Committee to Minimize Toxic Waste

Jeff Philliber, Environmental Planner
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 69-201
Berkeley, CA 94720

January 3, 2008

Subject: Comments on the Draft Environmental Impact Report (DEIR) for the Construction and Operation of the Computational Research and Theory (CRT) Facility at the Lawrence Berkeley National Laboratory (LBNL) site.

Dear Mr. Philliber,

It is extremely troubling to see yet another proposal by the University of California (UC) to construct huge facilities (140,000 square feet in this case, for personnel of 300) on one of the MOST hazardous sites in the state, i.e. on top of the active Hayward Fault, within the Alquist-Priolo Eartquake Fault Zone, on a steep hillside slope without adequate ingress/egress!

It appears that the LBNL's Oakland Scientific Facility is a much better suited location to house ultra-sensitive super-computers, as is the case currently, and we ask that the NERSC (National Energy Research Scientific Computing) Center remain in Oakland.

We also ask that the UC's Richmond Field Station (RFS) site be given very serious consideration to house all the other UC/LBNL Computational Science and Engineering Program facilities, i.e. to spread the risk in case of a natural disaster, such as the predicted "Big One" on the Hayward Fault.

The proposed building site is one of the very few areas of virgin land at LBNL in the Strawberry Creek Watershed, and it should be preserved as such! In addition special consideration should be given to Cafeteria Creek, to preserve and improve one of the still daylighted tributaries of Strawberry Creek.

The CRT DEIR is extremely deficient with regard to addressing the many potential, serious hazards associated with earthquakes and landslides in the steep-sloped Strawberry Creek Watershed site.

These concerns were raised by the Committee to Minimize Toxic Waste (CMTW) and other community groups and individuals already in 2003, when UC/LBNL proposed the construction of Building 49 (B 49)at this very same location.

The comments provided in the B 49 CEQA process are still valid, and we ask that they are taken into consideration and responded to within the context of the CRT DEIR process.

Pages 3-4 of this letter include CMTW's comments. We are also including the transcript of Public Comments provided at the June 30, 2003 scoping meeting for the preparation of the DEIR for B 49, a total of 68 pages of community concerns about the site. (Attachment 1)

In addition we are enclosing Appendix A (as Attachment 2) and Appendix B (as Attachment 3) from the September 2003 DEIR for B 49 Project. Pages A-1 to A-82 and B-1 to B-182 reflect grave community concern and opposition to UC's plans to build on this treacherous site!

As our general comments, for the CRT DEIR sections related to: Air Quality, Biological Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Population and Housing, Public Services, Transportation and Traffic, Utilities, Service Systems and Energy, we are submitting our March 2007 Report (as a CD) titled:

CONTAMINANT PLUMES OF THE LAWRENCE BERKELEY NATIONAL LABORATORY AND THEIR INTERRETATION TO FAULTS, LANDSLIDES AND STREAMS IN STRAWBERRY CANYON, BERKELEY AND OAKLAND, CALIFORNIA.(Attachment 4).

We ask that the Report text and maps be included in their entirety (as hard copies and maps in color) as part of the CRT Final EIR, and responded to. In addition we are providing 13 Report maps, 11"x17" in full color, titled: LBNL SITE MAP, groundwater contamination plumes and contaminated soil sites (F2), INTERPRETATION OF HISTORIC CHANNEL NETWORK at LBNL in Strawberry Creek Watershed (F5), GROUNDWATER CONTAMINATION PLUMES IN RELATION TO THE MODERN AND HISTORIC DRAINAGE NETWORKS AT LBNL (F6), SELECTED EXAMPLES OF FAULT MAPPING STUDIES AT LBNL IN STRAWBERRY CANYON (F9), COMPILATION OF FAULT MAPPING at LBNL in Strawberry Canyon relative to soil and groundwater contaminant plumes(F10).

Committee to Minimize Toxic Waste

Jeff Philliber
Environmental Planning Coordinator
Lawrence Berkeley National Laboratory
MS 90K
One Cyclotron Road
Berkeley, CA 94720

October 31, 2003

Re: Comments on the Draft Environmental Impact Report (DEIR) regarding the Construction and Operation of Building 49 (B 49) at the Lawrence Berkeley National Laboratory (LBNL)

Dear Mr. Philliber,

B 49 is proposed to be constructed on one of the riskiests sites possible in the Bay Area, practically on top of the Hayward Fault, in the Alquist-Priolo Earthquake Fault Zone.

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to "regulate development on or near fault traces" and to "prohibit the location of most structures for human occupancy across these traces". In addition to B 49 there are both University of California Berkeley (UCB) and LBNL buildings in the A-P Fault Zone. The Final EIR must have a comprehensive discussion with detailed maps showing the location of all present and proposed buildings in this seismic hazard zone as well as the location of all known earthquake fault traces between the Hayward Fault and the Wildcat Fault criss-crossing the LBNL site and the Strawberry Creek Watershed, and to answer the question: why build there?

On the basis of research conducted since the 1989 Loma Prieta earthquake, US Geological Survey (USGS) and other scientists conclude that there is a 70% probability of at least one magnitude 6.7 or greater quake, capable of causing widespread damage, striking the San Francisco Bay region before 2030. (Attachment 3).

In February of 2003 the California Geological Survey published a series of Seismic Hazard Zone maps, which indicate that most of the LBNL site is located in a very high-risk earthquake induced landslide area. Please provide in the Final EIR detailed USGS maps related to landslides, and again answer the question: why build there?

The DEIR practically ignored the fact that the proposed B 49 site is located in a significant watershed. The Map of Strawberry Valley and vicinity by Frank Soule, 1875 (Attachment 4) indicates that there were originally at least 5 creeks with tributaries in the general B 49 area, between the North Fork of Strawberry Creek and the Strawberry Creek itself to the south. In the Final EIR please provide a detailed contour map, showing the predevelopment state of the western portion of LBNL, including all the 7+ creeks then and their status today. The enclosed circa 1935 (?) contour map shows the various tributaries of the North Fork of Strawberry Creek, just north of the B 49 site. (Attachment 5).

LBNL has been subjected to numerous wet season landslides in the past. The B 49 geotechnical investigations were done during the dry summer months. The Final EIR must consider worst case rainy season El Nino type groundwater conditions and include maps/figures showing the groundwater elevations with respect to the excavation of the site, and assess the risk for landslides under these circumstances.

As stated in our September 3, 2003 comments (Attachment 6), LBNL currently has several acres of flat, developed, contaminated building sites, occupied by decommissioned facilities.

What would be the cost of clean-up of one of these sites for B 49? What is the current cost of excavating 26,000 cubic yards of soil from the proposed site? What is the cost of removal, transport and dumping of this soil? What is the total construction budget for B 49? Please provide a cost/benefit analysis for the above, and a serious consideration for using an existing flat developed site as an alternate site rather than the proposed horrendous excavation of a pristine hillside in a special Watershed.

In conclusion, contrary to what was stated in the DEIR, this whole development project remains controversial, namely due to the many natural hazards present at the site. For this reason it is imperative that you obtain assessments from independent experts (geologist, hydrologist, watershed/creek specialist etc.) regarding the multiple site hazards and risk analysis/scientific opinions on the appropriateness of building a six-story, 65,000 square foot office building on such a hazard ridden site. One risk analysis scenario should be: What would happen if a 6.7 or greater earthquake hit in the middle of the worst El Nino rainfall year when the total hillside was completely saturated?

