Community Advisory Group (CAG)
July 15, 2013

Environmental Restoration Program

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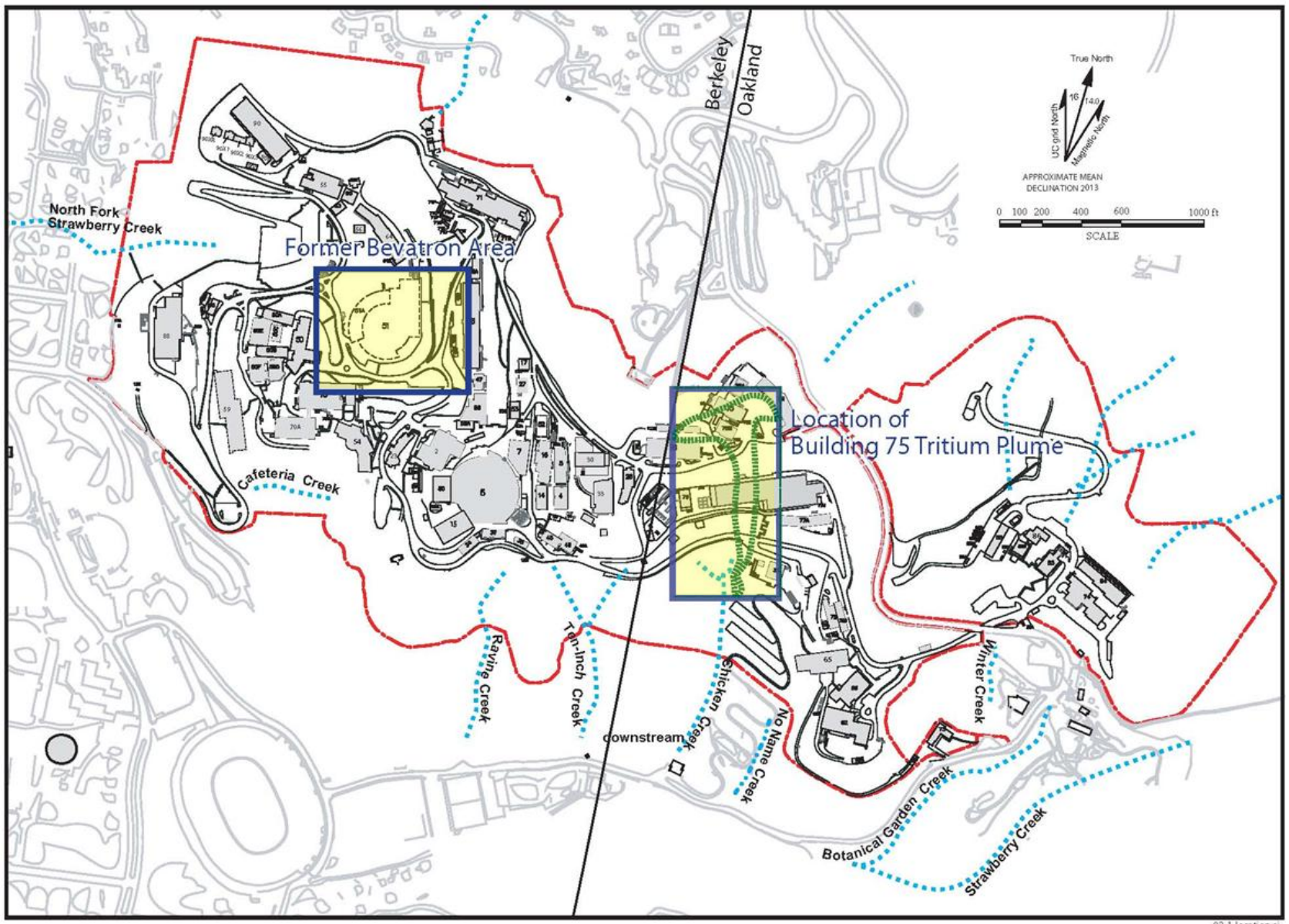
Introduction

- Building 75 Tritium Plume
- Former Bevatron/Building 51 Site
  - Tritium Contamination/Soil Removal
  - VOC Contamination
  - Interim Corrective Measures to Control VOC Contamination
- Shively Well and Lennert Aquifer

Introduction – Lab Map



Building 75 Tritium Plume

Terminology

- **Tritium**

  A radioactive isotope of hydrogen that has one proton and two neutrons.

- **Half Life**

  The time over which radioactivity decreases by half.
  - The half life of tritium is 12.3 years.

