solvent underground storage tank removed in 1984.<sup>1</sup> Perkin-Elmer’s Ultek division was a tenant at the 2690 Site from 1963 to 1984 and manufactured

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<sup>1</sup> The TO mistakenly indicates that the UST was removed in 2001. In fact, Perkin-Elmer removed the UST as part of site closure activities in 1984.

Bruce H. Wolfe, Executive Officer  
October 20, 2006  
Page 2

stainless steel vacuum pump systems there.<sup>2</sup> Water Board staff incorrectly state that Perkin-Elmer was a semiconductor manufacturer; it was not.<sup>3</sup>

The area that now requires cleanup is a separate, large source of chemicals that straddles the 2690/1201 property boundary. Technical evidence shows that this separate source of contamination appears to be primarily located on the 1201 Site. Despite diligent investigations by many parties, there is no definitive evidence of who or what caused the contamination on the 2690/1201 property boundary ("Property Boundary Contamination"). Written evidence that Sun Microsystems ("Sun") had a leaking solvent degreaser at the 2690 Site in 1987 remains uninvestigated.

We do not agree with your decision to hold only Applera and the 2690 Site owner responsible for the Property Boundary Contamination, allowing Sun and the 1201 parties to remain on the sidelines.

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<sup>2</sup> The Perkin-Elmer Corporation (renamed "PE Corporation" in 1999 and renamed "Applera" in 2001), acquired a company called "Ultek" in 1967. Ultek was a tenant at the 2690 Site from 1963 to 1984. Ultek manufactured high vacuum stainless steel pump systems used in a wide variety of industries, including scientific laboratories, research facilities and the semiconductor industry. The Perkin-Elmer Corporation maintained Ultek as part of a division within the company and it continued to manufacture vacuum pumps at the 2690 Site until its lease was terminated in 1984. The Ultek business was closed down and became defunct after it moved from Mountain View. A description of Ultek's high vacuum equipment is provided in excerpts from Perkin-Elmer's Annual Reports from 1967 and 1969; photographs and descriptions of some of Ultek's equipment can still be found on the internet. See **Exhibit 1**.

<sup>3</sup> Your confusion over Perkin-Elmer's operations at the 2690 Site may stem from the January 7, 2000 Preliminary Assessment/Site Investigation report prepared by Henshaw Associates, Inc. ("Henshaw Report"). According to that report, information from waste discharge permit applications and other reports on file at the City of Mountain View indicate that Perkin-Elmer's operations included "the manufacture of vacuum products and semiconductor-related devices." Henshaw Report, p. 7. (More recently, the November 30, 2004 Further Site Characterization Report prepared by Northgate Environmental Management ("Northgate Report") cited the same portion of the Henshaw Report in describing Perkin-Elmer's operations at the 2690 Site.) According to one of the waste discharge permit applications, from August 1974 (included in Appendix F-II of the Henshaw Report), Perkin-Elmer's operations at 2690 Casey consisted of "Light manufacturing products; Vacuum products -- Vacuum Ion Pumps, Sputtering Units." In other words, Perkin-Elmer manufactured devices that could be used by others in the manufacture of, among other things, semiconductors; Perkin-Elmer did not manufacture semiconductors itself. For your convenience, the August 1974 application is attached as **Exhibit 2**.

Bruce H. Wolfe, Executive Officer  
October 20, 2006  
Page 3

The Water Board has failed to identify credible and reasonable evidence that Applera caused the Property Boundary Contamination. On that basis, we find the TO legally deficient.

To summarize:

- Contrary to the findings in the TO or the Staff Memo, Perkin-Elmer did not manufacture semiconductors at the 2690 Site.
- Perkin-Elmer has cleaned up the contamination that its operations may have caused on the west side of the 2690 Property.
- The aerial photographs interpreted by Water Board staff do not constitute credible, reasonable or substantial evidence that Perkin-Elmer caused the Property Boundary Contamination.
- There is credible technical evidence that the source of the Property Boundary Contamination is located on the 1201 Site.
- There is credible evidence based on expert knowledge of the printed circuit board industry that Scientific Technologies, Inc. ("STI"), the former 1201 Site tenant, could have caused or contributed to the Property Boundary Contamination.
- There is direct evidence that Sun Microsystems had a leaking solvent degreaser on the 2690 Site (and degreasers at the north end of the 2690 building) which should be investigated to see if they caused the western area and/or Property Boundary Contamination.
- The Water Board should identify past owners of the 2690 Site who may be dischargers and may have insurance for legacy contamination.

To the extent that the Water Board requires the investigation and cleanup of contamination on the 1201 Site, it should: (i) investigate whether Sun's leaking solvent degreaser could have caused the western area and/or Property Boundary Contamination, and (ii) name the 1201 Site owner and former tenant as dischargers on any cleanup order. This approach would provide the basis for both the 2690 and 1201 parties to work towards a voluntary allocation of costs, with none being required to admit liability.

## 2.0 Summary of Tentative Order Findings

The TO names Perkin-Elmer and Applera as dischargers because of “substantial evidence” that they discharged pollutants to soil and groundwater at the 2690 Site from its “semiconductor manufacturing operations.” The TO does not indicate what facts staff relied upon as the “substantial evidence” that Perkin-Elmer discharged pollutants at the northern property line. The TO also alleges that Perkin-Elmer used tetrachloroethene (“PCE”), sodium hydroxide, ammonia, methanol, and various acid solutions in its operations, but does not cite any evidence that Perkin-Elmer actually used PCE.<sup>4</sup> The TO does not allege that Perkin-Elmer ever spilled, released or otherwise discharged any of these chemicals.

JR Realty #2 is named as a discharger on the TO because it owns the 2690 Site.<sup>5</sup> Despite written evidence that Sun had a leaking solvent degreaser at the 2690 Site, to our knowledge Sun has never been required to respond to a 13267 letter and is not named as a discharger on the TO. We find this puzzling.

The TO requires the dischargers to “define the vertical and lateral extent of soil and groundwater pollution,” complete interim remedial actions, and prepare a draft remedial action plan, including recommended final remedial actions and cleanup standards. The TO does *not* require implementation of the final remedial action. While the TO nowhere mentions investigation and interim cleanup on the 1201 Site, we believe that that is its intent, when read in concert with the Staff Memo.

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<sup>4</sup> The TO’s description of the chemicals Perkin-Elmer used in its 2690 operations, which is identical to the description in the Staff Memo, apparently was taken from the Northgate Report, which in turn cites to the Henshaw Report. *See* Northgate Report at p. 4 and Henshaw Report at pp. 7-8. In the Henshaw Report supporting documentation (Appendix F-II), there are references to sodium hydroxide, ammonia, methanol, and “various acid solutions,” but we cannot find a reference to Perkin-Elmer’s use of PCE at the 2690 Site. There is a reference, to “1,1,1-trichloroethylene,” but that was with respect to Perkin-Elmer’s facility at *1161-C San Antonio Road, not 2690 Casey*. This reference may have meant trichloroethylene (aka TCE aka trichloroethene aka 1,1,2-trichloroethene); it also might have meant 1,1,1-trichloroethane (aka TCA).

<sup>5</sup> The Staff Memo indicates that JR Realty #2 purchased the Site in 2000, not 2001. This discrepancy should be corrected in any final order. We note that the TO contains no findings about who owned the site from the 1960s until 2000. We recommend that the Water Board identify past owners of the 2690 Site who may be potentially responsible parties and who may have insurance for legacy contamination.

### 3.0 Summary of Staff Memo

In addition to the chemical storage and treatment area on the west side of the 2690 Site, the Staff Memo indicates that another source of contamination, not related to the western area, “appears to exist” along the northern property line between the 2690 and 1201 Sites (*i.e.*, the Property Boundary Contamination).

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In addition to the 2690 Site history, the Staff Memo also provides information regarding the history of the 1201 Site. STI operated at the 1201 Site from 1975 to 1988. According to STI’s response to the Water Board (as summarized in the Staff Memo), STI manufactured electronic safety equipment and sensors, including printed circuit boards. From 1988 to 2004, Sun Microsystems operated at the 1201 Site but not, according to the Staff Memo, for manufacturing.

The Staff Memo concludes that Perkin-Elmer “*most likely*” caused the Property Boundary Contamination. This conclusion apparently is based solely on an interpretation of two aerial photographs taken in 1974 and 1976 (attached as **Exhibit 3**). The Staff Memo states:

Aerial photographs from 1974 and 1976 (Figures 2 & 3, respectively) indicate that *drums* were *stored* along the property line between the two properties near the present-day highest VOC soil and groundwater concentrations. Figure 2 shows the 1201 San Antonio buildings under construction. There is a row of *small white circles* along the property line just north of the 2690 Casey Avenue building. I *interpret* these circles to be *55-gallon drums*. This *interpretation* is based on their size relative to the cars in the photograph, and on my best professional judgment. Electronic manufacturing facilities during this era *commonly* used drums to store chemicals, and it was *common* for drums to be stored outside. Furthermore, there is *no other viable explanation* for the presence of *small white circles* in the location and configuration shown in the photo. Applera has not confirmed or denied that these are drums, nor have [they] provided any explanation for the existence of the small white circles. Figure 3 shows the 1976 photo in which the buildings on the San Antonio Road property are now complete. There are fewer small white circles along the property line and the configuration has changed. This indicates that the small white circles were relatively mobile further supporting my *interpretation* that these were *drums*. [Emphasis added.]



The release of VOCs observed along the property boundary, according to the Staff Memo, was “*most likely*” caused by Perkin-Elmer because, among other things, it “*stored drums along the property line.*” Because, according to the Staff Memo, there is no documented use or storage of VOCs at the 1201 Site, operations from this site are an “*unlikely*” source. Finally, the Staff Memo concludes:

The *most likely* source of the VOC contamination at the San Antonio property *appears* to be related to improper chemical handling and/or storage practices by Perkin-Elmer along the property line between the two properties, and by groundwater migration from this source area. [Emphasis added.]

#### 4.0 Consensus: Property Boundary Contamination is a Separate Source

As indicated in the Staff Memo, the Property Boundary Contamination appears to be a separate source of contamination (and not simply migration from the release of VOCs on the western side of the 2690).<sup>6</sup> There appears to be little if any dispute of this fact. *See, e.g., Further Site Characterization Report, 2690 Casey Avenue, Mountain View, California*, prepared by Northgate Environmental Management, Inc. for JR Realty #2, November 30, 2004 (“*In summary, the distribution of VOCs in soil, soil gas, and groundwater from data collected during the present and previous investigations indicates the presence of two VOC contamination source areas at the site: one located at the former chemical storage/treatment area located at the west end of the [2690 Casey] Property building, and a second situated at or north of the common boundary between the Property and 1201 San Antonio Road.*” Executive Summary, p. iv); Letter from James R. Hawley (counsel for 1201 San Antonio Road property owner) to Michelle Rembaum-Fox (Water Board staff) dated January 27, 2005 (“*We agree with Northgate that the data strongly suggests the presence of a second VOC source in the vicinity of the property line between 1201 San Antonio Road and 2690 Casey Avenue.*” p. 2 [footnote omitted]).

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<sup>6</sup> Under a Water Board-approved work plan, Applera voluntarily completed cleanup of the contamination in the western area of the 2690 Site in August 2001. The Water Board’s June 6, 2001 approval letter concludes that Applera’s cleanup would effectively remove impacted soil such that residual VOCs remaining in soil would not pose an unacceptable health risk and would remove chemical mass that was then adversely impacting or threatening to impact groundwater. Applera has been monitoring the attenuated levels of VOCs in groundwater in the vicinity of the western area since March 2001. Water Board staff has required no further technical work concerning that separate source of contamination in the western area since that time.

While there seems to be consensus that there is a separate source of contamination at the 2690/1201 property line, there is no consensus as to how this separate source of contamination came to exist on the 2690/1201 property boundary.

## 5.0 Dispute: Who Caused the Property Boundary Contamination?

The Staff Memo, apparently based on nothing more than an interpretation of two aerial photographs, concludes that the *most likely* source of VOC contamination at the 1201 Site *appears* to be Perkin-Elmer's improper chemical or storage of chemicals along the property line.

### 5.1 Aerial Photos from 1974 and 1976

This conclusion stems from "a row of small white circles along the property line" in the 1974 photograph and "fewer white circles along the property line" in the 1976 photograph.<sup>7</sup> From this, the Staff Report concludes the small white circles are "drums," the "drums" were "stored," the "drums" were "stored" by Perkin-Elmer, the "stored" "drums" contained "chemicals," and that the drums leaked or spilled because these "chemicals" included the same VOCs detected in soil and groundwater.<sup>8</sup> "[T]here is no other viable explanation for the presence of small white circles in the location and configuration," according to the Staff Memo.

While we cannot say exactly what is depicted in the aerial photographs, it is not at all clear that the "small white circles" are even drums. They could, for example, be concrete utility pipe segments on their ends waiting to be installed. As Water Board staff is aware, the 2690/1201 property line is a utility corridor, containing underground gas and water lines.

But even if the small white circles are drums, they may not have "stored" chemicals containing VOCs. There is no evidence that these white circles contained any chemicals, much less the VOCs found along the 2690/1201 property line.

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<sup>7</sup> The fact that there are fewer small white circles visible in the 1976 photograph than there were in the 1974 photograph indicates, according to the Staff Report, that the small white circles were relatively mobile (presumably supporting the interpretation that they were 55-gallon drums full of chemicals). Of course, even relatively *immobile* objects could have been moved in two years.

<sup>8</sup> That fact that "electronic manufacturing facilities during this era *commonly* used drums to store chemicals," as alleged in the Staff Memo, seems more relevant to STI's operations (manufacture of electronic safety equipment and printed circuit boards) than Perkin-Elmer's operations (manufacture of high vacuum stainless steel pump systems).

Even more importantly, the aerial photographs show no evidence of staining or distressed vegetation. Thus, it is an unsupportable leap in logic to say that the white circles were drums that contained Perkin-Elmer chemicals and that the drums leaked or were spilled. The Staff Memo does not attempt to make this linkage that the white circles were drums of chemicals that spilled because there is no evidence whatsoever of spillage in the aerial photos.

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Finally, there is no evidence that the former 2690 Casey tenant, Perkin-Elmer, had anything to do with the white circles on the property line. We think it was unlikely that Perkin-Elmer, as part of its stainless steel vacuum pump manufacturing operations, and with a chemical storage area on the west side of the 2690 Site, would have stored chemical drums along the northern property line

The Staff Memo's conclusion that these white circles were drums, that the drums had chemicals inside, that these chemicals contained VOCs, that they were Perkin-Elmer's drums, and that the drums leaked or spilled is pure conjecture. We respectfully suggest that this is not the kind of "credible", "reasonable" and "substantial" evidence required to find a party legally responsible for cleanup under Section 13304 of the California Water Code (*see* Sections 6.0 and 7.0 below).