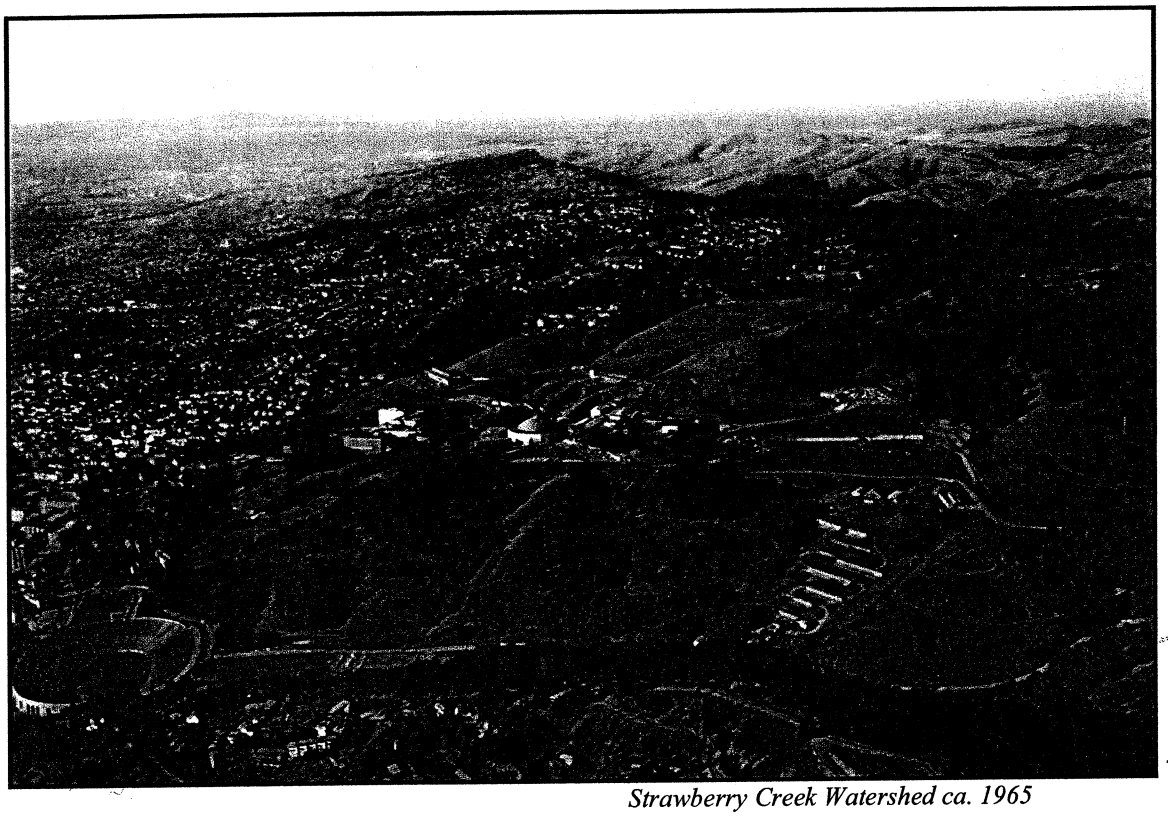
Sincerely,

Pamela Sihvola
P.O. Box 9646
Berkeley, CA 94709

PS. Who is the consultant referred to in your July 2, 2003 letter (Attachment 7) ?

CONTAMINANT PLUMES OF THE LAWRENCE BERKELEY NATIONAL LABORATORY AND THEIR INTERRELATION TO FAULTS, LANDSLIDES, AND STREAMS IN STRAWBERRY CANYON, BERKELEY AND OAKLAND, CALIFORNIA

March 2007



Strawberry Creek Watershed ca. 1965

Laurel Collins, Geomorphologist
Watershed Sciences
1128 Fresno Ave
Berkeley, California 94707
collins@lmi.net

for

Pamela Sihvola, Project Manager
Committee to Minimize Toxic Waste
P.O. Box 9646
Berkeley, CA 94709

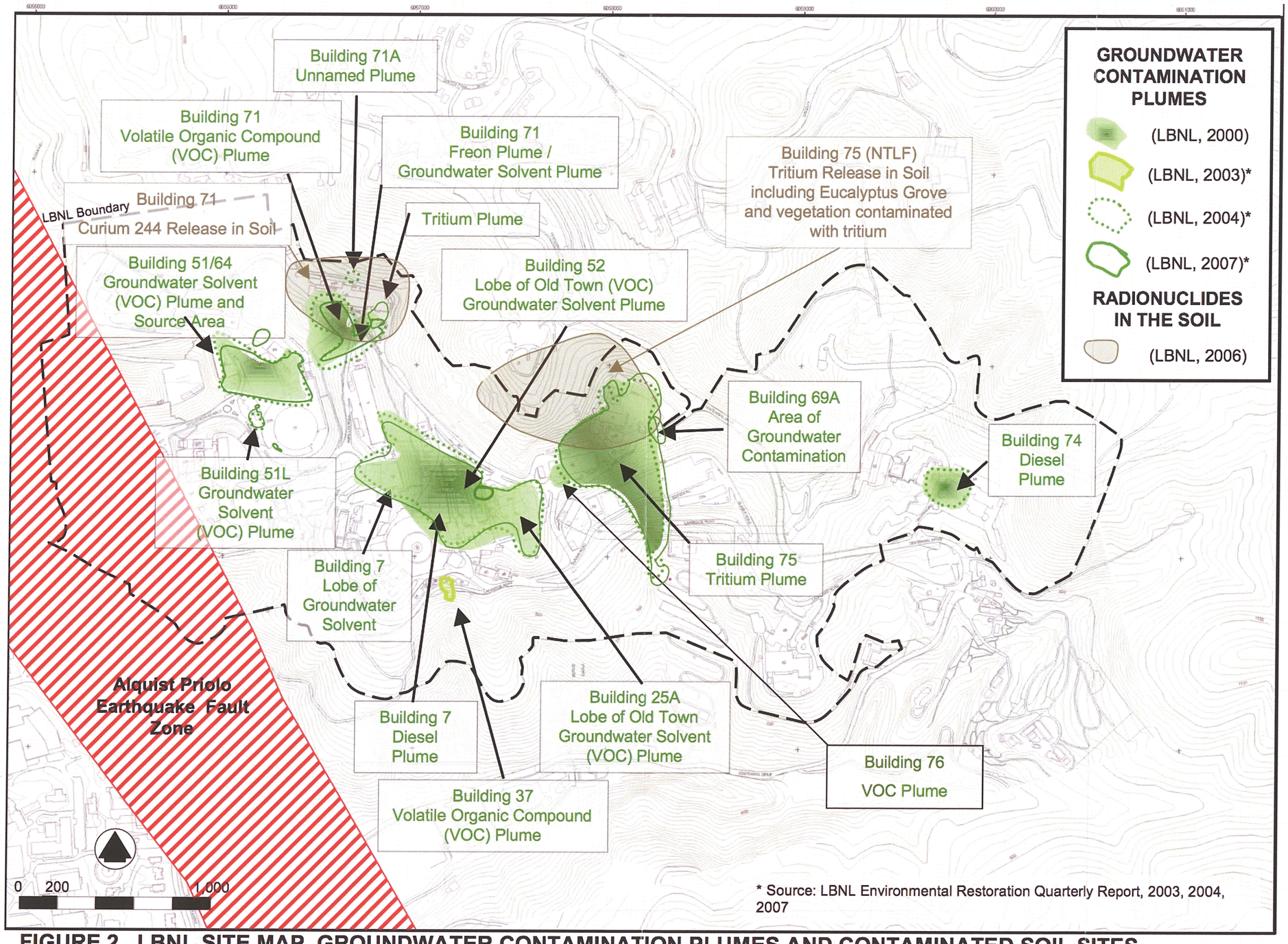


FIGURE 2. LBNL SITE MAP, GROUNDWATER CONTAMINATION PLUMES AND CONTAMINATED SOIL SITES.