- **Picocurie**

  1 picocurie=10^{-12} curies (one trillionth of a curie).

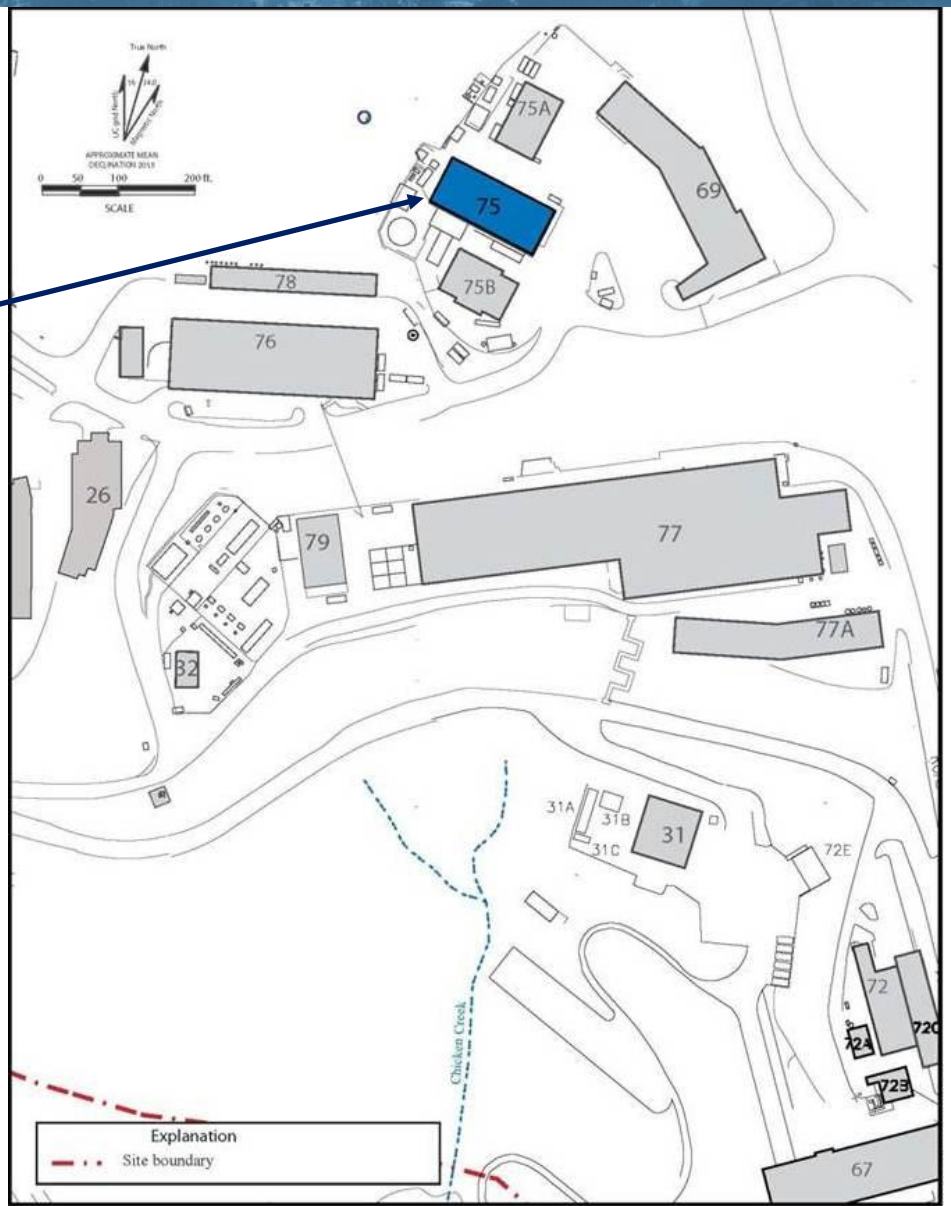
Terminology

- **Maximum Contaminant Levels (MCL)**

  Drinking Water Standards.
  - The MCL for tritium is 20,000 pCi/liter.
  - Groundwater at LBNL is not used as drinking water or for other domestic, agricultural, or industrial purposes.