As previously suggested to Water Board staff, there are many other possible explanations for the Property Boundary Contamination. It could certainly have been caused by the former 1201 Site tenant, STI, who manufactured printed circuit boards there in the 1970s and 1980s (*see* Section 7.0). Or it could have been caused by Sun's leaking solvent degreaser at the 2690 Site (*see* Section 5.2). We also note that the 1201 Site is at the end of the road, and the last property before coming to the shoreline near the San Francisco Bay. It is quite possible that it could have been used by "midnight dumpers" for illegal disposal while the property was undeveloped. We simply do not know.

## **5.2 Sun Microsystems' Leaking Solvent Degreaser**

Both the TO and the Staff Memo mention that Sun Microsystems developed new semiconductor products at the 2690 Casey Site from 1984 until 2000. What it does not state is that there is written documentation that Sun had a leaking solvent degreaser at the 2690 Site in 1987 that was losing solvent. Henshaw Report at p. 9. This statement alone is adequate to warrant a 13267 letter to Sun asking it to explain its operations and investigate the leak.

The Henshaw Report, and City documents, indicate that Sun had a leaking solvent degreaser in the southwest corner of the building. However, Figure 4 of the Henshaw Report shows that Sun also had degreasers on the northern side of the building, closer to the property line.

At the very least, this evidence would support a directive under Water Code § 13267(b)(1) for Sun to investigate its operations on both the 2690 and 1201 Sites and the leaking solvent degreaser at the 2690 Site. Without knowing whether Sun could have

caused or contributed to the Property Boundary Contamination, Applera respectfully submits that the TO is premature.<sup>9</sup>

#### 6.0 Legal Standard: “Discharged” Versus “Suspected”

The Water Board may issue a cleanup and abatement order where a person “*has caused or permitted . . . any waste to be discharged or deposited*” where it is or probably will be discharged into water of the State and creates or threatens to create a condition of pollution or nuisance. Water Code § 13304(a). By contrast, the Water Board may require a person to conduct an investigation where the person merely is “*suspected*” of having discharged waste. Water Code § 13267(b)(1).

The legislature’s use of different language in Section 13267 and Section 13304 clearly indicates an intent to impose different standards of proof – the Water Board may require investigations under Section 13267 when it *suspects* a person of discharging waste, but it may only order a cleanup under Section 13304 when the person has *caused or permitted* waste to be discharged.<sup>10</sup>

It is clear from the Staff Memo that Water Board staff “*suspect*” that Perkin-Elmer’s operations resulted in the discharge of waste. Water Board staff, however, have apparently not concluded that Perkin-Elmer “*caused or permitted*” a discharge; Perkin-Elmer just “*appears*” to be the “*most likely source.*” Thus, the TO is legally deficient because the Water Board cannot make the necessary finding that Perkin-Elmer caused the discharge, *i.e.*, the Property Boundary Contamination.

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<sup>9</sup> It is interesting to note that, of all the parties associated with this matter, Sun is the only one with acknowledged operations at both the 2690 Site and the 1201 Site.

<sup>10</sup> This difference in the Water Board’s burden was the subject of an unpublished opinion from the Second District of the California Court of Appeal. In *Spartan Lacquer & Paint v. California Regional Water Quality Control Board*, 2003 WL 464063 (Cal.App. 2 Dist), the Water Board issued a cleanup and abatement order (CAO) under Water Code 13304. The CAO provided that the schedule for soil and groundwater remediation was “To be determined.” *Id.* at \*2. On appeal from the trial court’s denial of a writ of mandate, the Water Board argued that, since the CAO did not require Spartan to remediate pollution by a date certain, the CAO really was just an order to conduct a site investigation pursuant to Water Code § 13267. *Id.* at \*4. In the alternative, the Water Board argued that the evidence was sufficient to support a CAO under Section 13304. *Id.* The court concluded that the Water Board’s evidence was sufficient to support an order to conduct a site investigation under Section 13267 and, therefore, did not need to decide whether the evidence was sufficient to support a CAO under Section 13304. *Id.*

## 7.0 Other Likely Sources of Property Boundary Contamination

Even if Perkin-Elmer's operations are "*the most likely source*" of the Property Boundary Contamination as it "*appears*" to Water Board staff, there are at least three other likely sources as well: past operations at the 1201 Site, illegal dumping, and Sun's operations at the 2690 Site. Water Board staff is aware of all three of these potential sources.

### 7.1 The Spill Occurred on the 1201 Site

On August 29, 2005, Laura Bernard of Bingham McCutchen (counsel for Applera) sent the Water Board a letter with additional information about the Property Boundary Contamination (the "Applera Letter," attached as **Exhibit 4**). Included with the Applera Letter (at Attachment D) is the declaration of Lester Feldman of Geomatrix Consultants. Based on his considerable education and experience and his many years involved with the 2690 and 1201 Sites, it is Mr. Feldman's opinion that the source of the Property Boundary Contamination is on the 1201 Site.

Mr. Feldman further concludes that the deeper soil at the 2690 Site was contaminated by VOCs migrating from the 1201 source area. In effect, his conclusion is that the release of VOCs occurred on the 1201 Site and laterally pooled back across the property line onto 2690. His professional opinion is based on the observed patterns of contamination in soil, soil vapor and groundwater samples taken at various depths near the property line.

### 7.2 STI's Printed Circuit Board Manufacturing at the 1201 Site

In the Applera Letter, Applera provided evidence that, at the very least, STI's operations at the 1201 Site were a likely source of the contamination, if not *the* source of contamination. This is because STI manufactured printed circuit boards at the 1201 Site and a General Facility Map it filed with the Fire Prevention Bureau shows a hazardous materials storage area on the south side of the 1201 building, near the Property Boundary Contamination.

Applera served a deposition subpoena on STI under Water Code § 1100 and took STI's deposition on March 21, 2005 (through Joseph J. Lazzara) and May 23, 2005 (through Anthony Lazzara). STI was not able to produce a person who was knowledgeable about STI operations during a critical time period, approximately 1974 to 1981. As demonstrated by its September 28, 2005 submittal to the Water Board, STI failed to conduct a complete investigation into STI operations for that period.<sup>11</sup> (Letter from Marc Gottschalk (counsel for STI) to Michelle Rembaum-Fox dated September 28, 2005.)

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<sup>11</sup> Counsel for STI apparently failed to interview anyone who worked at STI from 1974 until 1980 other than Mr. Jim Lazzara, who said he worked summers at STI from

STI acknowledged, however, that it manufactured printed circuit boards and other electronic equipment at the 1201 Site. An expert concluded that the products STI used and the devices it made would have likely required the use of TCE and/or PCE based on industry practices in the 1970s and early 1980s. *See Exhibit 4*, Attachment A.

### 7.3 Storage on the 1201 Site

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In addition to the two aerial photographs interpreted by Water Board staff, there are many other aerial photographs of the 2690 and 1201 Sites. Applera's environmental consultant, Geomatrix, has reviewed photographs from 1976, 1982, 1984, 1988, 1990, 1992, and 1994 (attached as **Exhibit 5**). Geomatrix observed in these photographs what appears to be storage on the 1201 side of the property line north and west of the 2690 Casey loading dock. This is significant because this is the same area that is contaminated with VOCs in shallow soils. *See, e.g., Northgate Further Site Characterization Report*, Figure 11b. Thus, while photographs may show evidence of "storage" of "small white circles" on the property line, they also show evidence of storage north of the property line (*i.e.*, on the 1201 Site).<sup>12</sup>

### 7.4 Sun's Semiconductor Operations

As noted above in Section 5.2, there is direct evidence of a leaking solvent degreaser at the 2690 Site during Sun's tenure there. Moreover, Sun operated not just one degreaser, but several, including several at or near the northern side of the building. Any leaking from one of these degreasers could potentially be a source of the Property Boundary Contamination, or even the western area contamination.

### 7.5 Any Water Board Order Should Name All Potentially Responsible Parties

In reviewing the sufficiency of evidence needed to name parties as dischargers, the State Board, in *Exxon Company, U.S.A. et al.*, Order No. WQ 85-7, stated:

Generally speaking it is appropriate and responsible for a Regional Board to ***name all parties*** for which there is

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(Footnote continued from Previous Page.)

1975 until 1979. The most he was able to say under penalty of perjury was that he did not "believe" that any product or material used by STI from 1975 to 1988 contained PCE or TCE.

<sup>12</sup> Several of the photographs also show what appears to be some discharge emanating from just north of the southeast corner of the 1201 Building, providing further evidence of a release/discharge on the 1201 Site.

*reasonable evidence of responsibility*, even in cases of disputed responsibility. However, there must be a reasonable basis on which to name each party. *There must be substantial evidence to support a finding of responsibility* for each party named. This means *credible and reasonable evidence which indicates the named party has responsibility*.

*Exxon* at pp 11-12 (emphasis added). Because there is credible and reasonable evidence that the Property Boundary Contamination potentially comes from a source located on the 1201 Site or from Sun's semiconductor operations at the 2690 Site, it would be appropriate and responsible for the Water Board to name Sun, STI and the 1201 Site owner as dischargers.<sup>13</sup>

## **8.0 Requested Relief**

### **8.1 Insufficient Evidence to Name Applera as a Discharger**

There is nothing in the TO or Staff Memo that establishes that the Water Board has substantial, credible evidence that Perkin-Elmer caused or permitted a discharge of waste along the 2690/1201 property line. Thus, an order issued under Water Code § 13304 naming Perkin-Elmer as a discharger is legally deficient. At most, Water Board staff has provided evidence that it *suspects* that Perkin-Elmer discharged waste along the property line, supporting only an order to further investigate the area under Water Code § 13267.

### **8.2 More Basic Investigation is Needed; An Order is Premature**

Applera is prepared to conduct further investigation on the 1201 Site. It even sent the Water Board a work plan on March 21, 2006 proposing further testing on the 1201 Site that would help plan a remedial program and better delineate the contamination. The Water Board declined to comment on the work plan and the 1201 Site owner declined to provide access. This was unfortunate as it has delayed doing investigative work that would have been useful to understanding the scope of the Property Boundary Contamination and thus what approaches to cleanup may be effective.

Applera would not object to a 13267 letter directing more investigation of the Property Boundary Contamination. But the Water Board should also issue a 13267 letter to Sun

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<sup>13</sup> Just as the TO names JR Realty #2 as a discharger because it is the current owner of 2690 Casey, it would be appropriate to name the current owner of 1201 San Antonio for discharges that occurred on that property. *See, e.g., Vallico Park, Ltd.*, State Board Order No. WQ 86-18 (“*The ultimate responsibility for the condition of the land is with its owner.*” WQ 86-18 at p. 2).

Bruce H. Wolfe, Executive Officer  
October 20, 2006  
Page 13

asking it to explain its leaking solvent degreaser and past operations at both the 2690 and 1201 Sites. A cleanup order is premature. The Water Board should proceed under its 13267 authority until more facts become clear.

### 8.3 All Parties Should be Named in Any Order

If the Water Board does issue an order under Section 13304 – and to the extent the order requires the investigation and cleanup of the 1201 Site (as we suspect is your intent) – Applera respectfully submits that there is at least as much evidence that the source of the Property Boundary Contamination is from the 1201 Site as from the 2690 Casey Site. Moreover, there is direct evidence that Sun Microsystems had a leaking solvent degreaser on the 2690 Site which requires further inquiry.

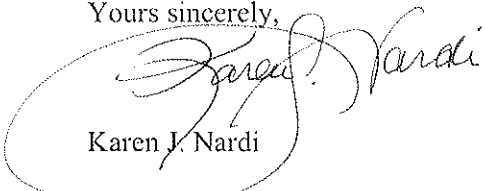
In fairness, any order issued by the Water Board at this time (whether it be a 13304 Order or a 13267 Order) should name Sun as well as the owner and former tenant of the 1201 Site.

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Thank you for your attention to this matter. We look forward to the opportunity to further discuss our concerns at the Water Board hearing November 13th. We request that several hours be allotted to Applera to present its evidence to the full Water Board contesting the factual basis for the findings in this order.

In the meantime, if you have any questions, please do not hesitate to contact me at (415) 393-2050.

Yours sincerely,



Karen J. Nardi

Attachments

cc: Mr. Rick Podlaski, Applera  
Ken Strong, Esq., Gordon Rees (JR Realty #2)  
James Hawley, Esq., Hoge, Fenton, Jones & Appel (1201 Site owner)  
Marc Gottschalk, Esq., Wilson Sonsini Goodrich & Rosati (STI)



CALIFORNIA REGIONAL WATER

NOV 17 2006

QUALITY CONTROL BOARD

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**By Hand**

November 17, 2006

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Bruce H. Wolfe, Executive Officer  
 California Regional Water Quality Control Board,  
 San Francisco Bay Region  
 1515 Clay Street, Suite 1400  
 Oakland, CA 94612

Attention: Adriana Constantinescu

**Re: Tentative Order — Site Cleanup Requirements  
 Perkin-Elmer Corporation, Applera Corporation, and JR Realty #2  
 2690 Casey Avenue, Mountain View**

Dear Mr. Wolfe:

In your letter of October 27, 2006, you invited additional written evidence in support of comments on the proposed site cleanup order for the 2690 Casey Avenue property in Mountain View ("2690 Site"). We understand from Vince Christian's staff memorandum that this order is intended to compel cleanup on the downgradient 1201 San Antonio Road property ("1201 Site").

**1.0 Overview**

We have reviewed additional documents in the Water Board files. Many of these we had not previously seen, as the parties at the 1201 and 2690 Sites who submitted them to the Water Board did not send us courtesy copies.

After looking at the additional information, we are even more persuaded that it is inappropriate for the Water Board to issue this cleanup order only to the owner of the 2690 Site (JR Realty #2) and Applera Corporation.

Applera is the corporate successor to Perkin-Elmer, (also called PE Corporation), a tenant at the 2690 Site from 1963 to 1984. PE's Ultek division manufactured stainless steel vacuum pump systems at the 2690 Site. It did not manufacture semiconductors, as erroneously stated in the tentative order. PE's Ultek division has been defunct since approximately 1984-85.

Sun Microsystems ("Sun") was a tenant at both the 2690 and 1201 Sites. Sun acknowledges conducting manufacturing and computer assembly at the 2690 Site.

Bruce H. Wolfe, Executive Officer  
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Page 2

Documents show that it manifested hazardous waste from the 1201 Site, including halogenated solvents.

After reviewing the Water Board file, we feel even more strongly that the Water Board must investigate Sun's possible connection to contamination at both the 2690 Site and 1201 Site before ordering only Applera and JR Realty #2 to undertake cleanup of both properties.