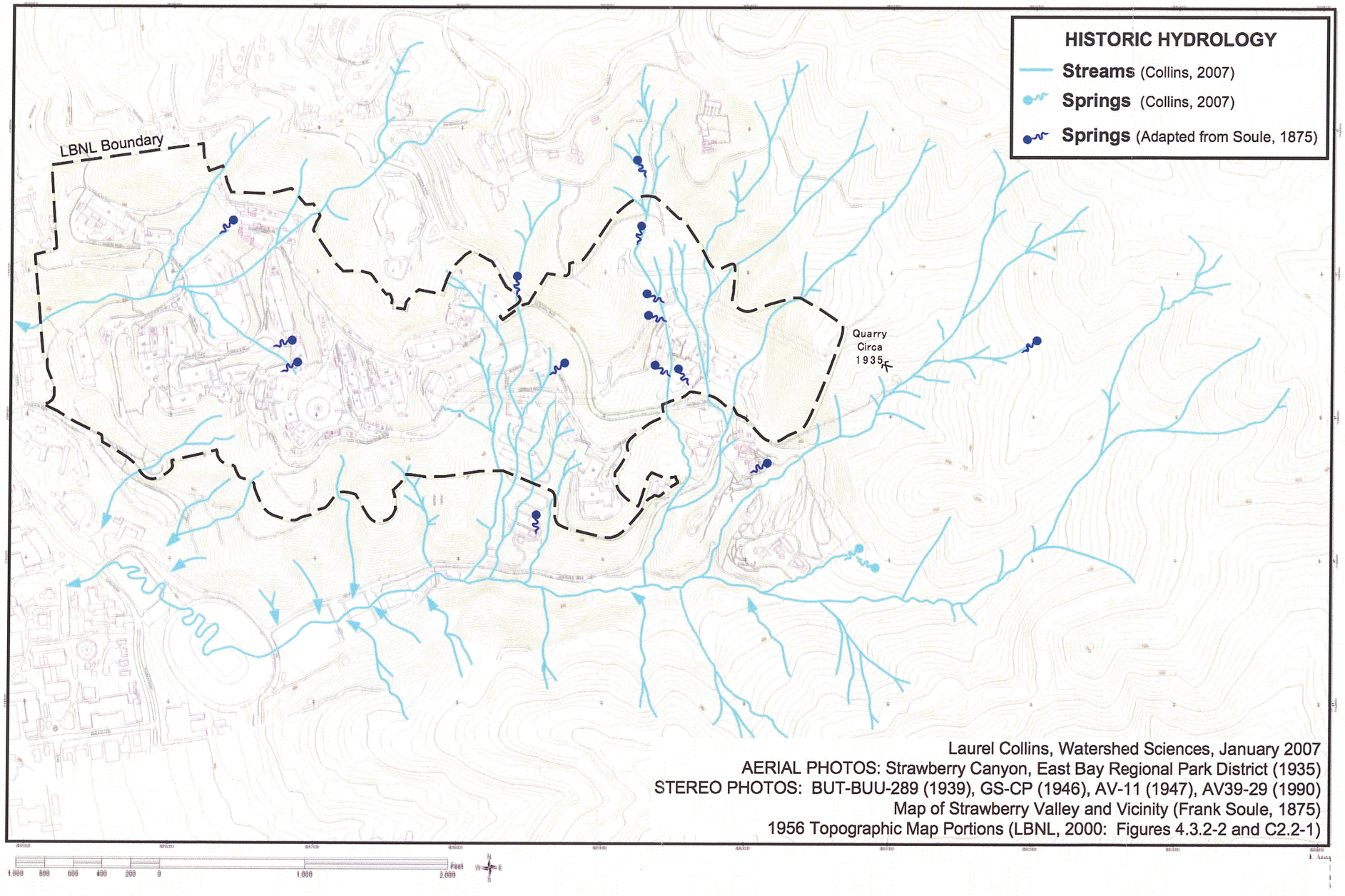


FIGURE 5. INTERPRETATION OF HISTORIC CHANNEL NETWORK AT LBNL IN STRAWBERRY CREEK WATERSHED

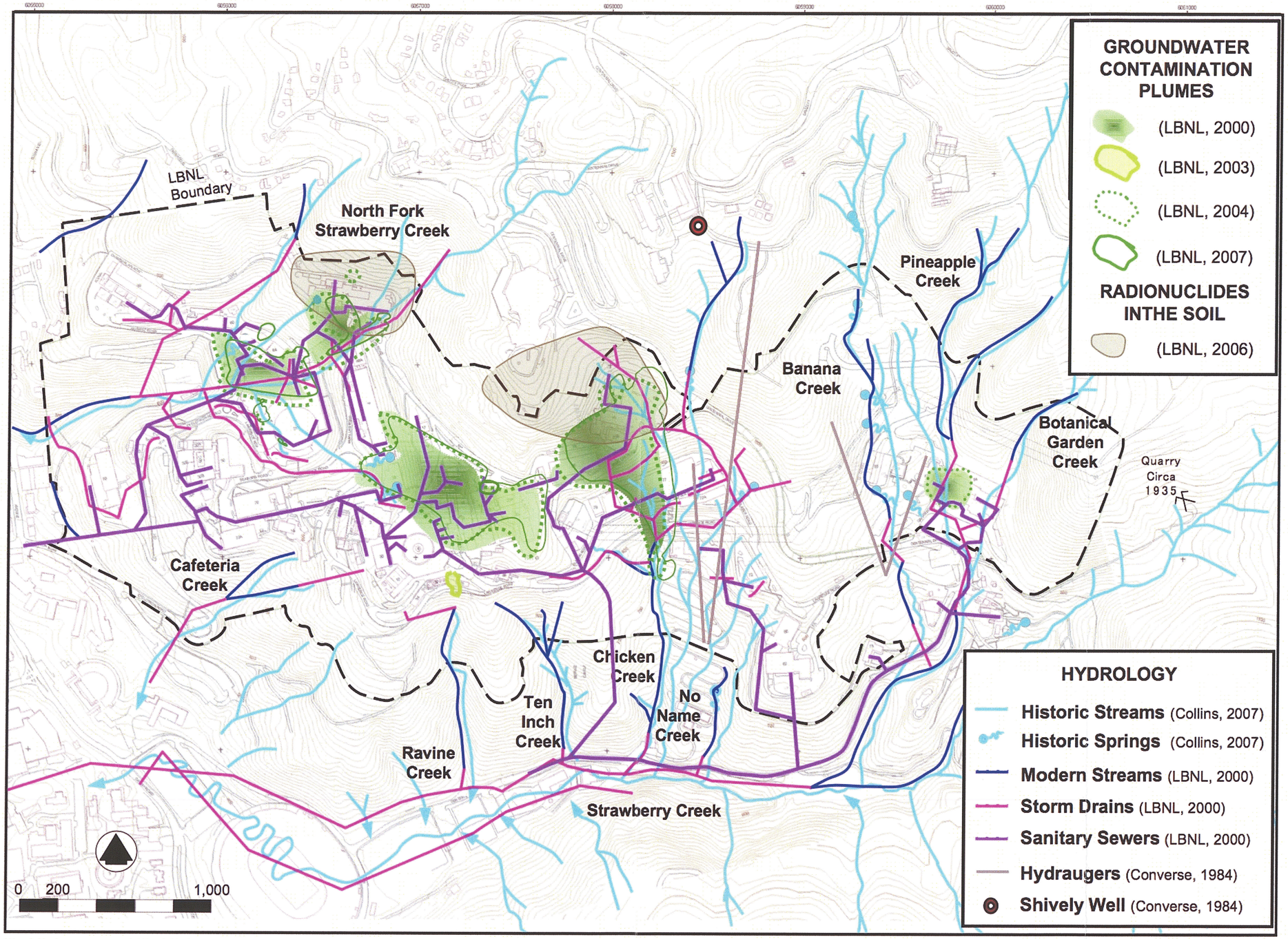


FIGURE 6. GROUNDWATER CONTAMINATION PLUMES IN RELATION TO THE MODERN AND HISTORIC DRAINAGE NETWORKS AT LBNL

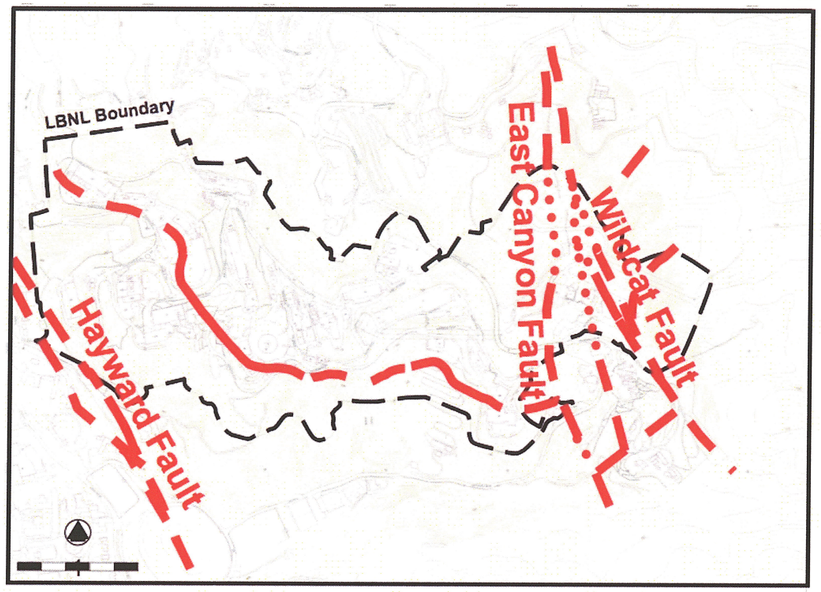


FIGURE 9a. LBNL (2000) Based on:
Harding-Lawson (1980, 1982), Radbruch (1969)