Building 75 Tritium Plume

Building 75
Former National Tritium Labeling Facility (NTLF)



Building 75 Tritium Plume

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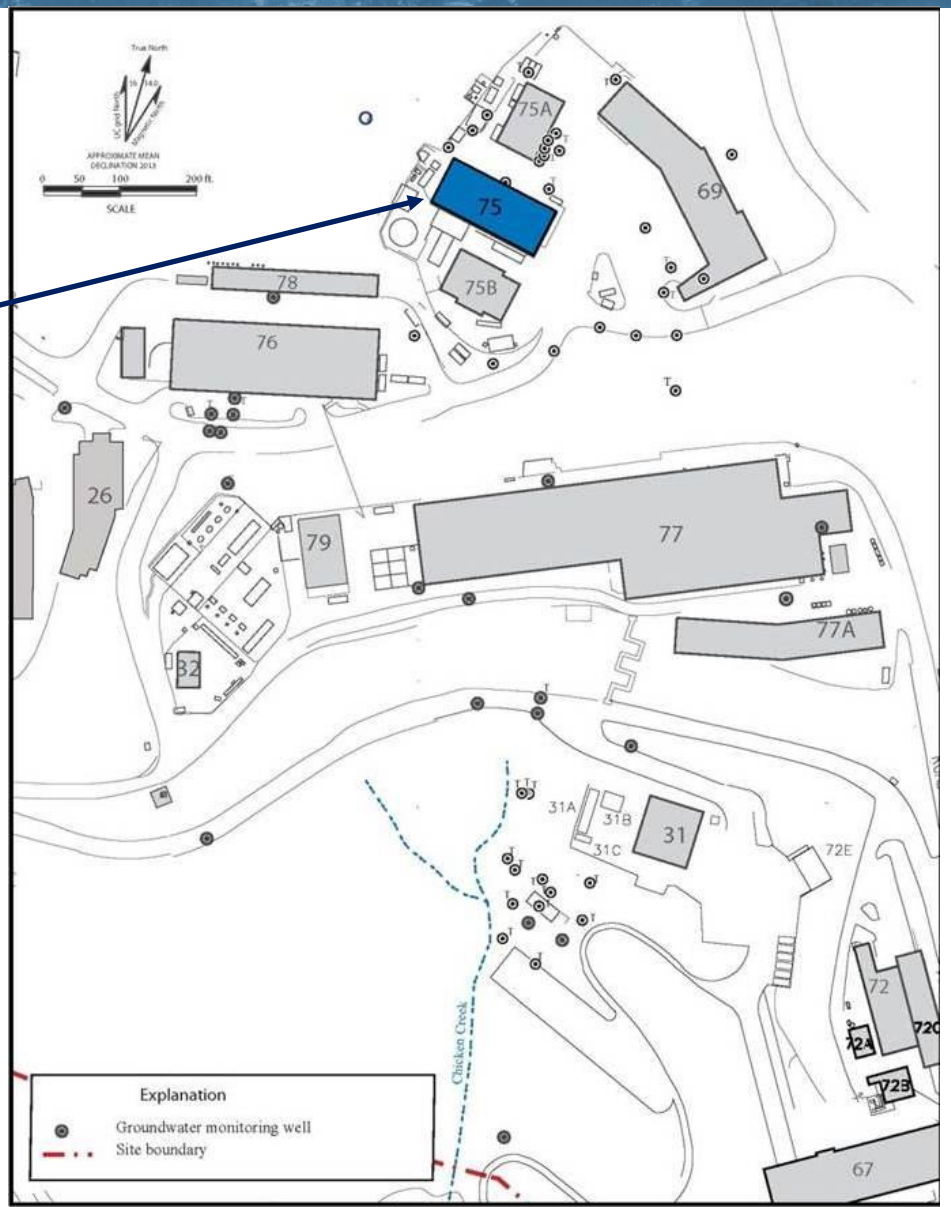
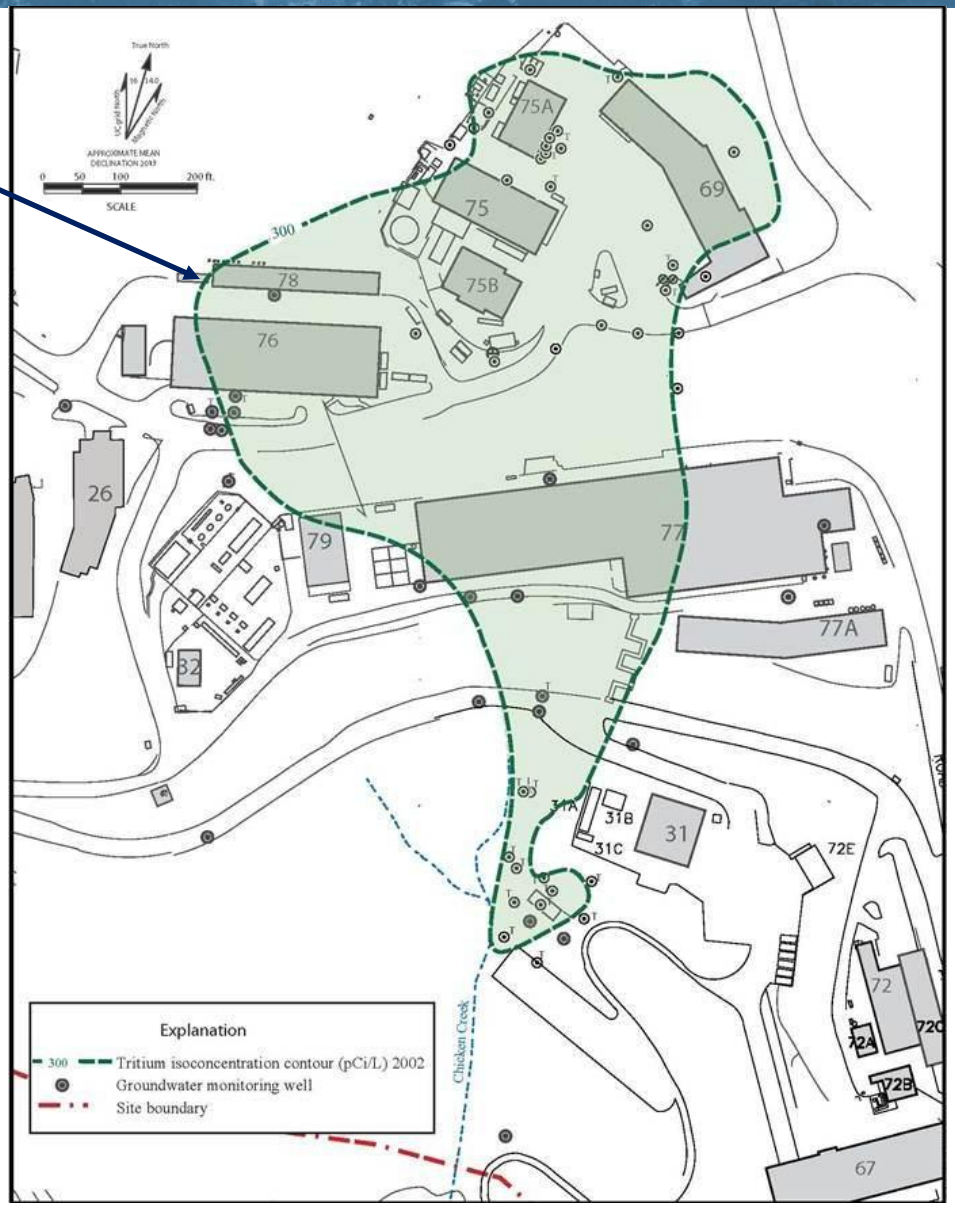