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## 2.0 Sun and the 1201 Site

**2.1 No Formal Investigation of Sun.** It does not appear that the Water Board staff has ever directly required Sun to respond to a formal 13267 request for information. The information pertaining to Sun in the Water Board files apparently was provided by James Hawley, counsel for the owner of the 1201 Site.<sup>1</sup>

**2.2 Sun's Activities at the 1201 Site.** Sun states that it never conducted manufacturing at the 1201 Site, that it only housed facility maintenance operations there, and that there "*appears to be no evidence that Sun Microsystems or its contractors ever used . . . any of the chemicals*" of concern at the 1201 Site.<sup>2</sup>

If this is true, why does the California Department of Toxic Substances Control ("DTSC") have evidence that Sun manifested hazardous waste solvents from the 1201 Site?<sup>3</sup> And what are we to make of Sun's hazardous waste manifest for the disposal from the 1201 Site of 60 gallons of "*used oil with greater than 1,000 ppm halogenated solvents*"?<sup>4</sup> PCE and TCE are both halogenated solvents.

**2.3 Sun's Disposal of Halogenated Solvents from the 1201 Site.** The U.S. EPA assigned Sun the following EPA hazardous waste generator ID number for the 1201 Site on July 16, 1992: *CAD054613583*.<sup>5</sup> EPA ID numbers are unique, location-specific numbers used to track the disposal of hazardous waste. This is the same ID number that is on the hazardous waste manifest showing disposal of "*used oil with greater than 1,000*

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<sup>1</sup> See July 26, 2001 letter from James Hawley to Michelle Rembaum-Fox (enclosing Sun's July 23, 2001 letter) (attached at *Tab 1*) and August 3, 2001 letter from James Hawley to Michelle Rembaum-Fox (enclosing Sun's August 1, 2001 letter) (attached at *Tab 2*).

<sup>2</sup> See *Tab 1*, p. 2 (emphasis added).

<sup>3</sup> See *Tab 3* (DTSC Facility Search Results for 1201 San Antonio Road, Mountain View).

<sup>4</sup> See *Tab 2*, p. 10.

<sup>5</sup> See *Tab 4*.

*ppm halogenated solvents.*<sup>6</sup> We also note there is evidence of a possible carbon source (e.g., waste oil) influencing the contamination at the 2690/1201 property boundary (the "Property Boundary Contamination"). Lester Feldman of Geomatrix Consultants, Inc. recommends that possible petroleum releases such as waste oil at the property boundary be investigated. (See Section 4.0 below.)

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According to the Hazardous Waste Handler Summary Report on DTSC's web site, Sun had 27 hazardous waste shipments from the 1201 Site between 1993 and 2003. The waste codes for these manifests include:

- 214 (**unspecified solvent mixture**),
- 331 (**off-specification, aged, or surplus organics**),
- 343 (**unspecified organic liquid mixture**),
- 792 (**liquids with pH  $\leq$  2 with metals**), and
- 741 (**liquids with halogenated organic compounds  $\geq$  1000 mg/l**).

A copy of the Summary Report is attached at *Tab 5*.

With evidence that Sun was generating these types of wastes at the 1201 Site, we find it troubling that the Water Board apparently is not interested in investigating Sun's operations and possible connection to the Property Boundary Contamination.

### 3.0 Sun and the 2690 Site

**3.1 Sun's Semiconductor Operations at the 2690 Site.** Sun's operations at the 2690 Site included the development of semiconductor products from 1984 to 2000. In an April 22, 1999 letter to counsel for the 2690 Site owner, Sun acknowledges that its 2690 Site operations included "*manufacturing and computer assembly*."<sup>7</sup> Sun did not deny that it used PCE or TCE in its operations (which included at least one vapor degreaser), only that it had *no documentation* indicating any other hazardous substance use [other than trichlorotrifluoroethane] at the 2690 Site.<sup>8</sup> Given the importance of these issues, and the magnitude of the cleanup that may be needed, it is imperative that the Water Board make a formal 13267 inquiry with Sun about its past operations.

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<sup>6</sup> See *Tab 2*, p. 10.

<sup>7</sup> See *Tab 2*, p. 11 (emphasis added).

<sup>8</sup> *Id.*

**3.2 Why Does Sun Have No EPA Generator ID Number for the 2690 Site?** Oddly, although Sun admits to manufacturing and the use of solvents at the 2690 Site, we have found no evidence that Sun had a U.S. EPA Generator ID number for the 2690 Site. According to DTSC's on-line database, the only entities that have had U.S. EPA ID numbers for the 2690 Site are: CarrAmerica Realty Corp, JR Realty 2, LLC, and Perkin-Elmer. It is logical and fair for the Water Board to make formal inquiries with Sun about these matters.

#### **4.0 Expert Opinion Supports Applera's Position**

As further evidence supporting Applera's comments, attached at *Tab 6* is the declaration of Lester Feldman, a Principal Scientist at Geomatrix Consultants, Inc. Based on his considerable education and experience (including 20 years at the San Francisco Water Board), his many years involved with both the 2690 Site and 1201 Site, and a review of certain documents, Mr. Feldman has formed the following opinions:

**4.1 Sun's Handling of Chlorinated VOCs at the 1201 Site.** It is Mr. Feldman's opinion that chlorinated volatile organic compounds ("VOCs") likely were handled at the 1201 Site during the period 1989 to 2003 (when Sun occupied the premises). He believes that the nature and extent of these practices should be more fully investigated.

**4.2 Sun's Use of Chlorinated VOCs at the 2690 Site.** It is Mr. Feldman's opinion that Sun likely stored and used chlorinated VOCs and generated hazardous waste at the 2690 Site, during the period 1987 to 2000. He believes the nature and extent of these practices should be more fully investigated.

**4.3 The 2690 Western Area and Property Boundary Chemical Signatures are Different.** It is Mr. Feldman's opinion that the Property Boundary Contamination is different from the chlorinated VOC contamination at the western area of the 2690 Site because significant breakdown (*i.e.*, de-chlorination) is occurring at the property boundary. This is further evidence that there are two distinct sources of contamination. It is Mr. Feldman's opinion that additional soil investigation should be performed at the property boundary area to identify whether there have been releases of petroleum hydrocarbon products.

Bruce H. Wolfe, Executive Officer  
November 17, 2006  
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## 5.0 Conclusion

In summary, it is premature for the Water Board to issue a cleanup order only to Applera and the owner of the 2690 Site. There is no substantial evidence that Applera's predecessor, the PE Ultek Division, caused the soil and groundwater contamination.<sup>9</sup> There remain many unanswered questions about the activities of Sun Microsystems, a former tenant at 2690 and 1201 and Scientific Technologies, Inc. ("STI"), a former tenant at 1201.

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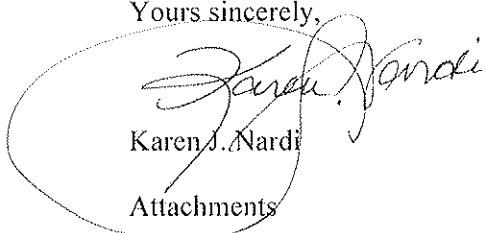
Further, as owner of the 1201 Site, the Water Board can and should hold Dymond Development Company liable for any contamination occurring on its site. Landowner liability under the Water Code has been established in many decided cases.

For these reasons we believe the Water Board should refer this matter back to staff to investigate Sun's connection to the contamination at the 2690 and 1201 Sites. If it chooses to adopt the proposed cleanup order for the 2690 and 1201 Sites, the Water Board should include as responsible parties Sun, STI and Dymond Development.

---

We appreciate your careful consideration of these matters. Please feel free to contact me if you have any questions.

Yours sincerely,



Karen J. Nardi

Attachments

cc: Mr. Rick Podlaski, Applera  
Ken Strong, Esq., Gordon Rees (JR Realty #2)  
James Hawley, Esq., Hoge, Fenton, Jones & Appel (Dymond Development)  
Marc Gottschalk, Esq., Wilson Sonsini Goodrich & Rosati (STI)

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<sup>9</sup> To date, other than the unsupported declaration of Rudolf Sedlak in Scientific Technologies, Inc.'s September 28, 2005 submittal to Ms. Rembaum-Fox, we have found only one reference to "tetrachoroethylene" [sic] (*i.e.*, PCE) at the 2690 Site during Perkin-Elmer's tenancy there and no evidence of use of TCE. *See* Safety Specialists, Inc., Closure and Decontamination Plan, 2690 Casey Avenue, January 26, 1984 (attached at *Tab 7*).

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April 16, 2007

**Via Email**

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Mr. Bruce H. Wolfe  
Executive Officer  
San Francisco Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

**Tentative Order for 2690 Casey Avenue, Mountain View**

Dear Mr. Wolfe:

Applera has reviewed the staff memo dated April 5, 2007 concerning Sun Microsystems' legacy operations on the 1201 San Antonio and 2690 Casey Avenue sites in Mountain View. We appreciate the Water Board's willingness to follow our suggestion that a formal 13267 request be made to Sun regarding its past operations on these sites. We also appreciate the thoroughness of Sun's response.

For all of the reasons outlined in our prior submittals of October 20, 2006 and November 17, 2006, we remain convinced that it is inappropriate to name Applera (the successor to Perkin-Elmer, the former tenant at 2690 Casey) and the Casey Avenue property owner as solely responsible for cleaning up the chemical releases that have occurred on the 1201 site. This letter briefly restates some of the key reasons.

First, there is no credible evidence of the sort required by the Water Code establishing that Perkin-Elmer caused the substantial chemical release that straddles the 1201 and 2690 property boundary.

Second, Applera has repeatedly noted its willingness to do further investigative work on the 1201 site to better understand the source of this release which is partly located on the 1201 site.

Third, the staff memo implies that the 1201 site is merely a downgradient property that is on the receiving end of a plume originating at 2690 Casey. This is not what the facts show. The data shows that there is a separate source which is at

Mr. Bruce H. Wolfe  
April 16, 2007  
Page 2

least partially on the 1201 site. No one has been able to adduce credible evidence from historical records about how this release was caused or who caused it. Under the circumstances, an order is premature. If the Water Board elects to issue an order, the 1201 property owner should be named on it to address the investigation and cleanup of releases on its site.

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We will be prepared to make a complete presentation to the Water Board on May 9th. Thank you for your careful consideration of these matters.

Yours sincerely,



Karen J. Nardi

OCT 20 2006

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QUALITY CONTROL BOARD

October 20, 2006

VIA HAND DELIVERY

Ms. Adriana Constantinescu  
California Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Re: Comments from Scientific Technologies, Inc. Regarding: Tentative Order – Site Cleanup Requirements for Perkin Elmer Corporation, Applera Corporation, and JR Realty #2 for the Property Located at 2690 Casey Avenue, Mountain View, Santa Clara County  
**RWQCB Hearing Date: November 13, 2006**

Dear Ms. Constantinescu:

Scientific Technologies, Inc. (“STI”) respectfully requests the Board amend its Tentative Order to include additional findings and conclusions reflecting the significant and substantial evidence previously submitted to the Board by STI and Dymond Development Company (“Dymond”) in support of the Board’s order requiring Applera to take immediate action to remediate the contamination.

**STI has previously submitted uncontroverted evidence that it never used perchlorethylene (“PCE”) or trichloroethylene (“TCE”) in its operations and provided industry textbooks which substantiate the fact that water soluble fluxes were used by the printed circuit board industry with success beginning in 1964.** STI requests the Board incorporate into its findings the evidence previously submitted to the Board by STI and Dymond and include the following findings in its Order:

- STI has provided deposition testimony and declarations by current and former STI employees who worked for STI testifying that STI never used PCE or TCE in its operations and that STI used water soluble fluxes and thinners. (See Depositions of Anthony Lazzara and Jim Lazzara and Declarations of Michael Bray and Alicia Elisea, submitted 9/28/05.)
- STI has provided actual purchase order records for chemicals purchased for its operations as well as Material Safety Data Sheets for these chemicals demonstrating that none of the chemicals purchased contained PCE or TCE. (See Schedules 5 through 11 submitted 9/28/05.)
- STI provided a sworn declaration from Kester, the manufacturer of the soldering fluxes and flux thinners used by STI declaring under penalty of perjury that none of these soldering fluxes and flux thinners ever contained PCE or TCE and were water soluble. (See Kester Declaration submitted 9/28/05.)



Ms. Adriana Constantinescu  
October 20, 2006  
Page 2

- STI provided sworn testimony from an industry expert who has been a producer of chemicals for the printed circuit board industry during all relevant periods, is familiar with the 2690 Casey Avenue site, delivered chemicals to that site, and who testified that 1) neither PCE nor TCE would have been required or used in a small-scale printed circuit board manufacturing operation like STI's; 2) the products used by STI would not have contained PCE or TCE; 3) dishwashers were used to rinse boards with hot water to remove water soluble fluxes without the need for any additional chemicals; 4) it would have been very unusual to remove conformal coatings which were applied to protect the printed circuit board from moisture; 5) PCE and TCE were used only in conjunction with a vapor degreaser to remove non-water soluble fluxes; and 6) Applera used a vapor degreaser and PCE and/or TCE at 2690 Casey Road, Mountain View, which he witnessed on a number of occasions. (See Declaration of Rudolf Sedlak submitted 9/28/05.)
- STI provided sworn testimony that it never used a vapor degreaser. (See Declarations of Jim Lazzara, Alicia Elisea, and Michael Bray submitted 9/28/05.)
- The 1967 edition of *Printed Circuits Handbook*, edited by C. Coombs, confirms the deposition testimony of STI current and former employees and STI's industry expert that there was no single "standard" for applying flux to printed circuit boards in 1967, and that the printed circuit board industry had tested and adopted water-soluble fluxes with success. (See letter submitted by STI to V. Christian, Regional Board dated 7/18/05.)
- The 1979 edition of the *Printed Circuits Handbook*, (second edition), confirms the deposition testimony of STI current and former employees and STI's industry expert that companies used simple dishwashers to remove water soluble fluxes. (See letter submitted by STI to V. Christian, Regional Board, dated 7/18/05.)

STI requests that the Board issue an order which unambiguously finds that there is no evidence that STI ever used PCE or TCE and requires Applera to remediate the contamination on both properties without further delay.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation



Marc Gottschalk

cc: Joseph J. Lazzara, President and CEO, STI  
James R. Hawley, Esq., Hoge Fenton Jones and Appel



HOGE, FENTON  
JONES & APPEL, INC.