FIGURE 9b. USGS on Google Earth (2007)

FIGURE 9. SELECTED EXAMPLES OF FAULT MAPPING STUDIES AT LBNL IN STRAWBERRY CANYON

FAULTS

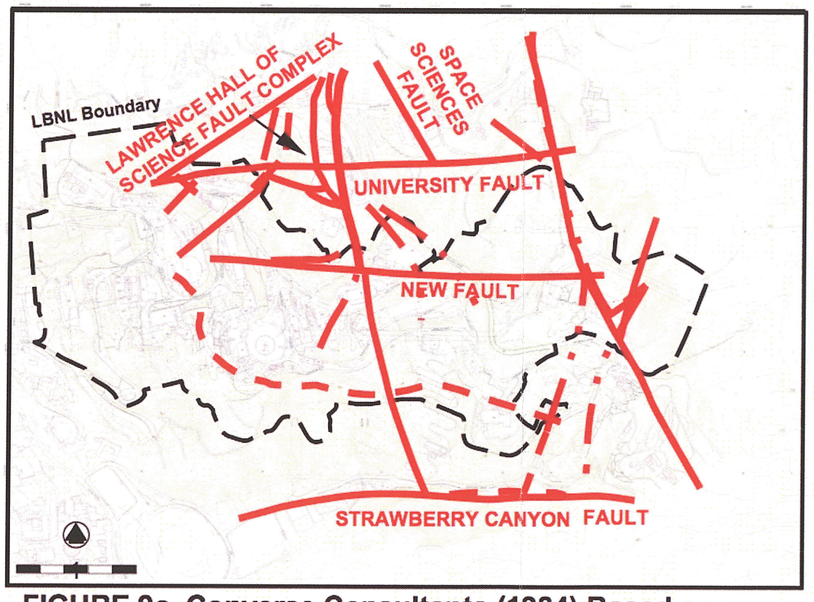


FIGURE 9c. Converse Consultants (1984) Based on:
Harding-Lawson (1979), Lennert & Associates (1978)
(Mapping does not include western portion of LBNL.)

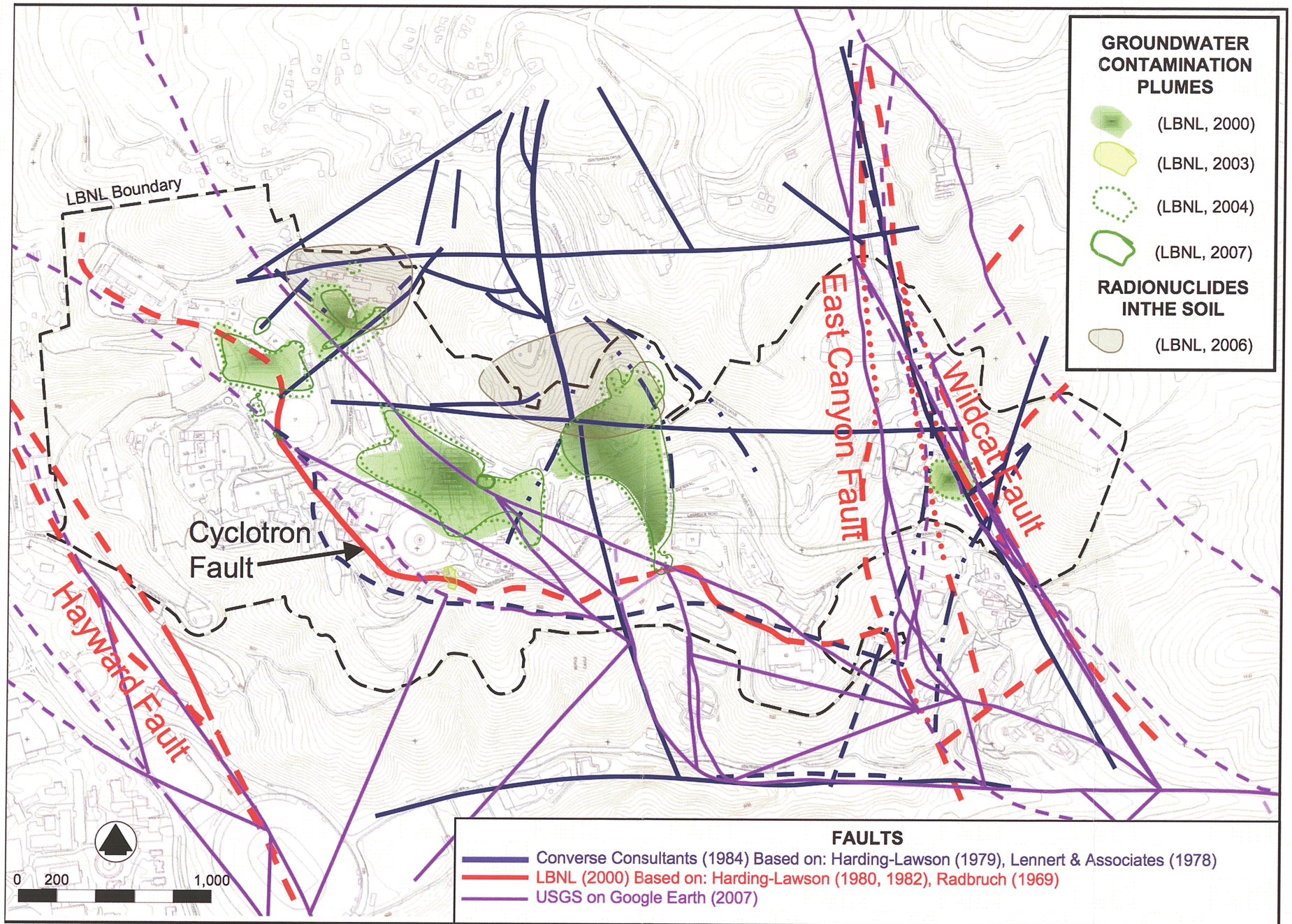


FIGURE 10. COMPILATION OF FAULT MAPPING AT LBNL IN STRAWBERRY CANYON RELATIVE TO SOIL AND GROUNDWATER CONTAMINANT PLUMES.

Of special interest is map titled:
GROUNDWATER CONTAMINATION PLUMES AND RADIOACTIVE CONTAMINATION IN SOIL RELATIVE TO FAULTS AND EARTHQUAKE EPICENTERS AT LBNL IN STRAWBERRY CANYON (F12b).

In Figures 12a and b we compiled the fault mapping by others (See Figure 9) and overlaid the epicenters of seismic events that have occurred in the Strawberry Canyon during the last 40 years, which amounted to over 57 earthquakes. Such a high incidence of seismic activity within the mapped traces of Wildcat Fault and between the Wildcat and the Cyclotron Faults provides compelling evidence that additional faults, other than just the Hayward Fault should be considered ACTIVE in Strawberry Canyon. See section on Fault Mapping on pages 24-35 of the Report.

Other map titles: MAPS OF LANDSLIDE STUDIES AND SURFICIAL DEPOSITS GEOLOGY (F13a-13e),INTERPRETATION OF HISTORIC CHANNEL AND LANDSLIDE NETWORK AT LBNL IN STRAWBERRY CANYON (F13f), COMPILATION OF LANDSLIDE AND SURFICIAL GEOLOGY MAPS 13a-13f IN STRAWBERRY CANYON (F14), COMPILATION OF SELECTED LANDSLIDE MAPPING(Fs 13a,b,e) IN STRAWBERRY CANYON IN RELATION TO GROUNDWATER CONTAMINATION PLUMES (F15), COMPILATION OF MONITORING WELLS AND FACTORS WITH POTENTIAL INFLUENCES ON GROUNDWATER TRANSPORT AT LBNL (F 17a), ZONES OF CONCERN FOR GROUNDWATER PLUME EXPANSION ALONG COMPILED FAULTS, BEDROCK CONTACTS, LANDSLIDES, HISTORIC AND MODERN CREEKS (F18a), and VARIOUS COMPILED SITE CONDITIONS AT FUTURE BUILDING SITES OF LBNL'S LONG RANGE DEVELOPMENT PLAN (F20a).

The maps referenced above are provided to supplement the inadequacies of the CRT DEIR, and to provide a more comprehensive picture of the natural and man-made hazards at LBNL.