Building 75 Tritium Plume

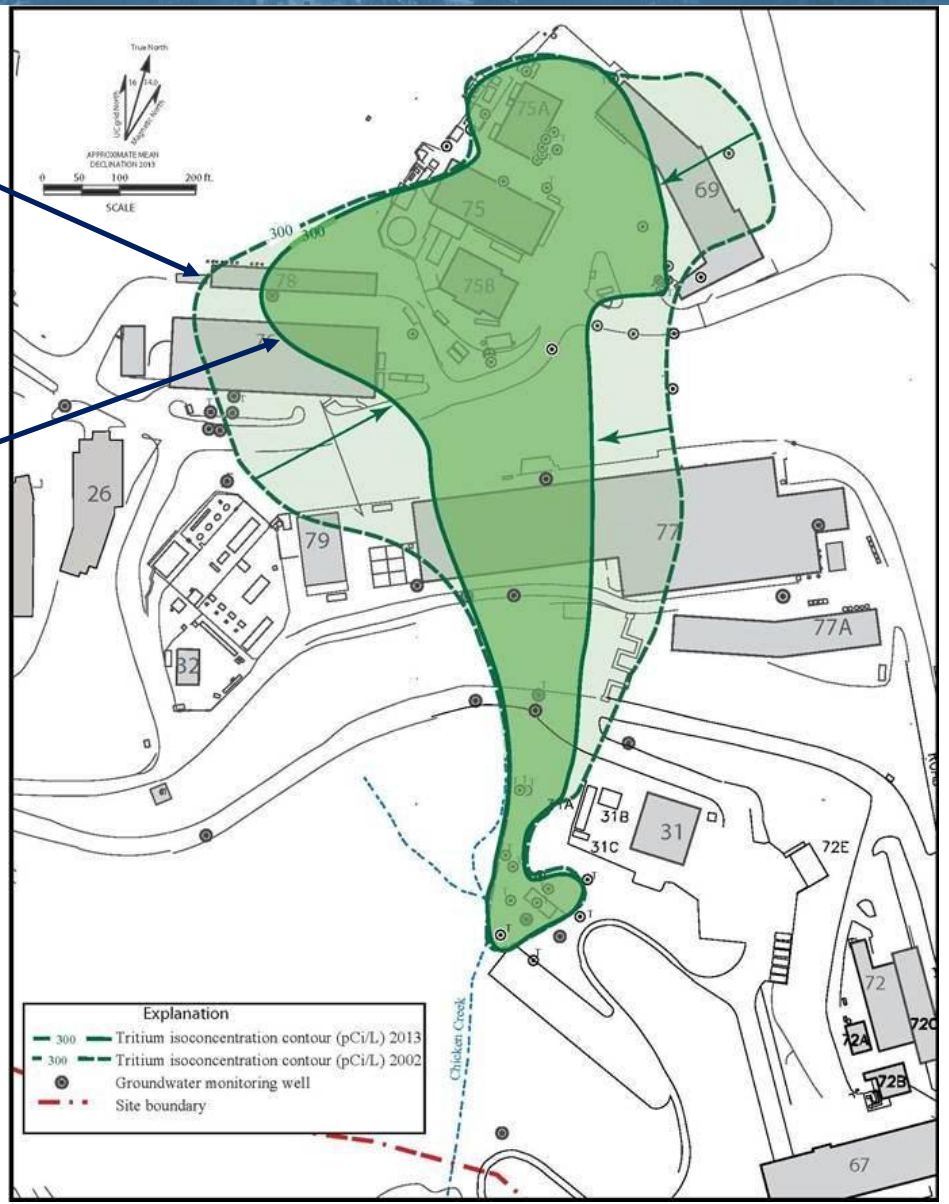
Extent of Plume Greater than 300 pCi/L in 2002



Building 75 Tritium Plume