Attorneys at Law | San Jose | Pleasanton | East Palo Alto | Hollister

James R. Hawley  
408.947.2452  
jrh@hogefenton.com

October 20, 2006

VIA HAND DELIVERY

Adriana Constantinescu  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Re: **DYMOND DEVELOPMENT CO.'S COMMENTS RE:**

Tentative Order – Site Cleanup Requirements for Perkin Elmer Corporation,  
Applera Corporation, and JR Realty #2 for the Property Located at 2690 Casey  
Avenue, Mountain View, Santa Clara County  
**File No. 43S0938 (AVC)**  
**RWQCB Hearing Date: November 13, 2006**

Dear Ms. Constantinescu:

Dymond Development Co.'s comments on the above-referenced Tentative Order and related materials are set forth in the Executive Summary beginning on page 2 below and exhibits (A) the attached letter from SCS Engineers, and (B) my attached six page letter of today's date, which provides a more detailed discussion. These comments should not be taken as reflecting anything other than Dymond's respect for, and appreciation of, staff's competence and professionalism during the last six years of investigation. In fact, we strongly agree with staff's conclusions and the general thrust of the Tentative Order.

However, we must express our concern that the document in its present form is vague and seems to ignore the significant data developed in a six-year investigation. The document would seem to start the remedial investigation process all over again from the beginning. We believe that the Tentative Order invites further delays, particularly with respect to source removal, that would further negatively impact ground water while at the same time increasing cleanup costs. Of particular concern is that this Tentative Order is a significant step backward from the detailed order that we understood was being finalized in March of this year by the Board project officer who had been handling this matter since its inception. If so, we question why that is the case. And finally, we would like the full Board to be aware of additional evidence not mentioned in the staff Memorandum.

### EXECUTIVE SUMMARY

This case began six years ago during an investigation of the known and significant discharge of VOCs by Applera at the 2690 Casey Avenue site. At that time it was discovered that VOCs also existed in the ground water under Dymond's neighboring down gradient property at 1201 San Antonio Road. Unfortunately, that finding fueled some rank speculation by one consultant that operations by the former tenant at 1201 San Antonio Road had created a second and independent source of contamination on that site. The RWQCB then requested Dymond to participate in an investigation.

For the next six years, both 2690 Casey Avenue and 1201 San Antonio conducted a voluntary investigation of their respective properties under the direction of Michelle Rembaum-Fox at the RWQCB. As a result, there is a considerable amount of existing soil and ground water data and the majority of the remedial investigation has been completed. *[Please see the attached letter by SCS Engineers summarizing the investigation at 1201.]*

As a result of this long investigation, we now know that: (1) in addition to the original known VOC release by Applera at the western side of the 2690 Casey Avenue building, there are significant levels of contamination in the soil on and around the common property line between 2690 Casey Avenue and 1201 San Antonio, (2) Applera used, stored and released significant quantities of the same VOCs at 2690 Casey Avenue property during its thirty-year tenancy and stored drums along the property line for years, even before 1201 San Antonio existed, and (3) STI, the former tenant at 1201 San Antonio Road, did not use any of the chemicals of concern.

Consequently, after reviewing volumes of information and data, including deposition transcripts, Ms. Rembaum-Fox informed the parties in March of this year that she was in the process of finalizing a tentative order requiring Applera to expeditiously remediate the contamination at 2690 Casey Avenue *and* 1201 San Antonio Road. According to her, the order was to make soil (source) removal a priority and require specific and concrete short-term tasks to address the soil problem. Ms. Rembaum-Fox was then transferred off of the case due to workload issues. This untimely administrative change further delayed the Tentative Order (and cleanup), but our understanding is that her successor, Mr. Christian, came to the same conclusions after reviewing the file. In fact, his Memorandum confirms this.

Dymond has spent several hundred thousand dollars on a voluntary investigation that has established that Dymond's property was contaminated not by the former tenant at 1201, but by its upgradient neighbor. There is significant contamination in the soil on both sides of the property line, and we assume all parties agree on the need for expeditious action to avoid further contamination of the ground water. Moreover, Dymond has been unable to lease the building for the last three years because of the known soil contamination. For quite some time we have stressed the need for prompt action to remedy the soil situation on both properties. In March, we were confident that the Tentative Order would require that action.

We were therefore surprised and perplexed to finally receive a Tentative Order that, unlike the staff Memorandum, fails to even mention 1201 San Antonio Road. Moreover, it lacks the specificity and immediacy we were expecting, and that we believe necessary. The

document as drafted does not require Applera to submit a remedial investigation workplan, complete a remedial investigation, *or* submit an interim remedial action workplan until May 1, 2007. Applera need not submit a draft remedial action plan until the end of 2007. Therefore, the document also seems to ignore the results of this long-term investigation and to start the remedial investigation process all over again. In other words, the Tentative Order requires work to be redone that was already competently completed. It seems to us that the resulting delay will only increase the cost of cleanup and further negatively impact ground water.

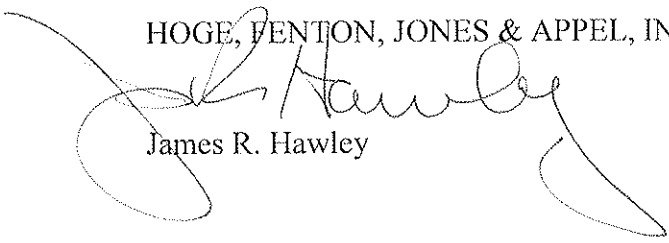
We believe that soil remediation, in particular, can and should be accomplished far more expeditiously than required by the Tentative Order. We agree with Mr. Christian that the 1201 San Antonio property has been adequately characterized. Therefore, we believe that further remedial investigation of 1201 San Antonio is unnecessary and that the next step for 1201 should be the preparation of an Interim Remedial Action Workplan or Remedial Action Plan. (*See attached comments by SCS Engineers.*) The final Order should specifically indicate that the work should include 1201 San Antonio Road. In my attached letter, I have set out in greater detail our thoughts on this subject. Please refer to that letter if you have questions.

On a final note, it appears from the staff Memorandum that Applera is still inclined to argue that Dymond and/or its tenant caused the soil contamination around the property line. While it is frustrating to repeatedly face these arguments, the evidence in this case is substantial and Dymond is very confident that staff has come to the only reasonable conclusion. While the Memorandum persuasively ties the contamination along the property line to Applera's operations there, including its storage of drums there, the Memorandum fails to mention significant additional evidence in the record supporting its conclusions. I have summarized some of the additional supporting evidence in my attached letter. STI has submitted a separate summary of additional evidence regarding its operation and its lack of use of the chemicals of concern.

We understand that the Tentative Order is not a final document and that it can, and no doubt will, be modified in light of the parties' comments. We do hope the Tentative Order does not represent a change in focus for the Board regarding the cleanup. If for some reason it does, we would like to explore the reasons for that change. Thank you very much for your attention to these comments.

Sincerely,

HOGE, FENTON, JONES & APPEL, INC.



James R. Hawley

JRH: jrh

Enclosures

cc: Ron Meredith, Dymond Development (with enclosures)  
Steve Clements, SCS Engineers (with enclosures)  
Marc Gottschalk, Wilson Sonsini et al. (with enclosures)



**HOGUE, FENTON  
JONES & APPEL, INC.**

Attorneys at Law | San Jose | Pleasanton | East Palo Alto | Hollister

CALIFORNIA REGIONAL WATER

NOV 17 2006

QUALITY CONTROL BOARD

James R. Hawley  
408.947.2452  
jrh@hogefenton.com

November 17, 2006

VIA HAND DELIVERY

Bruce H. Wolfe, Executive Officer  
San Francisco Bay Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Attention: Adriana Constantinescu

Re: **DYMOND DEVELOPMENT CO.'S ADDITIONAL COMMENTS AND EVIDENCE RE:**

Tentative Order – Site Cleanup Requirements for Perkin Elmer Corporation, Applera Corporation, and JR Realty #2 for the Property Located at 2690 Casey Avenue, Mountain View, Santa Clara County

**File No. 43S0938 (AVC)**

**Rescheduled RWQCB Hearing Date: January 10, 2007**

Dear Mr. Wolfe:

Dymond Development Co., owner of the neighboring property at 1201 San Antonio Road in Mountain View, respectfully submits these additional comments regarding the above-referenced Tentative Order. These additional comments were requested by RWQCB staff in light of the respective parties' original comments regarding the Tentative Order, and will specifically address Applera Corporation's October 20, 2006 comments (hereafter "Applera").

**EXECUTIVE SUMMARY**

After six year of investigation and mountains of evidence and data, it is troubling to see Applera argue that a cleanup order which would finally clean up Perkin Elmer's mess is "premature" because "we simply do not know" the likely source of the contamination at the property line. (Applera, page 5.) It is equally troubling that this disingenuous claim is based on a studious avoidance of the bulk of the compelling evidence in this case, along with an equally studious mischaracterization of staff's conclusions and the applicable standard of evidence.

Dymond itself has never conducted business operations at 1201 San Antonio Road. From the very inception of this investigation in 2000, even when the information and data regarding 1201 San Antonio were sketchy indeed, Applera has insisted that Dymond's former tenant, Scientific Technologies, Inc, (STI) must have used the chemicals of concern and must have caused the contamination later found at 1201 San Antonio. Since that time, the parties and the RWQCB have been fortunate enough to uncover a mountain of evidence and data and have learned all about STI's small operation. We have obtained public records regarding STI's chemical use. We have obtained sworn statements from STI regarding the same. We have obtained vapor samples from every portion of 1201, including those areas where one would typically look for evidence of discharges. We have examined aerial photographs. Applera has conducted depositions of STI officers. STI has offered several sworn declarations by several STI employees. STI has produced its chemical purchase records, MSDSs, and waste manifests. STI's supplier of solder flux has declared under oath that the products used by STI were water-soluble and did not contain PCE or TCE. We know STI did not use a degreaser. Consistent with all of this direct and sworn evidence, industry publications and experts have independently confirmed that STI's small and rather rudimentary operation would not have used or required PCE or TCE. (See STI's submittals of September 28 and October 20, 2005.)

Apparently undeterred by these unrefuted facts, Applera continues to insist that STI was a cause, if not the cause, of the property line contamination. We can only assume that by continuing to repeat already discredited arguments, Applera hopes to convince the Board that this matter is so complicated and ambiguous that the Board should simply throw up its hands in despair and confusion and issue a cleanup order naming everyone under the sun. In fact, this matter may be one of the most clear-cut property line contamination cases the Board has recently seen. Applera's strained arguments may themselves offer some of the most compelling confirmation of this:

- Notwithstanding abundant evidence that Applera's predecessor, Perkin Elmer, operated a PCE or TCE degreaser, used *and discharged* huge quantities of PCE and TCE at 2690 Casey Avenue, and for many years stored refuse and other materials, including drums, along the property line where staining was seen and where discharge would have run off the more elevated 2690 site into a preferential pathway through the soil at the down gradient 1201 San Antonio site, we now read that staff has failed to identify credible and reasonable evidence that Perkin Elmer used PCE or caused the property line contamination.
- Where any reasonable person with a stereoscope would conclude that the items stored by Perkin Elmer at the property line were drums, and despite sworn deposition testimony that Perkin Elmer stored 55-gallon drums there for years, we now read that Applera feels it is "unlikely" that its predecessor would have stored chemical drums at the property line, that it is not clear that the items were drums, that if they were drums the Board cannot establish their connection with Perkin Elmer, that if a connection can be made with Perkin Elmer the Board cannot establish what was actually in the drums, and if the drums contained chemicals the Board has no photographs of the drums leaking. Applera apparently criticizes

staff for making conclusions based on its "interpretation" of the aerial photographs, though it does not reveal how else one might determine the subject matter depicted in such a photograph.

- Despite data establishing that by far the heaviest single soil concentration is 8-10 feet south of the property line on the 2690 site, we read that "the source" of the property line contamination is actually on 1201 San Antonio Road but that the contamination "laterally pooled" upgradient and across the property line back onto 2690, where it somehow increased by five fold. (It is not surprising that there is also contamination on 1201 in light of the historic activities conducted by Applera's predecessor all along the property line, and the presence of preferential pathways there.)
- Despite consistent, direct, sworn and unrefuted testimony that STI's temporary and rudimentary operation did not use PCE or TCE, and despite industry expert testimony, public records, company records and industry publications confirming that fact, Applera continues to try to point to STI through the declaration of an engineer who was not in the printed circuit board (PCB) industry, who fails to discuss or acknowledge the various kinds of PCB operations that existed at the time of STI's operation, is not an expert in all of the chemicals or procedures used in every kind of PCB operation at that time, and who has no knowledge of STI's own operation -- but who nevertheless opines that STI "likely" used PCE or TCE because those chemicals were "common" in the PCB "industry." [Note: The State Water Board has held that it is improper for a regional board to name a party as discharger based on proffered evidence of a general practice in the industry, where, as here, the unrefuted testimony establishes that the party had never followed that practice. (See Exxon Company, USA, Order No. WQ 85-7, pp. 5, 10-12.)
- In the face of all the evidence against Perkin Elmer, Applera even urges the RWQCB to throw up its hands and conclude that the property line contamination was caused not by Perkin Elmer, but by a midnight dumper who at some point in history (the theory must go) drove to the end of San Antonio Road, ignored the acres and acres of unimproved land and foliage that would have provided ample opportunity for illegal dumping activities there and would have screened those activities from view, and instead selected an open location at the property line immediately adjacent to an occupied site where his or her activities would have been in clear view, dumped exactly the same chemicals known to have been used and discharged by Perkin Elmer, and dumped them at exactly the same location where for two decades Perkin Elmer stored a variety of materials, including drums, and where those same chemicals were later found in the soil.

Respectfully, we are all under a good faith obligation to go where the evidence takes us. It is time for the arguing to stop and the cleanup to begin. As the protector of the groundwater of this State, the RWQCB should issue an order requiring Applera to complete the cleanup at

2690 Casey Avenue and 1201 San Antonio Road with all due speed as indicated in our previous comments.

### **RESPONSE TO APPLERA'S COMMENTS**

1. **Applera Attempts To Avoid Or Delay A Cleanup Order By Arguing The Wrong Evidentiary Standard.**

Applera argues that despite years of investigation, there is no “definitive evidence” of the cause of what or who caused the property line contamination. (Applera, p. 2.) Respectfully, this statement flies in the face of the totality of the evidence. Moreover, “definitive evidence,” whatever that means, is not the correct standard of evidence in naming a party on a cleanup order. (If the RWQCB could not properly prepare a cleanup order unless it had satellite photographs of people with corporate logos on their shirts dumping chemicals, the Board could not fulfill its function.) Instead, the RWQCB must have a “reasonable basis” on which to name a party, supported by “substantial evidence,” i.e., evidence that is “reasonable and credible.” (Exxon Company, USA, Order No WQ 85-7, pp. 11-12.) Over the past six years, staff reviewed mountains of such evidence and named the correct parties on the Tentative Order. Despite its mighty efforts, Applera cannot articulate a reasonable and credible basis for naming the 1201 parties because the substantial and credible evidence simply does not provide any such basis.