On page 1.0-3 of the CRT DEIR there is a reference to the possibility that the federal government (i.e. Department of Energy) might close LBNL. It is our understanding that this is being considered and will possibly happen on or around CY 2010. Both the CRT and Helios projects are funded by other than DOE sources. Please, provide updated information what impacts might DOE's closing of LBNL cause. How are the lands under UC or other non-DOE funded projects being transferred out of the DOE's currently lease-held lands (50 year land lease)? Please, provide a site map that shows which land tracts/areas are being considered to be transferred out of DOE's current land lease. This is of specific interest with respect to the areas of contamination at LBNL, and who will be responsible for cleaning up the DOE's legacy contamination?What kinds of Environmental Review documents are being considered for these potential land transfers? What is the situation with the proposed CRT lands?

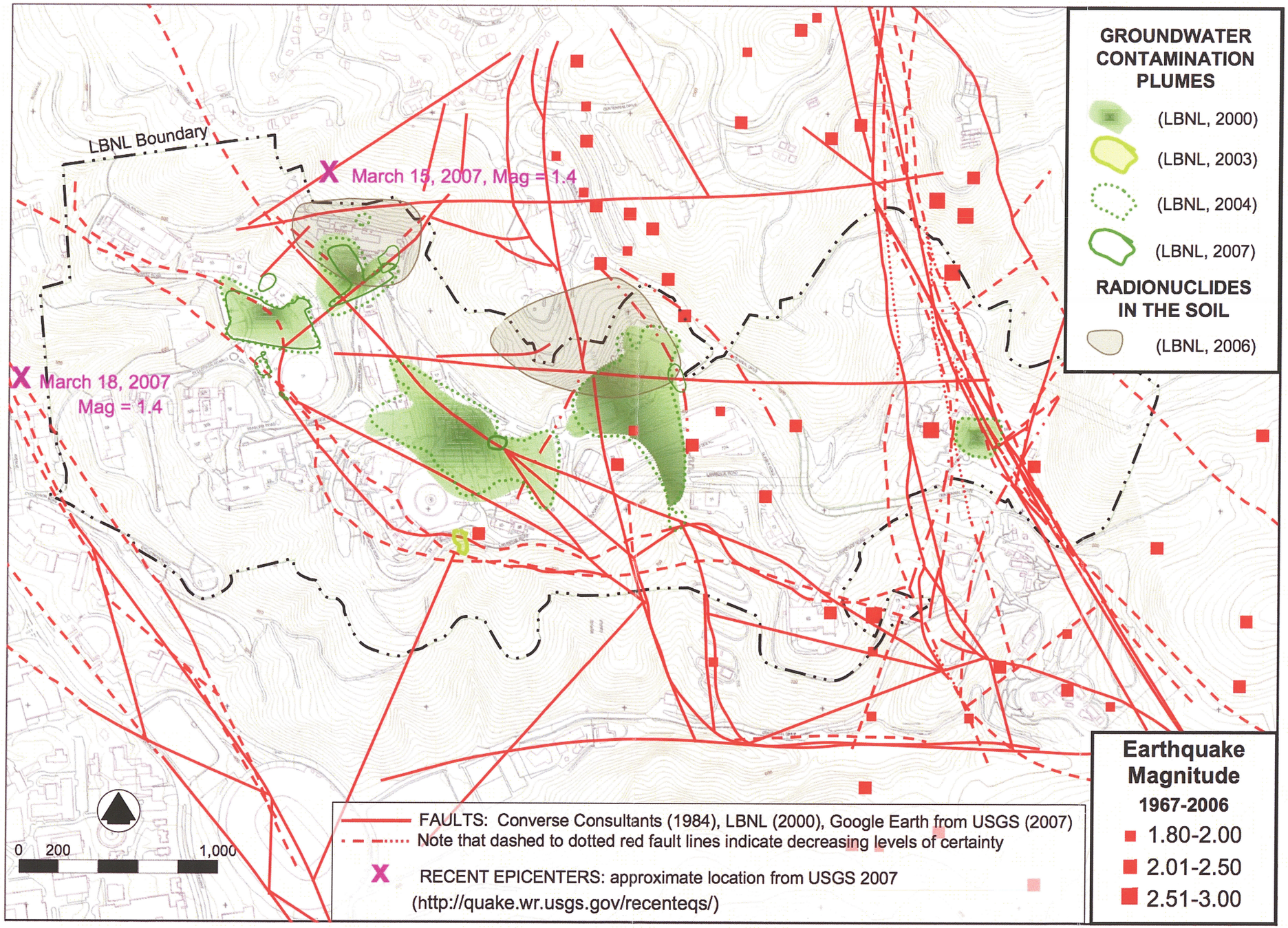
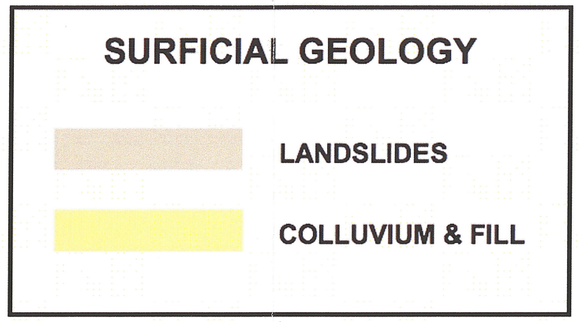
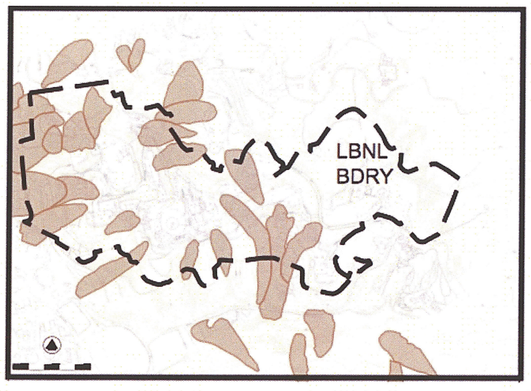


FIGURE 12b. GROUNDWATER CONTAMINATION PLUMES AND RADIOACTIVE CONTAMINATION IN SOIL RELATIVE TO FAULTS AND EARTHQUAKE EPICENTERS AT LBNL IN STRAWBERRY CANYON

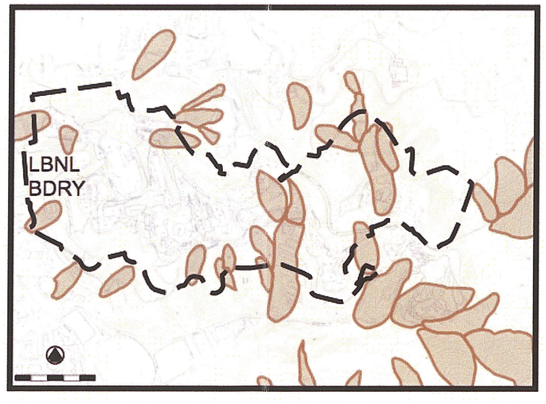
13a. Tor Nielsen, 1975 (USGS)

13b. LBNL, 2000

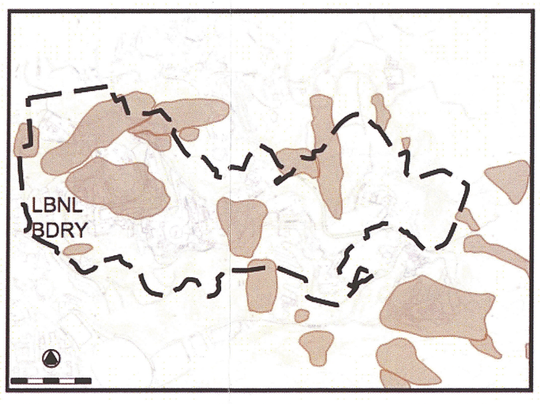




13c. Unpublished, Received from Kropp Assoc. (no author or date).