Extent of Plume Greater than 300 pCi/L in 2002

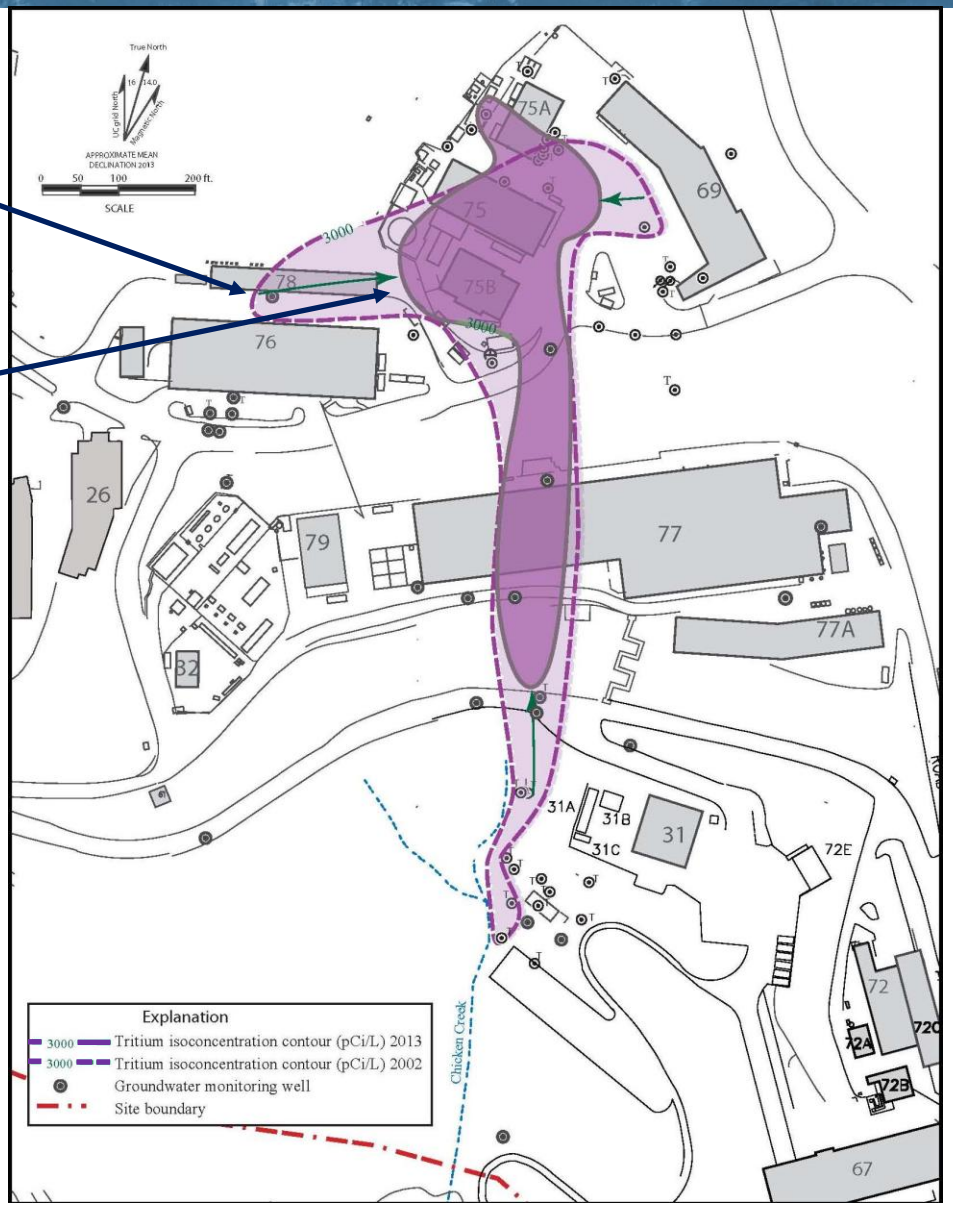
Extent of Plume Greater than 300 pCi/L in 2013