2. **Applera Attempts To Avoid Or Delay A Cleanup Order By Inaccurately Characterizing Staff's Memorandum And Then Criticizing Its Own Mischaracterization.**

Applera offers its own “summaries” of the Tentative Order and staff Memorandum, and then attempts to argue against a cleanup order based on those self-serving summaries. For example, Applera argues that staff's conclusion regarding the most likely cause of the property line contamination “apparently is based solely on an interpretation of two aerial photographs.” (Applera, p. 5.) Applera knows better than that, though as we earlier pointed out, the staff Memorandum fails to expressly mention much of the voluminous and compelling evidence that staff reviewed in coming to this conclusion and therefore may have unintentionally invited this kind of tactic by Applera.<sup>1</sup>

In fact, while the staff Memorandum logically ties the property line contamination to the drums seen along the property line in the 1974 and 1976 photographs, staff's conclusions regarding the cause of the contamination are based on the totality of all of the evidence that has been uncovered during the past several years. Applera should not be heard to argue otherwise, and it cannot be permitted to self-limit the perceived scope of the evidence against it.

The substantial evidence in this case has been detailed in several previous submittals, including, but not limited to, Dymond's and STI's October 20, 2006 comments regarding the Tentative Order, Dymond's submittal of January 27, 2005, STI's very comprehensive submittal

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<sup>1</sup> We do acknowledge, however, that it would have been challenging to include all of the evidence in one Memorandum.



of September 28, 2005 regarding its operations, STI's and Dymond's supplemental submittals of July 18 and 19, 2006, respectively. I will not summarize all of that evidence yet again, but the record should reflect that these submittals are part of the administrative record and were considered by staff in making its findings<sup>2</sup> and drafting this Tentative Order. *If there is any question in the Board's mind, I request that you make all RWQCB case officers who have dealt with this case, including Michelle Rembaum-Fox and her successor, Vince Christian, available at the January 10, 2007 hearing.*

3. **Applera's Repetition Of Inaccuracies Does Not Convert Those Inaccuracies Into Evidence.**

- a. There is abundant reasonable and credible evidence that Perkin Elmer used and discharged PCE at 2690 Casey Avenue.

We were surprised to see in Applera's comments a statement that Perkin Elmer may not have used PCE at 2690 Casey Avenue and that prior reports may have had that substance confused with other chemicals. (Applera, p. 2 fn 4.) In response:

- The January 1984 site closure plan *prepared for Perkin Elmer* by Safety Specialists, Inc. identified Tetrachloroethylene (PCE) as a hazardous material that Perkin Elmer had used and stored in the machine shop area of the building. (Henshaw, App. F-2, p. 2 (attached as **Exhibit A** hereto; see also the attached Additional Comments by SCS Engineers dated November 16, 2006.) (The closure plan was submitted to Mr. Trolle of Perkin Elmer at that company's 1161 San Antonio business address, but expressly pertained to the 2690 Casey Avenue site.)
- The Operations Map of the 2690 Casey Avenue facility during the period 1963-1984 indicates that Perkin Elmer used PCE in a machine shop near the roll-up doors and the loading dock on the northern side of that building, immediately opposite the impacted area of the property line where Perkin Elmer stored drums. (July 9, 1999 Preliminary Assessment/Site Inspection-Interim Report prepared by Henshaw, Figure 3, attached as **Exhibit B** hereto)
- A chemical industry expert whose company sold chemicals to Perkin Elmer at 2690 Casey Avenue testified under oath that Perkin Elmer purchased and used PCE and/or TCE and operated a PCE or TCE degreaser there. (See STI submittal, September 28, 2005, Declaration of Rudolf Sedlak, ¶¶ 10-12.)
- Applera points out that it has remediated the contamination associated with Perkin Elmer's storage tanks and chemical storage and treatment area on the west side of

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<sup>2</sup> Applera also attempts to characterize the language chosen by Mr. Christian in his Memorandum as an indication that staff merely "suspects" Applera of being a discharger, and on that basis argues that the Board cannot issue a cleanup order under Section 13304 because staff has "apparently not concluded" that Perkin Elmer caused or permitted a discharge. (Comments, p. 9.) That is simply wishful thinking. There is no way to reasonably interpret a finding that Perkin Elmer appears to be *the* most likely source as anything other than a finding that, by the preponderance of the evidence, Perkin Elmer caused the discharge.

the 2690 Casey Avenue building. Applera fails to note that investigation of that contamination found *6,600,000 ppb of PCE in the soil in that area of 2690*. (See 3/17/99 E2C report (Appendix B-II of the January 7, 2000 Henshaw Report), p. 8, Table 1, attached as **Exhibit C** hereto; also see the attached the attached Additional Comments by SCS Engineers dated November 16, 2006.)

Consequently, we are puzzled as to how Applera can seriously argue or imply that Perkin Elmer never used, much less discharged, PCE at 2690 Casey Avenue.

- b. The only reasonable conclusion is that the objects in the 1974 and 1976 aerial photographs are drums, and there is credible evidence of staining in that vicinity even though the aerial photographs do not specifically show the drums in the act of leaking!

The 1974 and 1976 aerial photographs of drums being stored by Perkin Elmer along the property line are very damaging to Applera, particularly in conjunction with the evidence establishing Perkin Elmer's use and discharge of the chemicals of concern at the 2690 Casey Avenue site. Consequently, we can understand why Applera goes to some pains to try to deny the existence and/or significance of the drums. As the Board well knows, though, an aerial photograph can be potent and reliable evidence of conditions at the time of the photograph.

SCS Engineers has viewed the photographs through a stereoscope. We believe RWQCB staff has also done so. Both have come to the unavoidable conclusion that the objects are drums. (See SCS letter of January 26, 2005 and attachments.) Applera still insists it is "not clear" that the objects are drums, and suggests that they might be concrete utility pipe segments. (Applera, p. 7, Sec. 5.1) A competent review of the photographs belies that. The theory also makes little sense since would have been no need for concrete utility pipes in 1976, two years after 1201 San Antonio was finished and occupied, when the second photograph was taken. And since utility pipe segments are hollow, one would have seen some pavement showing through in the center of the circular objects.

Alternatively, Applera contends that if there were drums, there is no evidence connecting Perkin Elmer with them. (Applera, p. 8.) But Anthony Lazzara of STI testified in his deposition that Perkin Elmer stored 55-gallon drums along the property line for several years. (A. Lazzara deposition, pp 89:6-92:18.) How else does Applera explain their presence at 2690 Casey Avenue in the middle of Perkin Elmer's tenancy? Thus, the evidence in the case belies Applera's statement that "we think it is unlikely" that Perkin Elmer stored chemical drums along the property line. (Applera, p. 8.) Moreover, as the photographs so clearly indicate, there is a logical reason why Perkin Elmer *would* have stored chemical drums along the property line—that location is convenient to the roll up doors and loading dock on the north side of the 2690 building. Unlike 1201, where the southern half of the property has been always been paved and used for parking since its construction in 1974, the northern portion of 2690 Casey Avenue was used for at least twenty years as a fire lane and alley for truck access and unloading. Lining the drums up along the property line would have provided close access to the roll up doors while also keeping them out of the way of traffic using the fire lane.

And finally, Applera attempts to challenge the cleanup order because the 1974 and 1976 aerial photographs do not specifically show evidence of staining or *spillage!* (Applera, p. 8, Sec. 5.1.) Again Applera seeks to impose an impossible standard of evidence on the Board. The Board deals with the totality of the evidence and a certain degree of logical deduction is reasonable and necessary for the Board to fulfill its function. As part of that totality of evidence, however, *please note that a series of consultants noted staining on the asphalt surface near the northern fence line of 2690 Casey Avenue and confirmed that for years there was a former storage area and/or "refuse yard" along the fence line at that site.* (See April 6, 1987 SSI Report, App. D-II of Henshaw Preliminary Assessment, Jan. 7, 2000, p. 2, attached as **Exhibit D** hereto; February, 1999 E2C2, Inc. Report, Appendix A-II of Henshaw Preliminary Assessment, Historical Review section, attached as **Exhibit E** hereto; and October 1988 Lumina Tech Report, App. C-II of Henshaw Preliminary Assessment, page 1, attached as **Exhibit F** hereto; all of these materials were provided to the Board in Dymond's January 27, 2005 submittal.)

Please also note that aerial photographs from 1963, 1966, 1968, 1971, and 1974, as well as the 1976, 1980 and 1982 aerial photographs cited by Applera, establish that Perkin Elmer conducted activities and stored *many* materials, including but not limited to drums, along the northern fence line on the 2690 Casey Avenue site for almost two decades. (See SCS Engineers' January 26, 2005 letter and Figures A-1 through A-6 thereto, submitted with Dymond's materials of January 27, 2005.) But these photographs are snapshots in time. By their nature, such materials, including drums, would have been mobile as evidenced by the aerial photographs themselves. Respectfully, there is no reasonable ambiguity about the source of the contamination later found along the property line.

- c. Applera's contention that "the" spill occurred on 1201 San Antonio Road and that the contamination laterally "pooled back" across the property line well onto 2690, where it somehow increased by five-fold, is misleading and scientifically and logically suspect, but also irrelevant to the cleanup order.

By far the highest single concentration of PCE soil contamination in the vicinity of the property line was detected on 2690 Casey Avenue in boring NG-B13, eight to ten feet south of the property line.<sup>3</sup> (See 11/30/2005 Northgate Report, Figure 3.) Notwithstanding the abundant evidence of Perkin Elmer's activities along the property line, Applera appears determined to find a way to convince the Board that the 1201 parties, not Perkin Elmer, caused the property line contamination, first by claiming that "the" spill occurred at 1201 San Antonio and laterally pooled back across the property line. (Applera, p. 10, Sec. 7.1)

This argument is misleading in the first instance because it assumes there has only been a single release. But Perkin Elmer had a refuse yard and stored materials all along that area of the property line, and those materials, including drums, naturally would have been moved from time to time. The argument is also misleading because we know runoff from the more elevated 2690 site would have discharged onto bare earth before reaching the curb of Dymond's

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<sup>3</sup> 210,000 ppb at NG-B13, as opposed to 41,000 ppb and 44,000 ppb at B-12 and SV-46, the highest levels on the 1201 side of the property line.

parking lot, and into a preferential pathway in the form of the utility trench running along the property line. (See SCS' letter of January 26, 2005, and Figures C-1 and C-2.) We also know from aerial photographs that Perkin Elmer's activities prior to Dymond's purchase and development of 1201 San Antonio appear to have occasionally strayed over the then-poorly defined property line. (Id., p. 2, Figures A-2 through A-4.)

Moreover, Applera's "single discharge on 1201, pooling back onto 2690" theory is technically suspect because it is based on incomplete data and false assumptions. Its expert's conclusion that "the" spill occurred on 1201 is based on the conclusion that there is minimal VOC contamination in the near surface soil (which he defines as 5 feet to 10 feet bgs) on 2690 Casey Avenue. (See Feldman Declaration of July 11, 2005, ¶ 9.) This conclusion is based on very early reports from 2000 and 2001. (*Ibid.*) Subsequent data establishes that Applera's theory is insupportable because PCE was detected in significant concentrations ranging from 880 ppb to 20,000 ppb in several soil samples at depths of 6 to 6.5 feet bgs on 2690 Casey Avenue. And as previously mentioned, the highest single PCE concentration on either property, 210,000 ppb, is at ten feet bgs at boring NG-B13 at 2690 Casey Avenue. (See attached Additional Comments by SCS Engineers dated November 16, 2006.)

In any case, Applera's theory has no force here because *all* of the credible and sworn evidence indicates that unlike 2690 Casey Avenue, the chemicals of concern were never used at 1201 San Antonio Road.

- d. Applera should withdraw its claim that the 1201 parties should be named on a cleanup order.
  1. There is simply no credible evidence that STI used the chemicals of concern.

From the very first stages of this investigation, Applera assumed STI used the chemicals of concern and was responsible for all contamination affecting 1201 San Antonio. The evidence developed over the ensuing six year investigation has not led where Applera assumed it would – quite the contrary.

STI's deposition testimony and its comprehensive submittals of September 28, 2005 and July 18, 2006, effectively put Applera's assumptions to rest. (I am informed that STI will also separately respond to Applera's comments regarding the Tentative Order.) City of Mountain View Fire Department records, STI's sworn response to the Board's request for a technical report, depositions of STI officers, sworn declarations by STI employees, purchase records, a declaration by the manufacturer of materials used by STI, industry publications, and an industry expert have all confirmed that STI did not use, and would have had no need to use, the chemical of concern in this case.

Undeterred, Applera offers a declaration by an engineer who was not in the chemical or printed circuit board industry, who has no knowledge of STI's operation and makes no attempt to draw any distinction between that small and rudimentary operation and other more sophisticated printed circuit board manufacturers, who therefore fails to identify an

“industry” or a “standard,” but who nevertheless tries to point to STI apparently based on operations of a *different* kind that he *did* encounter in his consultancy role.

The State Water Board has seen these kinds of tactics before, and rejected them. The State Board has determined that a regional board cannot properly name a party as discharger based on proffered evidence of a general practice in the industry, where the unrefuted testimony establishes that the party had never followed that practice. (See *Exxon Company, USA*, Order No. WQ 85-7, pp. 5, 10-12.) That determination is directly relevant to this case. Here, in fact, Applera has not even managed to identify an industry or an industry standard, and therefore its proffered evidence is completely irrelevant to these proceedings and should not be considered.

2. There is no evidence that STI stored or discharged chemicals anywhere near the property line.

Applera also attempts to connect STI with the property line contamination by referring to a Facility Map showing a purported “hazardous materials storage area on the south side of the 1201 building, near the Property Boundary Contamination.” (Applera, p. 10, Sec. 7.2) This reference immediately runs afoul of the fact that STI did not use the chemicals of concern, but it is also grossly misleading. In fact, the Facility Map shows that STI’s hazardous materials storage area at 1201 was in a small room *inside the concrete floored building*, not near the property line. (See Exhibit 4 to the J. Lazzara deposition, attached as **Exhibit G** hereto.)

Applera even tries to point to what appears to be water runoff from STI’s air compressor into the storm drain as evidence of a “discharge.”<sup>4</sup> (Applera, p. 11, fn. 12; cf. Deposition of Joe Lazzara, pp. 113:15-114:11, attached as **Exhibit H** hereto.)

3. Applera’s last-ditch “midnight dumping” theory is unsupported, inherently speculative, and flies in the face of the substantial evidence, and therefore provides no reasonable, proper or lawful basis to name the 1201 parties on a cleanup order.