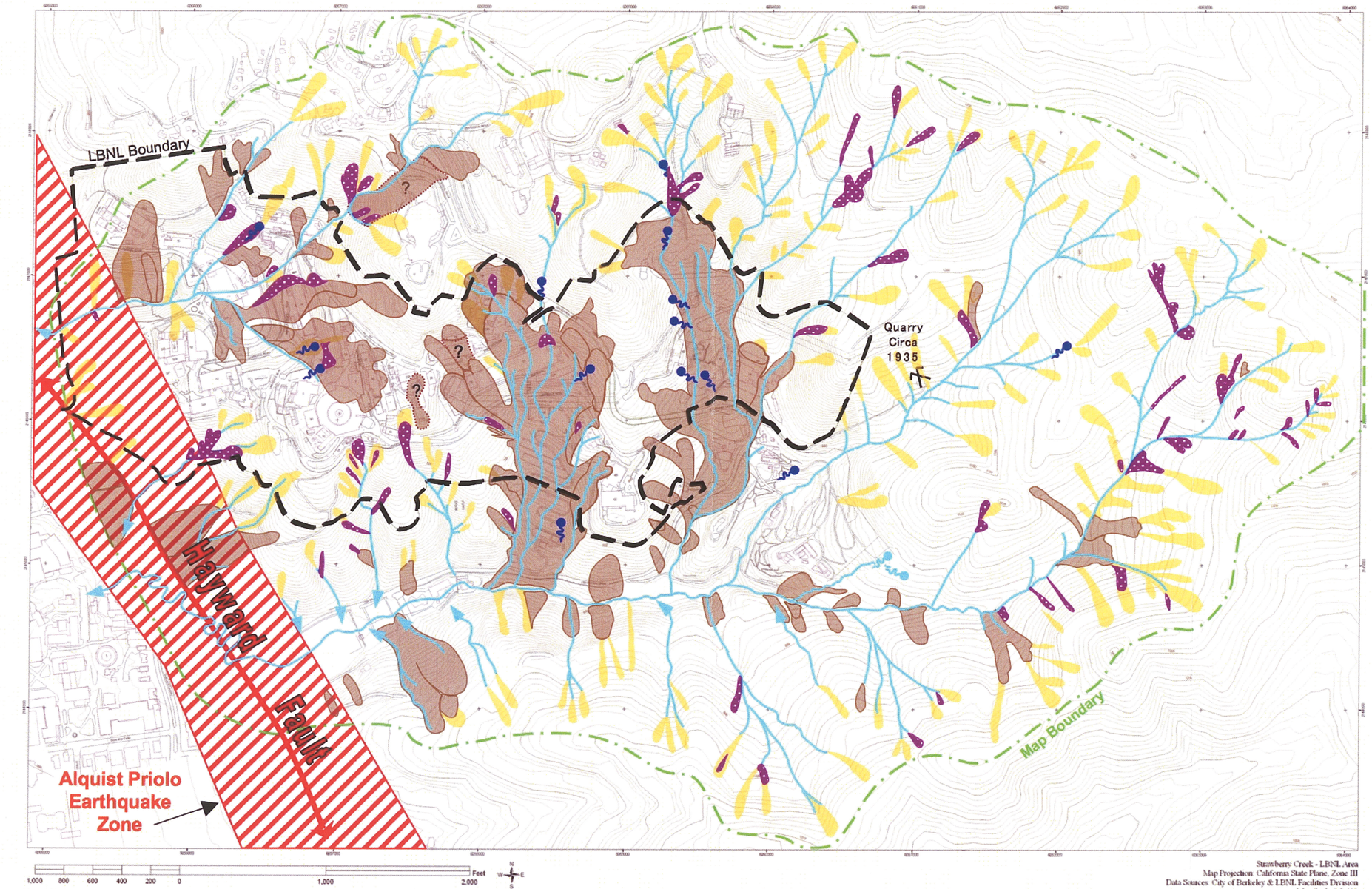


13d. Unpublished, Received from Kropp Assoc. (no author or date).



13e. California Geological Survey, 2003

FIGURES 13a-13e. MAPS OF LANDSLIDE STUDIES AND SURFICIAL DEPOSITS GEOLOGY



Colluvial Hollow: Source Area for Shallow Slides and/or Landslide Scar; Might Have Had Some Activity Within Colluvial Hollow During Last Century.

Earthflow, Slump, or Deep Seated Slide; Includes Area of Crown Scarp; Can include bedrock blocks; Portions of Some Earthflows May be Buried Beneath Alluvial Fans and Colluvium.

Debris Flow or Shallow Slide Active During Last Century

Historic Channel Network and Springs; Springs Adapted from Soule 1895

Laurel Collins, Watershed Sciences, January 2007

AERIAL PHOTOS: Strawberry Canyon, East Bay Regional Park District (1935)
STEREO PHOTOS: BUT-BUU-289 (1939), GS-CP (1946), AV-11 (1947), AV39-29 (1990)
Map of Strawberry Valley and Vicinity (Frank Soule, 1895)
1956 Topographic Map Portions (LBNL, 2000: Figures 4.3.2-2 and C2.2-1)
Hayward Fault from USGS Faults on Google Earth (2007)

FIGURE 13f. INTERPRETATION OF HISTORIC CHANNEL AND LANDSLIDE NETWORK AT LBNL IN STRAWBERRY CANYON

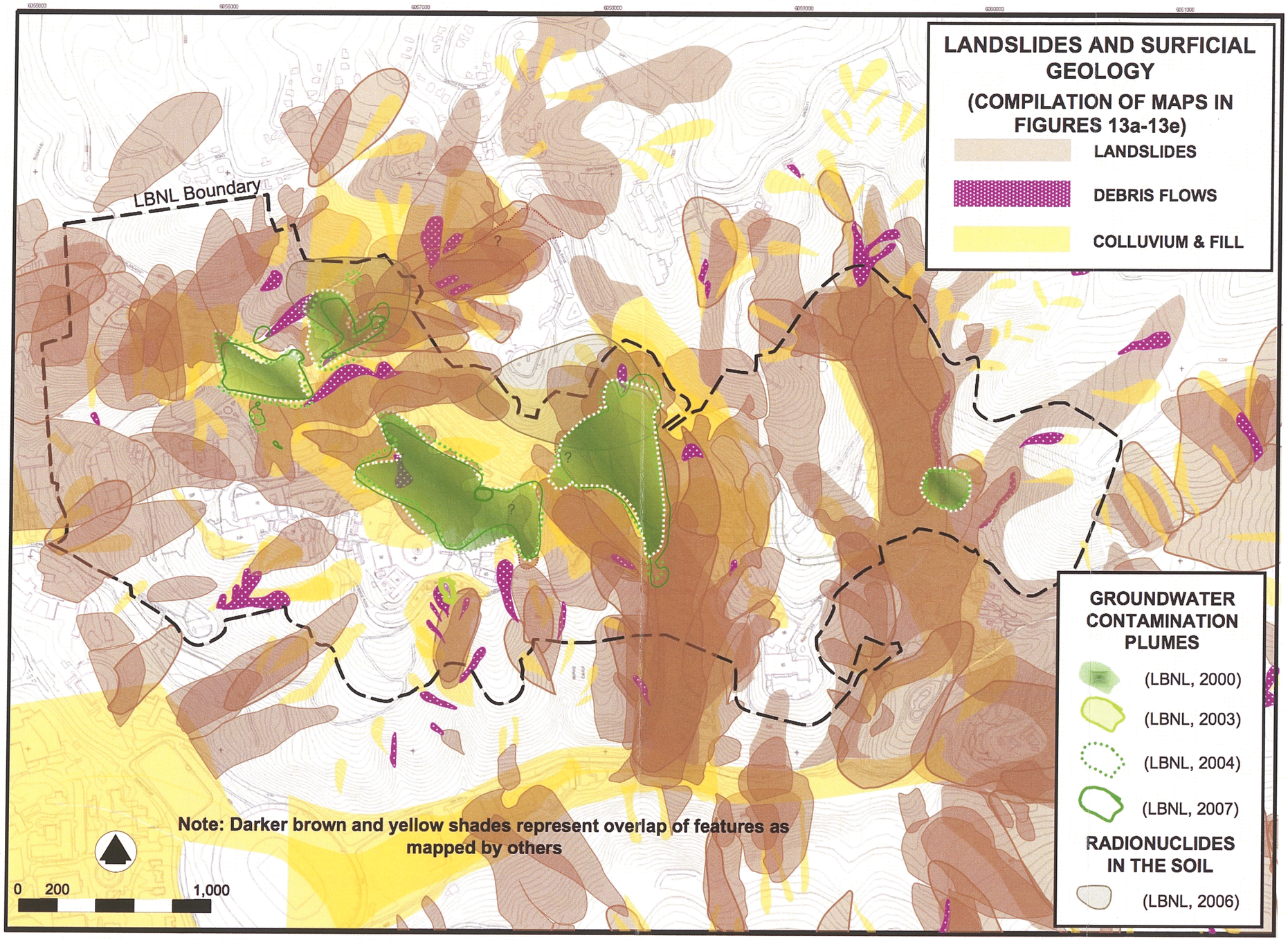


FIGURE 14. COMPILATION OF LANDSLIDE AND SURFICIAL GEOLOGY MAPS 13a-13f IN STRAWBERRY CANYON

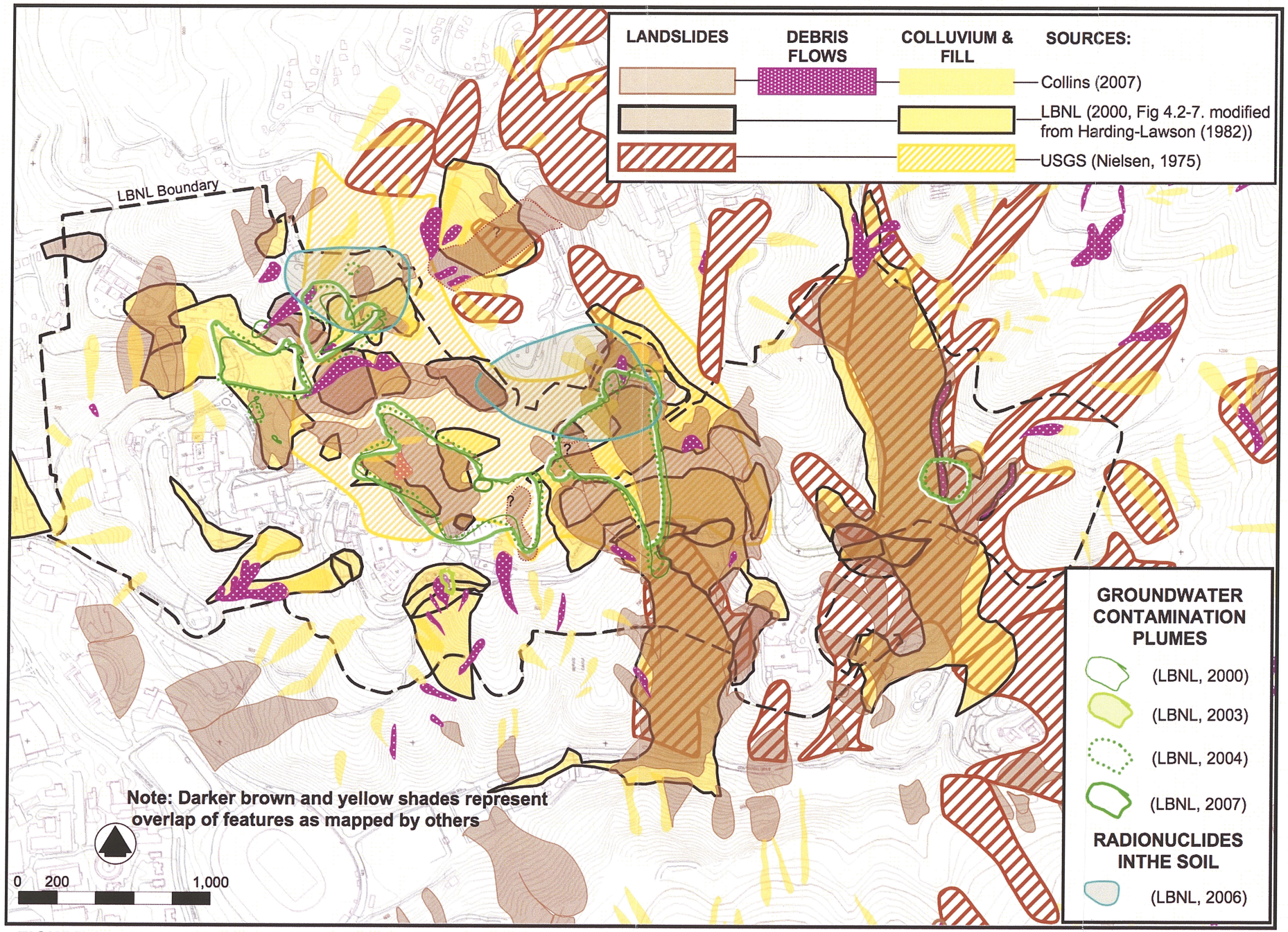


FIGURE 15. COMPILATION OF SELECTED LANDSLIDE MAPPING (FIGURES 13a,13b,13e) IN STRAWBERRY CANYON IN RELATION TO GROUNDWATER CONTAMINATION PLUMES

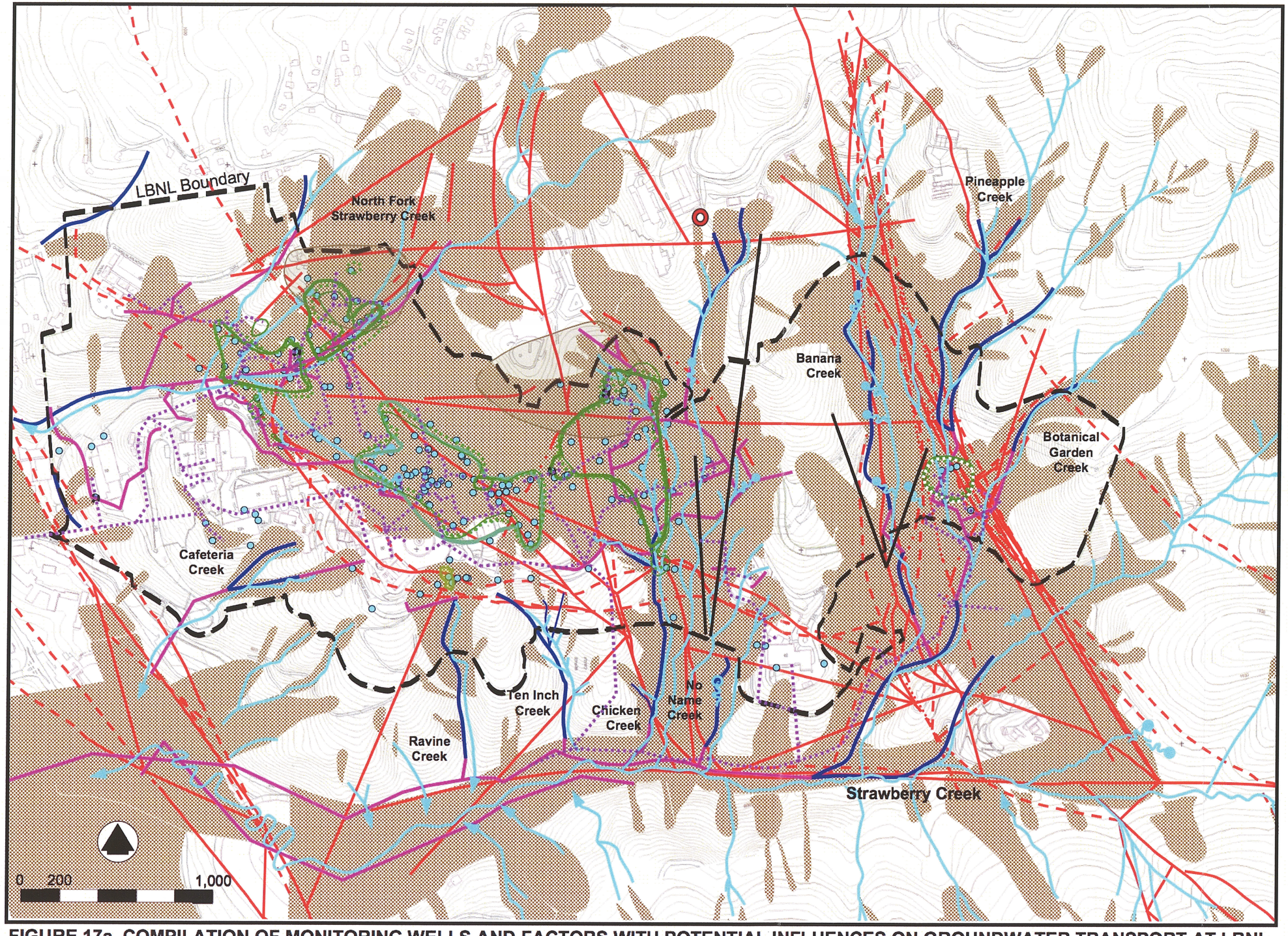


FIGURE 17a. COMPILATION OF MONITORING WELLS AND FACTORS WITH POTENTIAL INFLUENCES ON GROUNDWATER TRANSPORT AT LBNL. FOR BEDROCK CONTACTS VIEW FIGURES 8a AND 8b. SEE NEXT PAGE FOR MAP LEGEND.