As Applera correctly states, “[t]here must be substantial evidence to support a finding of responsibility for each party named. This means credible and reasonable evidence which indicates the named party has responsibility.” (Applera, pp. 11-12, citing *Exxon Company, U.S.A., et al*, Order No. WQ 85-7.) Having correctly cited that legal principle, Applera tries to convince the Board to ignore it by theorizing that “it is possible” that the 1201 San Antonio property “could have” been used by midnight dumpers even before Dymond purchased and developed the property in 1974 – “we simply do not know.” (Applera, p. 8.)

As discussed above, Perkin Elmer’s 20 year history at 2690 Casey Avenue, its use and discharge of the chemicals of concern there, and its historic activities along the property line where the contamination was found render this new “midnight dumping” theory not only inherently speculative, but quite incredible under the circumstances. Dymond

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<sup>4</sup> Again, the soil samples, groundwater data and soil vapor data all point to a source in the vicinity of the property line, not the storm drain.

respectfully contends that if successful, Applera's theory would eviscerate all appropriate legal and equitable principles and permit the Board to name any adjacent landowner, no matter how innocent, *regardless of the state or weight of the evidence*. Suffice it to say that Applera's attempts to get the 1201 parties named on the order on a "midnight dumping" theory are without basis or merit.

Frankly, one must now question the good faith of Applera's efforts to involve the 1201 parties and it seems wholly appropriate that Applera withdraw its comments regarding those parties.

- e. Applera's new theory regarding Sun's leaking degreaser does not justify a change in the order or any further delay in implementing it.

After six years of investigation and several submittals of evidence to the Board by all parties, Applera now seeks to further delay a cleanup order based on a claim that Sun, the 2690 Casey Avenue tenant following Perkin Elmer, at one time reported a leaking degreaser. (Applera, pp. 8-9.) This is another misleading reference that does not require or justify a change or further delay in the cleanup order.

On one occasion Sun did apparently report a leaking degreaser. (See Jan. 7, 2000 Henshaw report, p. 9, sec. 4.1.1.2; April 1987 SSI Report, p. 2, attached as **Exhibit D**.) However, the same reports indicate that after Perkin Elmer vacated the site (and had caused "extensive" contamination in the former chemical room (Henshaw, **Exhibit D**, p. 8), Sun had extensively remodeled the building and all hazardous materials were kept in the southwestern corner of the building where the degreaser and flammable storage cabinet were kept. (SSI, p. 2.) Moreover, the reports indicate that Sun used trichlorotrifluoroethane (Freon 113) degreasers. (Henshaw, **Exhibit D**, p. 9.) This is borne out by other documents in the Board's own file. (See letter from Sun to Keith Casto dated April 22, 1999, and attachments, attached as **Exhibit I** hereto.)

Not only did Sun reportedly use Freon 113 rather than the chemicals of concern, the leaking Sun degreaser was in the southwestern part of the facility where Perkin Elmer had already caused significant contamination that Applera later cleaned up. If Applera truly believes that Sun should have contributed to that cleanup because of a leaking Freon 113 degreaser, it has other recourse against Sun. Dymond fails to see how Sun's degreaser is pertinent to the property line contamination or the cleanup order at hand. It surely does not provide the justification for a further delay in the order.

### CONCLUSION

Stripped of rhetoric and fluff, this case is a rather simple one. The six-year investigation establishes that there is a significant source of VOC contamination in the vicinity of the common property line between 2690 Casey Avenue and 1201 San Antonio Road. The same investigation establishes that former operations at the upgradient 2690 site *used and discharged* large quantities of the same VOCs and for twenty years used the property line as a refuse yard and

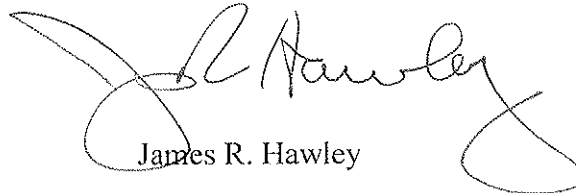
storage area for various materials, including drums. The same investigation also establishes that the chemicals of concern *were not used* at the downgradient 1201 San Antonio property.

Applera is a large corporation with the financial resources to expeditiously clean up the contamination that Perkin Elmer caused to both properties. Instead, it has chosen to use those resources to try to involve innocent parties and delay a cleanup order. In the process, it has forced Dymond to waste its own limited resources responding to those tactics. Meanwhile, the contamination remains in the soil and groundwater at 1201 San Antonio and Dymond is unable to find a tenant willing to lease the property in its present condition. The Tentative Order and supporting Memorandum are correct, well reasoned, and supported by the overwhelming weight of the substantial evidence, even if those documents fail to expressly recount every last bit of that evidence. The RWQCB should promptly issue a cleanup order to Applera, but with the modifications and stronger provisions that we suggested in our October 20, 2006 comments regarding the Tentative Order. Further delay or lack of clarity in this cleanup would be contrary to the interests of all parties and the protection of the ground water of this State.

Thank you for your attention to this matter. We look forward to the January 10, 2007 hearing on this matter. In the interim, please do not hesitate to contact me if you have any questions regarding this letter or any of the other submittals by Dymond in this matter.

Sincerely,

HOGE, FENTON, JONES & APPEL, INC.



James R. Hawley

JRH: jrh

Attachments

cc: Ron Meredith, Dymond Development (with attachments)  
Steve Clements, SCS Engineers (with attachments)  
Marc Gottschalk, Wilson Sonsini et al. (with attachments)  
Karen Nardi, Bingham, McCutchen (with attachments)  
Ken Strong, Gordon & Rees (with attachments)

**SCS ENGINEERS**

November 17, 2006

Project Number: 01200101.01

Adriana Constantinescu, PG  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, 14<sup>th</sup> Floor  
Oakland, California 94612

**Subject: Additional Comments on Tentative Order - Site Cleanup Requirements for Perkin Elmer Corporation, Applera Corporation, and JR Realty #2 for the Property Located at 2690 Casey Avenue, Mountain View, Santa Clara County.  
File No. 43S0938 (AVC)  
Rescheduled RWQCB Hearing Date: January 10, 2007**

Dear Ms. Constantinescu:

Thank you for providing a copy of the subject *Tentative Order* for our review and comment. As you are aware, SCS Engineers (SCS) is the Environmental Consultant for Dymond Development, the owner of 1201 San Antonio Road located immediately downgradient (north) of 2690 Casey Avenue. On behalf of our client, this letter provides SCS's comments to Applera Corporation's (Applera) comments to the *Tentative Order* (Bingham McCutchen, October 20, 2006).

**Page 4, Section 2 and Footnote 4:** Applera states that "...we cannot find a reference to Perkin-Elmer's use of PCE at the 2690 Site." However, a January 26, 1984 letter prepared by Safety Specialists, Inc. for Perkin-Elmer lists that "tetrachloroethylene" was used and stored in a machine shop at 2690 Casey Avenue. A copy of this letter was included as Appendix F-II to the January 7, 2000 *Preliminary Assessment/Site Inspection Report* prepared by Henshaw Associates for 2690 Casey Avenue. A copy of this letter is provided in Attachment A.

In addition, during a March 1999 investigation near the western side of the 2690 Casey Avenue Building in the vicinity of a former underground storage tank, wastewater treatment area, and "chemical room," PCE was detected in soil samples at concentrations up to 6,600,000 µg/kg (or parts per billion, ppb) (E<sub>2</sub>C, March 17, 1999).

**Page 10, Section 7.1:** Applera references a July 11, 2005 declaration by Lester Feldman of Geomatrix Consultants, Inc. (Geomatrix) wherein Mr. Feldman states that data generated during the 2000 Henshaw and 2001 Geomatrix investigations on 2690 Casey Avenue "show minimal near surface affects of VOCs in soil (i.e., 5 feet to 10 feet bgs)..." Based on his review of the 2000 Henshaw and 2001 Gematrix data, Mr. Feldman concludes that "...it is my belief that the source of VOCs in soil is located on 1201 San Antonio Road..."

However, review of more recent data indicates that PCE has been detected in "near surface" soil (i.e., 5 feet to 10 feet bgs) on the northern portion of 2690 Casey Avenue at concentrations SCS considers to be greater than "minimal." For example, during SCS's May 2002 investigation PCE was detected at



Ms. Adriana Constantinescu  
November 17, 2006  
Page 2 of 2

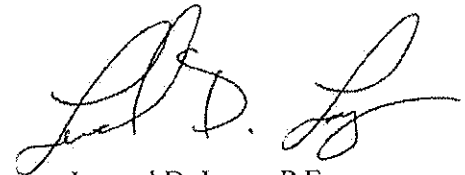
concentrations ranging from 880 µg/kg to 20,000 µg/kg in soil samples collected from borings SV-48, SV-60, and SV-62 at depths of 6 to 6.5 feet bgs (SCS, August 2, 2002). Each of these borings was located on 2690 Casey Avenue approximately 8 to 10 feet south of the common boundary with 1201 San Antonio Road (SCS, August 2, 2002). Additionally, during Northgate's June/July 2004 investigation PCE was detected at a concentration of 210,000 µg/kg in a soil sample collected from boring NG-B13 at a depth of 10 feet bgs (Northgate, November 30, 2004). This boring was located on 2690 Casey Avenue approximately 8 to 10 feet south of the common boundary with 1201 San Antonio Road (Northgate, November 30, 2004).

Please contact Steve Clements at (925) 240-5152 if you have any questions or comments regarding this submittal.

Sincerely,



Steve Clements, P.G., R.E.A  
Project Manager  
SCS Engineers



Lenard D. Long, P.E.  
Vice President  
SCS Engineers

cc: Jim Hawley – Hoge, Fenton, Jones, & Appel, Inc.

Attachment A - Safety Specialists, Inc. Letter Dated January 26, 1984  
Attachment B - References

**ATTACHMENT A**

**Safety Specialists, Inc. Letter Dated January 26, 1984**

## **ATTACHMENT B**

### **References**

## ATTACHMENT B

### References

- Bingham McCutchen LLP, October 20, 2006.** *Comments Concerning the Tentative Order – Site Cleanup Requirements, Perkin-Elmer Corporation, Applera Corporation, and JR Realty #2, 2690 Casey Avenue, Mountain View.*
- E<sub>2</sub>C, Inc., March 17, 1999.** *Supplemental Phase II Environmental Site Assessment Soil Sampling Report, 2690 Casey Avenue, Mountain View, California* (included as Appendix B-II of the January 7, 2000 Henshaw Associates report).
- Feldman, Lester, July 11, 2005.** *Declaration by Lester Feldman of Geomatrix Consultants, Inc.* (included as Exhibit D of the October 20, 2006 letter Prepared by Bingham McCutchen LLP).
- Henshaw Associates, January 7, 2000.** *Preliminary Assessment/Site Inspection Report, 2690 Casey Avenue, Mountain View, California. Volumes I & II.*
- Northgate Environmental Management, Inc., November 30, 2004.** *Further Site Characterization Report, 2690 Casey Avenue, Mountain View, California.*
- Safety Specialists, Inc., January 26, 1984.** *Letter to Perkin-Elmer Regarding Closure and Decontamination of 2690 Casey Avenue* (included in Appendix F-II of the January 7, 2000 Henshaw Associates report).
- SCS Engineers, August 2, 2002.** *Additional Site Investigation Report, 1201 San Antonio Road, Mountain View, California.*



HOGE, FENTON  
JONES & APPEL, INC.

Attorneys at Law | San Jose | Pleasanton | East Palo Alto | Hollister

April 16, 2007

BY EMAIL

Bruce H. Wolfe, Executive Officer  
San Francisco Bay Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Attention: Adriana Constantinescu

Re: **TENTATIVE ORDER FOR 2690 Casey Avenue, Mountain View**

Dear Mr. Wolfe:

Dymond Development Company has reviewed Sun Microsystems' recent response to the Board's request for a technical report, the staff memorandum of April 5, 2007, and Applera's letter of today's date. Dymond completely concurs with the staff memorandum and previous memoranda. Today's Applera response does, however, beg for a short response.

As reflected in sworn deposition testimony, Dymond never conducted operations on the 1201 San Antonio site. Since our very first meeting with the Board in 2000, Applera has taken the position that one of Dymond's only two tenants on the site, STI, had caused or contributed to the PCE/TCE contamination at 1201 San Antonio. STI's subsequent submittals, supported by sworn deposition testimony, established that STI did not use the chemical of concern in its operation at 1201. Sun's submittal has now established, to no one's real surprise, that Sun did not use those chemicals either. In other words, after six years of investigation during which all parties have had multiple opportunities to collect and present evidence, there is not one shred of credible evidence that the chemicals of concern were ever used at 1201 San Antonio.

For the first time, Applera's response of today is silent regarding the purported responsibility of Dymond's two tenants. Yet Applera still argues that a cleanup order is premature because "there is no credible evidence" that Applera's predecessor, Perkin-Elmer (PE), caused the contamination in the vicinity of the property line. Thus, Applera invites the Board to join the owners of 1201(Dymond) on any cleanup order. In response, Dymond is compelled to summarize just some of the evidence against Applera in this case.

April 16, 2007

Page 2

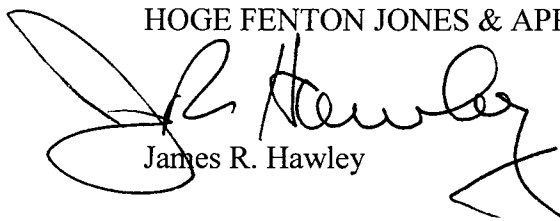
It is undisputed that during its operations at the upgradient 2690 Casey Avenue site, PE used large quantities of the chemicals of concern *and discharged them* into the soil and ground water at the western end of its building, resulting in highly elevated contaminant levels and free product there. Aerial photographs also establish that PE stored drums and other materials along the contaminated area of the property line for years, even before Dymond acquired the 1201 site in 1974, and that PE's activities occasionally extended over onto the then-bare 1201 site. Letters from PE establish that the drums contained chemicals. Aerial photographs also establish that PE stored materials along the property line for years, where staining was observed as reflected in early reports. In fact, the highest level of PCE in soil at or near the property line was detected in boring NG-B13, on the 2690 Casey Avenue side of the common property line. The 2690 Casey Avenue site has always sloped down toward bare earth at the property line, where any discharge would have run off into utility trenches that provided a preferential pathway for contaminants.

In the face of this comprehensive evidence, the Board should reject the fanciful notion that "no one has been able to adduce credible evidence from historical records about how this release was caused or who caused it." We inhabit the world of substantial evidence and the preponderance of that evidence. That evidence is considerable, and it completely supports the staff memoranda recommending a cleanup order against Applera.

Conversely, no credible evidence supports the issuance of a cleanup order against Dymond and/or its former tenants, and the Board has no reasonable and credible basis to name those parties. The Board should reject Applera's invitation to do so and should issue the order as recommended by staff. After six years of investigation, the order is not premature – if anything, it is past time. We look forward to the May 9<sup>th</sup> hearing.