LEGEND

HYDROLOGY

- **Historic Streams & Springs (Collins, 2007)**
- **Modern Streams** (LBNL, 2000)
- **Storm Drains** (LBNL, 2000)
- **Hydraugers** (Converse, 1984)
- **Shively Well Pumping the Lennert Aquifer** (Converse, 1984)
- **Sanitary Sewers** (LBNL, 2000)

GROUNDWATER

- **Contamination Plumes** (LBNL, 2000)
- **Contamination Plumes** (LBNL, 2003)
- **Contamination Plumes** (LBNL, 2004)
- **Contamination Plumes** (LBNL, 2007)
- **Sampling Wells** (LBNL, 2000)
- **Radionuclides in the Soil** (LBNL, 2006)

LANDSLIDES, COLLUVIUM, & FILL

Collins (2007),
LBNL (2000, Fig 4.2-7. modified from Harding-Lawson (1982)),
USGS (Nielsen, 1975)

FAULTS

Converse Consultants (1984),
LBNL (2000), USGS on Google Earth (2007)

- **LBNL Boundary**

FIGURE 17b. LEGEND FOR FIGURE 17a COMPILATION OF FACTORS WITH POTENTIAL INFLUENCES ON GROUNDWATER TRANSPORT AT LBNL.

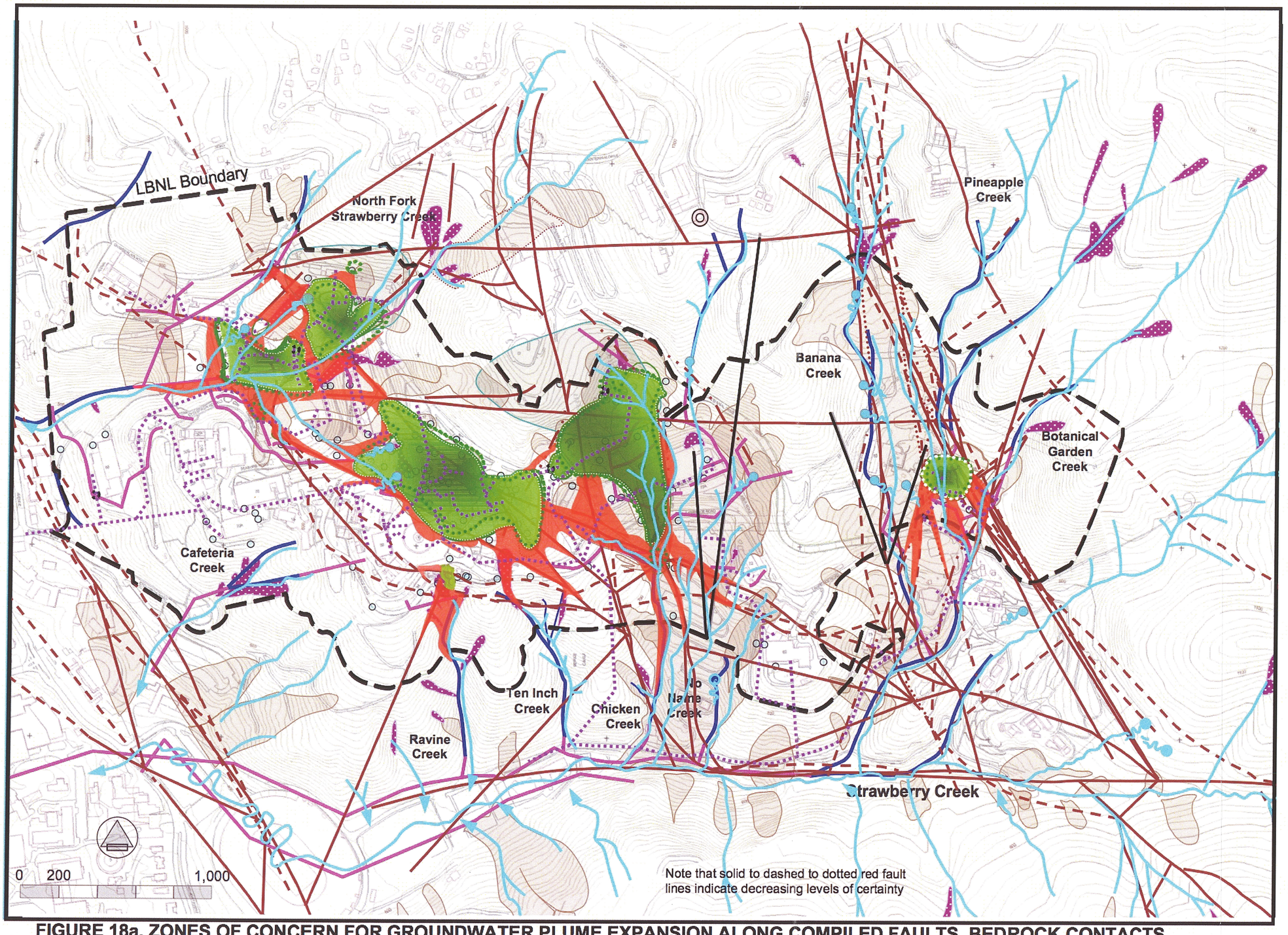


FIGURE 18a. ZONES OF CONCERN FOR GROUNDWATER PLUME EXPANSION ALONG COMPILED FAULTS, BEDROCK CONTACTS, LANDSLIDES, HISTORIC AND MODERN CREEKS. SEE NEXT PAGE FOR MAP LEGEND.

HYDROLOGY

- **Sanitary Sewers** (LBNL, 2000)
- **Modern Streams** (LBNL, 2000)
- **Storm Drains** (LBNL, 2000)
- **Hydraugers** (Converse, 1984)
- **Shively Well Pumping the Lennert Aquifer** (Converse, 1984)
- **Historic Drainage Network** (Collins,2007)

PLUMES IDENTIFIED BY LBNL

- **Contamination Plumes** (LBNL, 2000)
- **Contamination Plumes** (LBNL, 2003)
- **Contamination Plumes** (LBNL, 2004)
- **Contamination Plumes** (LBNL, 2007)
- **Sampling Wells** (LBNL, 2000)
- **Radionuclides in the Soil** (LBNL, 2006)

ZONES OF CONCERN FOR GROUNDWATER CONTAMINATION

- **Possible contaminant migration zone along fault, bedrock contact, or landslide**

LANDSLIDES

- Active Shallow Slides (Collins, 2007)
- Deep-seated Earthflow (Collins, 2007)

FAULTS

- Converse Consultants (1984), LBNL (2000), USGS on Google Earth (2007)

FIGURE 18b. LEGEND TO POTENTIAL FACTORS INFLUENCING CONTAMINATED GROUNDWATER PLUME EXPANSION

In conclusion we ask that the NERSC Center stay in Oakland, and that the Richmond Field Station site be considered for all other UC and non-DOE funded future projects. This is the only way to mitigate the horrendous traffic and diesel exhaust impacts along the corridor from the northeast to the southeast corners of the UC Berkeley Campus.

In addition we ask that all remaining virgin lands in the Strawberry Creek Watershed be preserved and all creeks, tributaries of the Strawberry Creek be restored and protected!

We hope that UC/LBNL will finally acknowledge that the Canyon is already overbuilt, and cannot safely accommodate any new development and that the focus of the University should be in planning for the WORST CASE SCENARIO, i.e. how to quarantee the survival of the maximum amount of students and Berkeley residents when the Hayward Fault erupts!

Sincerely, Pamela Sihvola

Pamela Sihvola
P.O. Box 9646
Berkeley, CA 94709

PS. Please enclosed also find a copy of the transcript from the August 8, 2007 Public Scoping Meeting on the CRT and Helios Projects (Attachment 5) and copies of the written comments provided by the public regarding the above referenced projects (Attachment 6). We feel that the public concerns were <u>not</u> adequately taken into consideration in the CRT DEIR!