Sincerely,

HOGE FENTON JONES & APPEL, INC.



James R. Hawley

JRH: jrh

**Appendix E**

**RESPONSE TO COMMENTS**


**April 27, 2007**

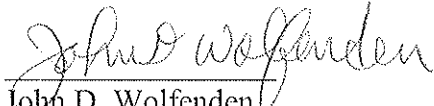
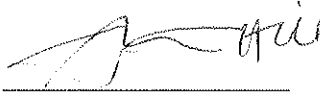
**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**RESPONSE TO COMMENTS**

**TO:** Bruce H. Wolfe  
Executive Officer

Date: April 27, 2007  
File No. 43S0938 (AVC)

**FROM:**   
Adriana Constantinescu  
Engineering Geologist

**CONCUR:**    
John D. Wolfenden  
Section Leader  
Toxics Cleanup Division

Stephen A. Hill  
Division Chief  
Toxics Cleanup Division

**SUBJECT: Response to Comments on Tentative Order for 2690 Casey Avenue,  
Mountain View, Santa Clara County**

This document provides a comprehensive response to comments received on the draft Site Cleanup Requirements (SCR) for the subject site and on the supporting staff reports (Staff Memorandum issued on October 5, 2006, and Supplemental Staff Memorandum issued on April 5, 2007).

On October 20, 2006, comments on the draft SCR package were received from the following parties:

- Karen J. Nardi, Bingham McCutchen – Attorney representing Applera Corporation (Applera) (formerly Perkin-Elmer Corporation (Perkin-Elmer)) tenant at 2690 Casey Avenue, Mountain View;
- Marc Gottschalk, Wilson, Sonsini, Goodrich & Rosati (WSGR) – Attorney representing Scientific Technologies, Inc. (STI) tenant at 1201 San Antonio Road; and
- James R. Hawley, Hoge, Fenton, Jones & Appel, Inc. (HFJA) – Attorney representing Dymond Development Co.(Dymond), owner of 1201 San Antonio Road property (downgradient property).

One of the parties requested several hours to present testimony during the public hearing. On October 27, 2006, the Executive Officer sent out a letter to the various persons known to be interested in this matter. He stated that it was unlikely that the Chair would grant the parties that



amount of hearing time and noted that he would recommend that the Chair provide each interested party with 30 minutes to present oral testimony. He stated that he would allow additional time for interested parties to submit written evidence in support of their previous comments. On November 17, 2006, we received submittals from Applera's and Dymond's attorneys in support of their previous comments.

On April 5, 2007, we issued a Supplemental Memorandum presenting our review of Sun Microsystems (Sun)'s Site History Technical Report. We provided an additional opportunity for the parties to comment. On April 16, 2007, we received comments from Applera' and Dymond's attorneys on the Supplemental Memorandum.

### **Applera's Comments Received on October 20, 2006**

*1) Comment:* There are some factual errors in the TO regarding the site history. The underground storage tank was removed in 1984 rather than in 2001 as stated in the TO. Also, Perkin-Elmer manufactured stainless steel vacuum pumps rather than semiconductors.

*Response:* The Revised Tentative Order (RTO) has been revised to correct the factual errors.

*2) Comment:* The findings in the TO do not indicate the facts staff relied upon as substantial evidence that Perkin-Elmer discharged pollutants to the source area.

*Response:* Comment noted. The RTO was modified to include additional evidence and to incorporate the staff Memorandum, dated October 5, 2006, Supplemental Memorandum, dated April 5, 2007, and this response to comments document by reference. A detailed discussion is presented below of the substantial evidence that supports the conclusion that Perkin-Elmer discharged pollutants.

State Board Resolution 92-49 provides guidance for the types of evidence that should be considered for determining if a discharge occurred. Based on this guidance, the Regional Board staff used the following criteria to recommend that the Board determine if a particular company had a release at this Site:

- 1) documentation of historical activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information (Section I.A.1),
- 2) evidence of poor management of materials or wastes, (Section I.A.5),
- 3) lack of documentation of responsible management of materials or wastes (Section I.A.6),
- 4) physical evidence (Section I.A.7), and
- 5) reports and complaints (Section I.A.8).

Perkin-Elmer operated at 2690 Casey Avenue site from 1964 to 1984. During this time, it manufactured stainless steel vacuum pump systems and stored PCE and other chemicals in a former storage area and an underground storage tank. A discussion of additional evidence is presented below.

- The January 7, 2000, Preliminary Assessment Report (Henshaw Associates) and the November 30, 2004, Site Characterization Report (Northgate Environmental) state “the chemicals reportedly used by Perkin-Elmer included tetrachloroethylene (PCE), sodium hydroxide, ammonia, methanol, and various acid solutions.” The historical information presented in this report was taken from the City of Mountain View Fire Department's records. The Henshaw report indicates that Perkin-Elmer used PCE at 2690 Casey Avenue Site.
- Safety Specialists, Inc. (SSI)'s report, dated January 26, 1984, presents on page 2: “containers of 55 gallons or less, containing tetrachloroethylene and other chemicals were disposed from the Perkin-Elmer facility located at 2690 Casey Avenue, Mountain View, California.” The SSI report presents that Perkin-Elmer used 55-gallon PCE containers at 2690 Casey Avenue Site.
- The City of Mountain View's Inspection Report for the property located at 2690 Casey Avenue, dated January 8, 1980, on page 3, item 23: *Trash Containers throughout Plant* recommends: “Discontinue the use of cardboard drums and non-approved plastic trash cans for disposal of combustibles (Section 27.2015).” This is an indication of improper waste handling by Perkin-Elmer.
- SCS Engineers, 2005, Letter Report “Technical Data Review” states that “numerous drums were observed on the northern edge of 2690 Casey Avenue during the stereo enlargements of the 1974 photo.” The same conclusion was presented in our October 5, 2006, Staff Memorandum. Independent reviewers of the stereo historical photographs reached the same conclusion that drums were observed on the northern edge of 2690 Casey Avenue Site.
- The letter sent by Perkin-Elmer (Ultek-Division) to the City of Mountain View, dated August 31, 1979, and signed by Mr. Brian Burke, Industrial Relations Manager, presents the following statement: “Pursuant to your reports dated July 26, 1979, we have removed all outdoor storage of materials (emphasis added) in the driveway inside the fence... In addition, we have stacked some barrels containing chemicals behind this inner fence area until the move takes place to Charleston Avenue, at which time they will also be moved inside.” This letter shows Perkin-Elmer chemical handling practices, i.e., the storage of chemicals in barrels/drums, the change in storage from outside to inside, and the transfer of them from one property to another one.
- SSI's report, dated April 6, 1987, states on page 2, *Site Inspection* section “on March 24, 1987,... there are signs of an old ... white discoloration on asphalt surface along the fence at the northern property line. Currently there is no storage along this fence although the asphalt contamination and several fire-charred spots on the fence indicate previous storage there.”
- The November 2004 *Further Site Characterization* ( Northgate Environmental Management, Inc.'s report) shows on Figures 12a through 14b the highest detected levels of PCE in soil along the property line or south of the property line, on the 2690 Casey

Avenue property. The highest concentration of volatile organic compounds (VOC), 210,280 µg/kg of total VOCs as PCE, was detected in a soil sample collected at about 10 feet south of the property boundary, at 10 feet below ground surface, on the 2690 Casey Avenue property. Because of the high specific gravity of PCE (1.6 at 20°C) and low viscosity, when a release happens, PCE sinks at the point of release. The fact that the highest concentration of PCE in soil along the property line is found 10 feet south of the property line indicates the PCE release was from Perkin-Elmer on Casey Avenue property. The highest concentration of PCE (6,600,000 µg/kg) in soil at the site was detected in a sample collected on the western side of the building (see January 7, 2000, Henshaw report). This is another indication that Perkin-Elmer released PCE at the Site.

- Historically, the highest PCE concentration in groundwater was present at up to 9,000 µg/L on the western side of the Casey Avenue property. The highest current concentration of PCE in groundwater is 2,700 µg/L approximately 180 feet down gradient of the property line area. This distance is explained by the more than 30 years time frame between the time of release and the present. For the last 30 years, vapors and contaminated groundwater migrated downgradient. The migration included processes such as advection, dispersion, diffusion, adsorption, and infiltration. This is the reason the highest concentrations of the groundwater plume are now beneath the San Antonio Road property.
- Soil gas samples collected at five feet below ground surface (Northgate, 2004) show two hot spots (concentrations > 10,000 ppb) on the northern side of the property and two more under the property line (see Figure 6 attached to the TO). The northern hot spots are approximately 10 feet and 20 feet from the property line. This distance is explained by the more than 30 years time frame between the time of release and the present. As the groundwater plume migrates, soil gas continues to be emitted from the groundwater plume causing a soil gas plume to exist above the groundwater plume.

Taking into consideration Perkin-Elmer's use of PCE, its outdoor storage of drums containing chemicals, the location of the highest concentration of PCE in soils is south of the property line area, the direction of groundwater flow, and the physical and chemical properties of PCE, we believe the release(s) of PCE occurred from Perkin-Elmer. Thus, no change is made to the RTO based on this comment.

**3) Comment:** Sun Microsystems (Sun) is not named as a discharger on the TO even though there is evidence they operated a leaking solvent degreaser at the site.

**Response:** We disagree. Our Supplemental Memorandum issued on April 5, 2007, presents a review of Sun's Site History Technical Report. Based on our evaluation of Sun's site history report, we do not recommend naming Sun Microsystems as a responsible party for the cleanup of VOCs at 2690 Casey Avenue and any properties down gradient that have been impacted as a result of the release(s). Thus, no change is made to the RTO based on this comment.

**4) Comment:** There is a consensus that the source area at the property line is a separate source from the former UST/waste storage area at the west side of the 2690 Casey building.

**Response:** We agree. However, the two sources have created a commingled groundwater plume over the last 30 years.

**5) Comment:** The Staff Memo, apparently based on nothing more than an interpretation of two aerial photographs, concludes that the most likely source of the VOC contamination at the 1201 Site appears to be from Perkin-Elmer's improper chemical and storage of chemicals along the property line.

**Response:** We disagree. See response to comment #2. Taking into consideration Perkin-Elmer's use of PCE, its outdoor storage of drums containing chemicals, the location of the highest concentration of PCE in soils is south of the property line area, the direction of groundwater flow, and the physical and chemical properties of PCE, we believe the release(s) of PCE occurred from Perkin-Elmer. Thus, no change is made to the RTO based on this comment.

**6) Comment:** The staff Memorandum's interpretation that the small white circles along the property line were drums is incorrect. It is not clear that they are drums. They could be concrete utility pipe segments on their ends waiting to be installed. After all, the 2690/1201 property line is a utility corridor, containing underground gas and water lines.

**Response:** We disagree. We believe it is very unlikely the small white circles were concrete utility pipe segments for several reasons. First, utility pipe segments would not appear as small white circles when viewed from above. They would instead appear as small white rings because the hollow centers would be dark. Second, they would be gone in the 1976 photo which was taken one year after the construction was completed and construction materials were removed from the 1201 San Antonio property. Third, Perkin-Elmer's own letter states that it stored outside "barrels containing chemicals." In Perkin-Elmer's letter addressed to the City of Mountain View, on August 31, 1979, Mr. Brian Burke, Industrial Relations Manager for Perkin-Elmer states at the end of the first paragraph: "...we have removed all outdoor storage of materials in the driveway inside the fence... In addition, we have stacked some barrels containing chemicals behind this inner fence area until the move takes place to Charleston Avenue, at which time they will also be moved inside." Fourth, SCS Engineers and Water Board staff reviewed the stereo enlargements of the aerial photographs and both concluded that the circles are drums. Thus, no change is made to the RTO based on this comment.

**7) Comment:** Even if the small white circles were drums, there is no evidence that they contained chemicals. The aerial photographs don't show staining or distressed vegetation, so it is an unsupportable leap of logic to say that the white circles were drums that contained Perkin-Elmer chemicals and that the drums leaked or were spilled. Also, it is unlikely that Perkin-Elmer would have stored chemicals along the property line because they had a chemical storage area on the west side of the building. Staff's Memo does not provide the kind of "credible", "reasonable", and "substantial" evidence required for a Section 13304 cleanup order.

**Response:** We disagree. See our responses to comments #2 and #6. We conclude that the evidence meets the criteria of being credible, reasonable, and substantial. The evidence shows that Perkin Elmer used the same chemicals found in the source area and that it stored drums in the source area along the property line. Given the contamination patterns in the soil and

groundwater and Perkin-Elmer's chemical handling practices, it is reasonable to conclude that the drums contained PCE and that those drums leaked at the source area. Thus, no change is made to the RTO based on this comment.

**8) Comment:** The contamination in the source area could have been caused by many possible explanations, including former operations by STI at 1201 San Antonio Road, former operations by Sun at 2690 Casey Avenue, or by midnight dumpers when the 1201 San Antonio Road property was vacant.

**Response:** We disagree. It is also unlikely that STI's former operations at 1201 San Antonio Road caused the contamination because they did not use TCE or PCE in their processes. STI responded to a 13267 request for information, issued on September 20, 2001, from our office, by providing very specific details about their operations. While they did manufacture printed circuit boards, they did not use VOCs in their processes. Instead, they manufactured the circuit boards by applying etch resistant soluble ink onto a copper clad fiberglass laminate. The laminate was then dipped into a ferric chloride solution that etched away the unwanted copper. Furthermore, the 1201 San Antonio Road building is down gradient from the source area and we have no records indicating the STI or any current or former operator at 1201 San Antonio Road used or stored chemicals near the source area. STI had a hazardous materials storage area inside its building, on the southern side of its building, but did not use PCE or TCE, and there is no apparent source area beneath the southern side of the building. In regards to Sun's operations at 2690 Casey Avenue, see our response to comment #4. We also have no evidence to support the midnight dumping theory and therefore find it to be unlikely. Thus, no change is made to the RTO based on this comment.

**9) Comment:** Sun operated at 2690 Casey Avenue from 1984 to 2000, and the records show they had a leaking solvent degreaser in the southwest corner of the building. They also had other degreasers on the north side of the building closer to the source area. It is premature to issue the TO until Sun's activities have been fully investigated.

**Response:** We disagree. See response to comment #3. Thus, no change is made to the RTO based on this comment.

**10) Comment:** The legal standard for issuing a Water Code Section 13304 Cleanup Order has not been met. The Water Board may issue a cleanup and abatement order where a person "*has caused or permitted... any waste to be discharged or deposited*" where it is or probably will be discharged into water of the state and creates or threatens to create a condition of pollution or nuisance.

**Response:** We disagree. In our response to comment #2 we present a detailed discussion on the substantial evidence that was evaluated by staff in making its recommendation to the Board for this order. Taking into consideration Perkin-Elmer's use of PCE, its outdoor storage of drums containing chemicals, the location of the highest concentration of PCE in soils is south of the property line area, and the physical and chemical properties of PCE, we believe the release(s) of PCE occurred from Perkin-Elmer. The dates of the documents cited in comment #2 indicate that the activities in questions occurred when Perkin-Elmer operated at the Site. The RTO was

modified to include additional evidence and makes reference to the staff memoranda and this response to comments.

**11) Comment:** Section 7.1, page 10 – In the opinion of Lester Feldman (Geomatrix Consultants), the source of the contamination found in the property line area is on the 1201 San Antonio Road property. Mr. Feldman's opinion is based on the patterns of contamination in the soil, soil vapor, and groundwater.

**Response:** We disagree. Taking into consideration Perkin-Elmer's use of PCE, its outdoor storage of drums containing chemicals, the location of the highest concentration of PCE in soils is south of the property line area, the direction of groundwater flow, and the physical and chemical properties of PCE, we believe the release(s) of PCE occurred from Perkin-Elmer. It is our opinion that in his interpretation of the data, Mr. Feldman considers the current location of contaminants in the subsurface and does not take into account decades of vapor and groundwater migration, including processes such as advection, dispersion, diffusion, adsorption, and infiltration. Thus, no change is made to the RTO based on this comment.

**12) Comment:** STI's operations at 1201 San Antonio Road could be responsible for the contamination. They manufactured printed circuit boards and records show they had a hazardous materials storage area at the south side of the building near the source area. STI did not conduct a complete investigation of its operations from 1974 to 1981 when they operated at 1201 San Antonio Road. Gary Brugger, an "expert", concluded that, based on his review of former STI employee testimonies, STI would have likely required the use of TCE and/or PCE based on industry practices in the 1970s and early 1980s.

**Response:** We disagree. See our response to comment #8. We have no reason to believe the information STI submitted to us is inaccurate. Mr. Brugger's opinion conflicts with the information STI provided. We believe STI would have more knowledge of its operations than Mr. Brugger. Thus, no change is made to the RTO based on this comment.

**13) Comment:** Aerial photographs from 1976, 1982, 1984, 1988, 1990, 1992, and 1994 show evidence of storage on the 1201 San Antonio property near the property line source area. Several of the photographs show what appears to be some discharge emanating from the just north of the southeast corner of the 1201 San Antonio building.

**Response:** Comment noted. We reviewed the copies of the seven aerial photographs provided. The area just north of the southeast corner of the 1201 San Antonio building is a tree. One of the photographs (1992) appears to show boxes on the 1201 San Antonio side of the property line north and west of the 2690 Casey loading dock. Based on our review of Sun's February 21, 2007, Site History Technical Report, Sun stored propane in a metal cylindrical container near the property line source area and not PCE or TCE. Propane is not listed as a contaminant of concern for this Site. Based on our review of the additional photographs and the site history reports, we do not conclude that there was a release on the northern side of the property line. Thus, no change is made to the RTO based on this comment.

**14) Comment:** Sun operated several degreasers at 2690 Casey Avenue. Leaking from any of these degreasers could potentially be a source of contamination in the source area.

**Response:** We disagree. See our response to comment #3 and Supplemental Memorandum, Pages 2 through 4. Thus, no change is made to the RTO based on this comment.

**15) Comment:** It is State Water Board policy to name all responsible parties to cleanup orders. It is therefore appropriate to name STI and Sun as responsible parties because there is credible and reasonable evidence that they are responsible for the contamination in the source area.

**Response:** We do not agree there is sufficient evidence to name STI or Sun as responsible parties at this time. We will consider naming additional parties in the future, should sufficient evidence become available to do so. Thus, no change is made to the RTO based on this comment.

**16) Comment:** Applera is prepared to conduct further investigation on the property as they have proposed in the March 2006 work plan. The Water Board declined to comment on the workplan and the 1201 San Antonio Road property owner has declined to provide access. This has delayed investigation that would have been useful to understanding the source area problem. Applera would not object to a letter requesting further investigation, but the Water Board should also issue investigation letters to Sun and STI.

**Response:** We appreciate Applera's willingness to do further investigation. The TO contains tasks for a complete investigation and implementation of interim remedial measures. Thus, no change is made to the RTO based on this comment.

**17) Comment:** There is just as much evidence to name STI and Sun as there is to name Applera. If the Board chooses to name Applera, it should also name STI, Sun, the 1201 San Antonio Road property owner and past owners of the 2690 Casey Avenue Property as dischargers (all parties should be named in any order)

**Response:** We disagree. As discussed in our previous responses, we believe the level of evidence is sufficient to name Applera, but insufficient to name either STI, Sun, or the owners of 1201 San Antonio Road at this time.

When Perkin-Elmer caused the releases at the Casey Avenue property, the two owners of the Casey Avenue property were Angela Properties and H.E. Casey Company. Based on the information provided to this office, Angela Properties merged out in 1974 and H.E. Casey Company was dissolved in 1983. Therefore, we have no information on these two past owners. Thus, no change is made to the RTO based on this comment.

**18) Comment:** Applera requests that several hours be allotted to Applera during the Board Meeting to present its evidence contesting the factual basis for the findings in the TO.

**Response:** We anticipate that the Board will not allot that much time to any single party due to time limitations. The Board only meets once per month and it must consider many agenda items at each meeting. To allow parties to enter all evidence into the record that they would have

presented orally at the hearing, Board staff invited interested parties to submit written evidence in support of their previous comments, so their oral testimony in front of the Board would be focused and limited to 30 minutes. Applera in fact submitted more than 190 pages of written evidence in response to Board staff's offer, and this written evidence will be provided to Board members as part of the agenda materials. While limits on testimony length are ultimately set by the Board chair, staff will recommend that each party be allowed 30 minutes for testimony.

### **Applera's Additional Comments and Evidence Received on November 17, 2006**

**19) Comment:** Additional responsible parties, including Sun, STI, and Dymond, should be named to the Tentative Order.

**Response:** We disagree. See our responses to comment #2, #3, #8, #9, #11, #12, #15, and #17.

**20) Comment:** The Water Board should send a 13267 letter to Sun Microsystems to determine Sun's possible connection to contamination at both 2690 Casey Avenue and 1201 San Antonio Road properties.

**Response:** We agree. See our response to comment #3.

**21) Comment:** Sun should be named a discharger because there is evidence they manifested hazardous waste solvents (60 gallons of used oil with greater than 1,000 ppm halogenated solvents) from 1201 San Antonio Road property.

**Response:** We disagree. See our response to comment #3.

**22) Comment:** Sun did not deny that it used PCE and TCE in its operations.

**Response:** We disagree. In its response to our 13267 request, Sun states they "never used, stored or disposed of PCE or TCE at or from the property" (2690 Casey Avenue). Thus, no change is made to the RTO based on this comment.

**23) Comment:** Additional evidence is presented in a declaration of Mr. Lester Feldman, attached to this letter. His opinions and our responses are presented below:

a) There are two separate releases of VOCs at the 1201 San Antonio / 2690 Casey common property line and at the western area of 2690 Casey. This was caused by either different sources of spills, or multiple chemical compounds having been spilled at the property line, such as chlorinated VOCs and a carbon source such as a petroleum hydrocarbon (e.g., waste oil).

**Response:** We agree that there are two separate releases of VOCs in two different areas: on the western side of the 2690 Casey Avenue building and along the property line area between Casey Avenue and 1201 San Antonio Road properties. We believe the releases of PCE occurred from Perkin-Elmer because of its use of PCE, its outdoor storage of drums



containing chemicals, the location of the highest concentration of PCE in soils is south of the property line area, the direction of groundwater flow, and the physical and chemical properties of PCE. The two different releases now formed a commingled groundwater plume. The assumption that a carbon source such as a petroleum hydrocarbon (e.g., waste oil) is present in the common property line area is not supported by Geomatrix own interpretation of the historical laboratory results. Geomatrix's March 23, 2007, "Groundwater Monitoring Report, December 2006 Monitoring Event" for the property located at 2690 Casey Avenue presents a request for discontinuing gasoline range organics (GRO) monitoring. The Geomatrix's report states that the "GRO detected in samples are likely due to the quantification of interfering chlorinated VOCs (e.g., TCE) present in the samples. Additionally, no gasoline-related VOCs (i.e., benzene, toluene, ethylbenzene, xylenes, trimethylbenzene, naphthalene, or isopropylbenzene which are on the EPA Method 8260 analytes list) have been detected in any of the groundwater samples."

b) The nature of chlorinated VOCs at 1201 San Antonio / 2690 Casey common property line are different from the nature of chlorinated VOCs at the western area of 2690 Casey. Significant breakdown (i.e., de-chlorination) is not occurring at western area of 2690 Casey based on the pollutant chemical signature, as determined by the suite of chlorinated hydrocarbons (from Geomatrix monitoring data for Applera). Significant breakdown (i.e., de-chlorination) is occurring at 1201 San Antonio / 2690 Casey common property line based on the pollutant chemical signature, as determined by the suite of chlorinated hydrocarbons (from review of Further Site Characterization Report, Northgate, November 30, 2004; Additional Site Investigation Report, SCS, August 2, 2002; and quarterly monitoring reports, SCS).

**Response:** Our evaluation of the laboratory test results for the samples collected along the western side of 2690 Casey Avenue building and along the property line shows that similar de-chlorination occurs in both areas. The pollutant chemical signatures are the same for both areas. The minor differences in the ratios of de-chlorination may be explained by the higher PCE concentrations along the property line area, the heterogeneities in the geological materials, and a large volume of solvent contaminated soil from the western side of the building was removed in 2001. Our interpretation of the on-Site de-chlorination process is that both the western source and the property line area releases occurred from the Perkin-Elmer operations at the Casey Avenue property.

c) Bases on SCS monitoring reports, groundwater concentrations north of common property line on 1201 San Antonio are approximately 200 times higher than groundwater concentrations in vicinity of property line and at 2690 Casey. The 2002 SCS report states that data suggest a source near southern property line of 1201 San Antonio.

**Response:** We believe groundwater concentrations north of the common property line on 1201 San Antonio are approximately 200 times higher than groundwater concentrations in vicinity of property line and at 2690 Casey Avenue site because of more than 30 years of migration in the subsurface. Also see response to comment #2.

- d) Additional soil investigation for petroleum hydrocarbons is appropriated within the common property line area.

**Response:** We do not believe the recommendation for “additional soil investigation for petroleum hydrocarbons ... within the common property line area” is needed. This is consistent with Geomatrix’s March 23, 2007, “Groundwater Monitoring Report, December 2006 Monitoring Event.” This report states that the “GRO detected in samples are likely due to the quantification of interfering chlorinated VOCs (e.g., TCE) present in the samples.” The Geomatrix’s report requests discontinuing GRO monitoring.

Thus, no change is made to the RTO based on Mr. Lester Feldman’s declaration.

#### **Applera’s Additional Comments Received on April 16, 2007**

**24) Comment:** (Note: Applera’s additional comments do not reference the Supplemental Memorandum issued on April 5, 2007). Instead, Applera restates comments from its October 20, 2006, and November 17, 2006, submittals, including there is no credible evidence to establish that Perkin-Elmer caused the chemical release at the property line area, a separate source of release exists on the 1201 San Antonio Road property, a Board Order is premature, and the 1201 San Antonio Road property owner should be named as a responsible party on any Board Order.

**Response:** We disagree with the restated comments. See our previous responses to comment #2 through #17. Thus, no change is made to the RTO based on the additional comment received from Applera.

**25) Comment:** Applera has the willingness to perform additional investigation on the San Antonio Road property.

**Response:** See our response to comment # 16. Thus, no change is made to the RTO based on this comment.

#### **STI’s Comments Received on October 20, 2006**

**26) Comment:** The TO should be revised to include additional findings and conclusions reflecting the significant and substantial evidence previously submitted by STI and Dymond in support of requiring Applera to remediate the contamination. (Note: Seven findings were summarized in WSGR’s letter.) The Water Board order should unambiguously state that there is no evidence that STI ever used PCE and TCE.

**Response:** Comment noted. In making the recommendation to name only Applera Corporation and its predecessor Perkin-Elmer Corporation as a responsible party, Water Board staff evaluated all the evidence submitted to our office. Based on the evidence submitted to the Water Board we do not make the recommendation to name STI as a responsible party in this order. The RTO was modified to make reference to the staff memoranda that provide the necessary evidence.

**Dymond's Comments Received on October 20, 2006**

*27) Comment:* We support the TO insofar as it identifies Applera as the responsible party.

*Response:* No response needed.

*28) Comment:* The TO also seems to ignore the results of the last six years of investigation and the resulting delay in the remedial investigation process will only increase the cost of cleanup and further negatively impact groundwater.

*Response:* We disagree. The subsurface investigation performed to date does not define the vertical and horizontal extent of the soil and groundwater plume. A correct and fair cleanup cost estimate could not be determined to the responsible party without a delineation of the extent of the plume. Thus, no change is made to the RTO based on this comment.

*29) Comment:* The TO should specifically indicate that tasks address the 1201 San Antonio Road property.

*Response:* We conclude that the TO already requires that investigation and cleanup tasks address contamination extending from the Casey Avenue property, across the San Antonio Road property, and beyond. The TO does not specifically indicate that work should include San Antonio Road property because, at this time, we know the groundwater plume extends north of this property. Task B.1. of the TO asks for a workplan to define the vertical and lateral extent of soil and groundwater pollution. Thus, no change is made to the RTO based on this comment.

**Dymond's Additional Comments and Evidence Received on November 17, 2006**

*30) Comment:* It is troubling to see Applera argue that a cleanup order is premature.

*Response:* Comment noted. After six years of investigation and evaluation of historical data, this TO will create the regulatory frame work for the remedial investigation and cleanup of this solvent plume with the source on the 2690 Casey Avenue property. Thus, no change is made to the RTO based on this comment.

*31) Comment:* Dymond itself has never conducted business operations at 1201 San Antonio Road, and STI, the former tenant, had an operation that did not require the use of PCE or TCE.

*Response:* Comment noted. Our review of the historical documents showed that STI did not use PCE or TCE at this address. Thus, no change is made to the RTO based on this comment.

**Dymond's Additional Comments Received on April 16, 2007**

*32) Comment:* Dymond completely concurs with the staff Supplemental Memorandum and previous staff Memorandum.

**Response:** Comment noted.

**33) Comment:** There is not credible evidence that the chemicals of concern were used at 1201 San Antonio Road property.

**Response:** We agree, and the TO does not name parties at 1201 San Antonio Road. See also our responses to comments #8, #9, #12, #14, and #17. Thus, no change is made to the RTO based on this comment.