Building 75 Tritium Plume

Extent of Plume Greater than 3,000 pCi/L in 2002

Extent of Plume Greater than 3,000 pCi/L in 2013



Building 75 Tritium Plume

Extent of Plume Greater than 3,000 pCi/L in 2002

Extent of Plume Greater than 3,000 pCi/L in 2013

Wells:

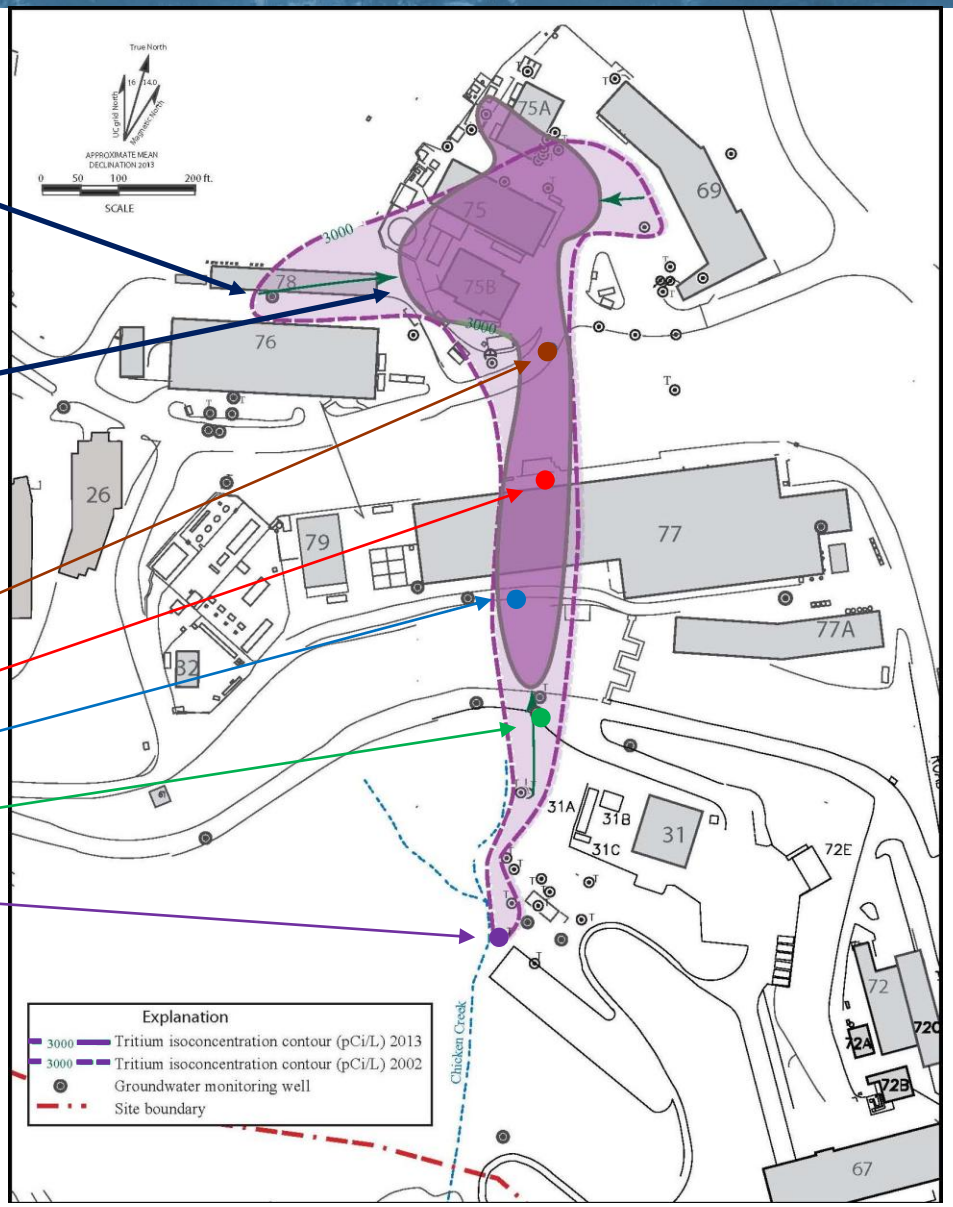
75-97-5

77-97-9

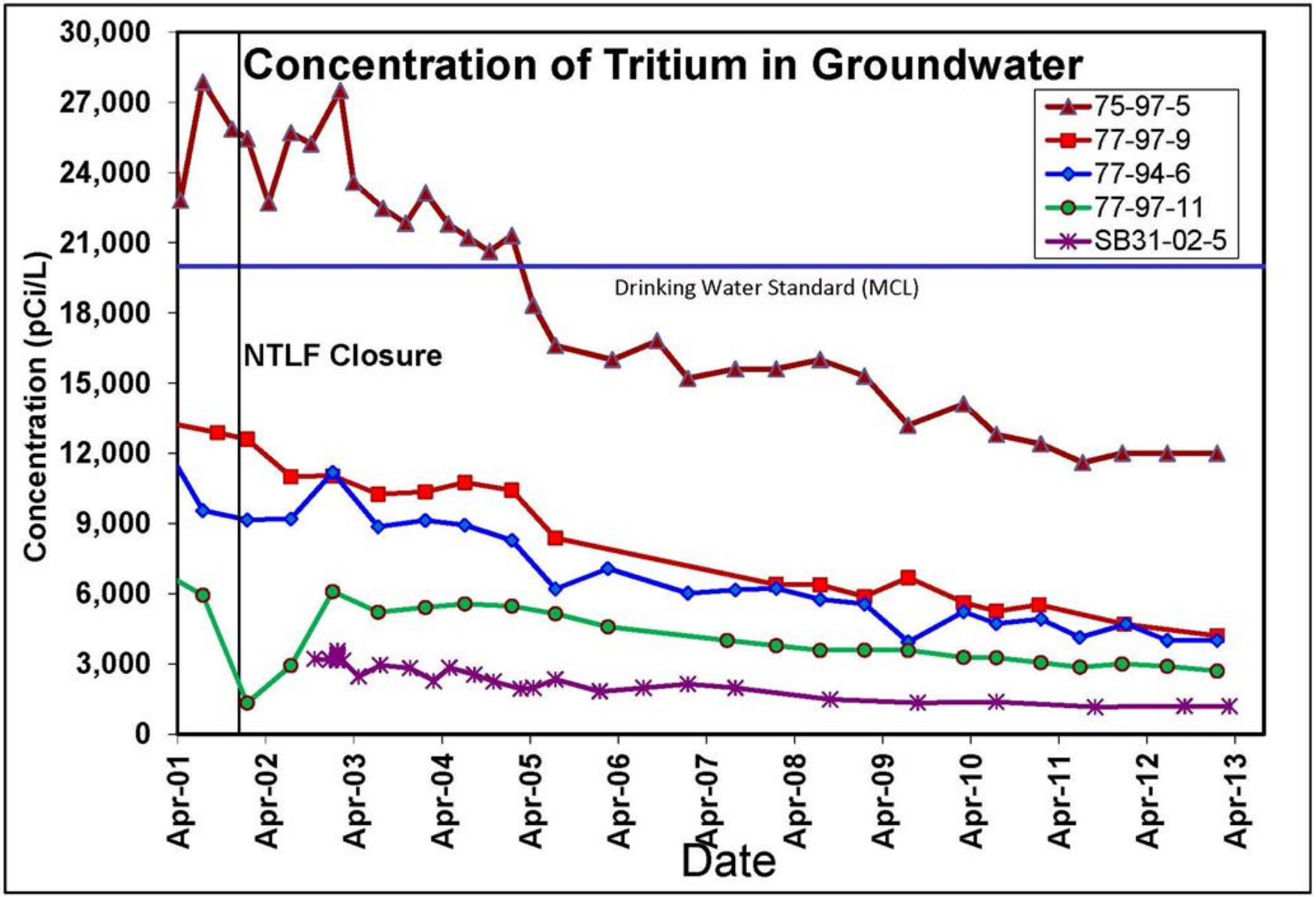
77-94-6

77-97-11

SB31-02-5

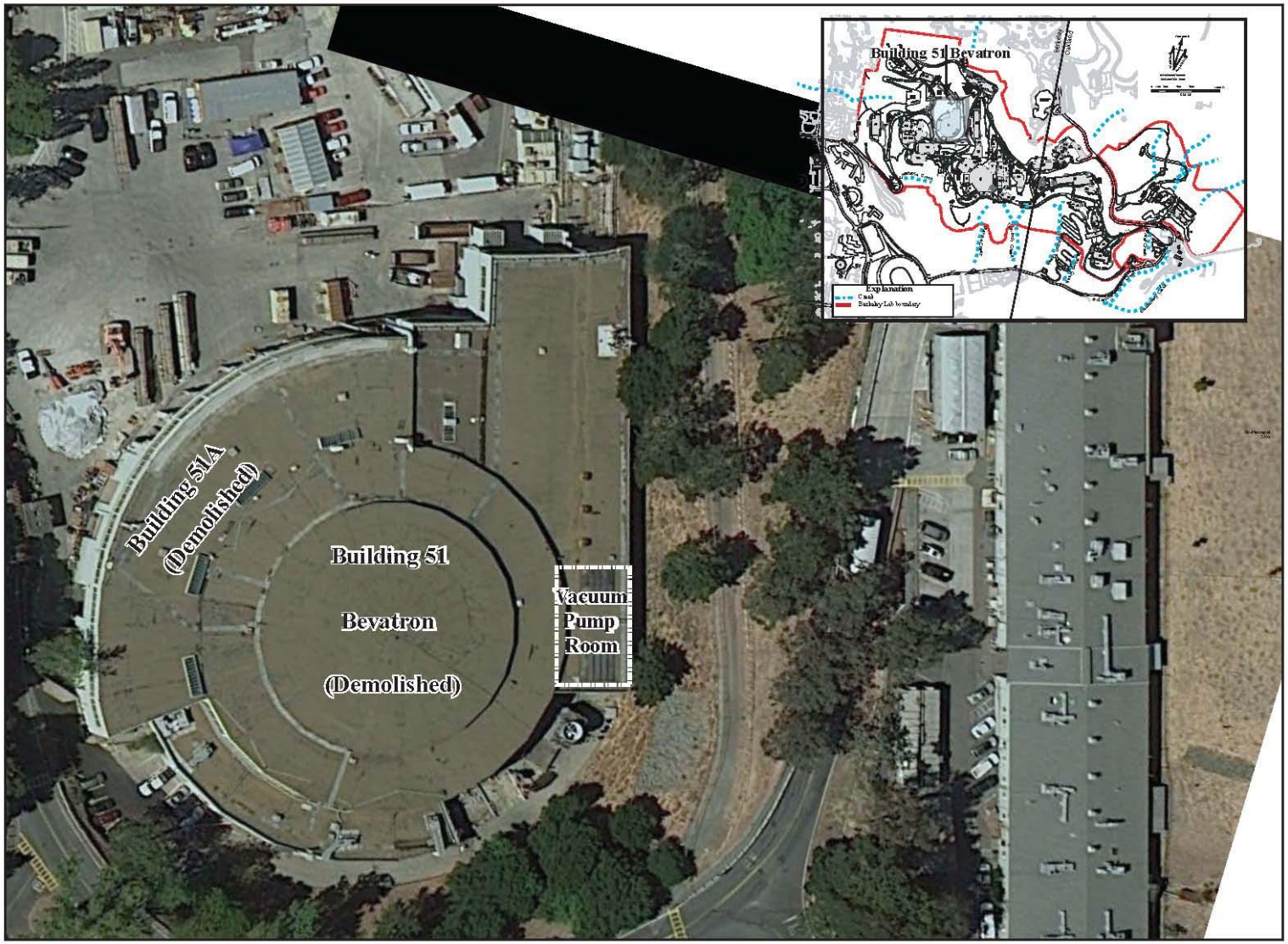


Monitoring Well Data



Former Bevatron/Building 51 Demolition and Site Investigation

Former Bevatron/Building 51 Site



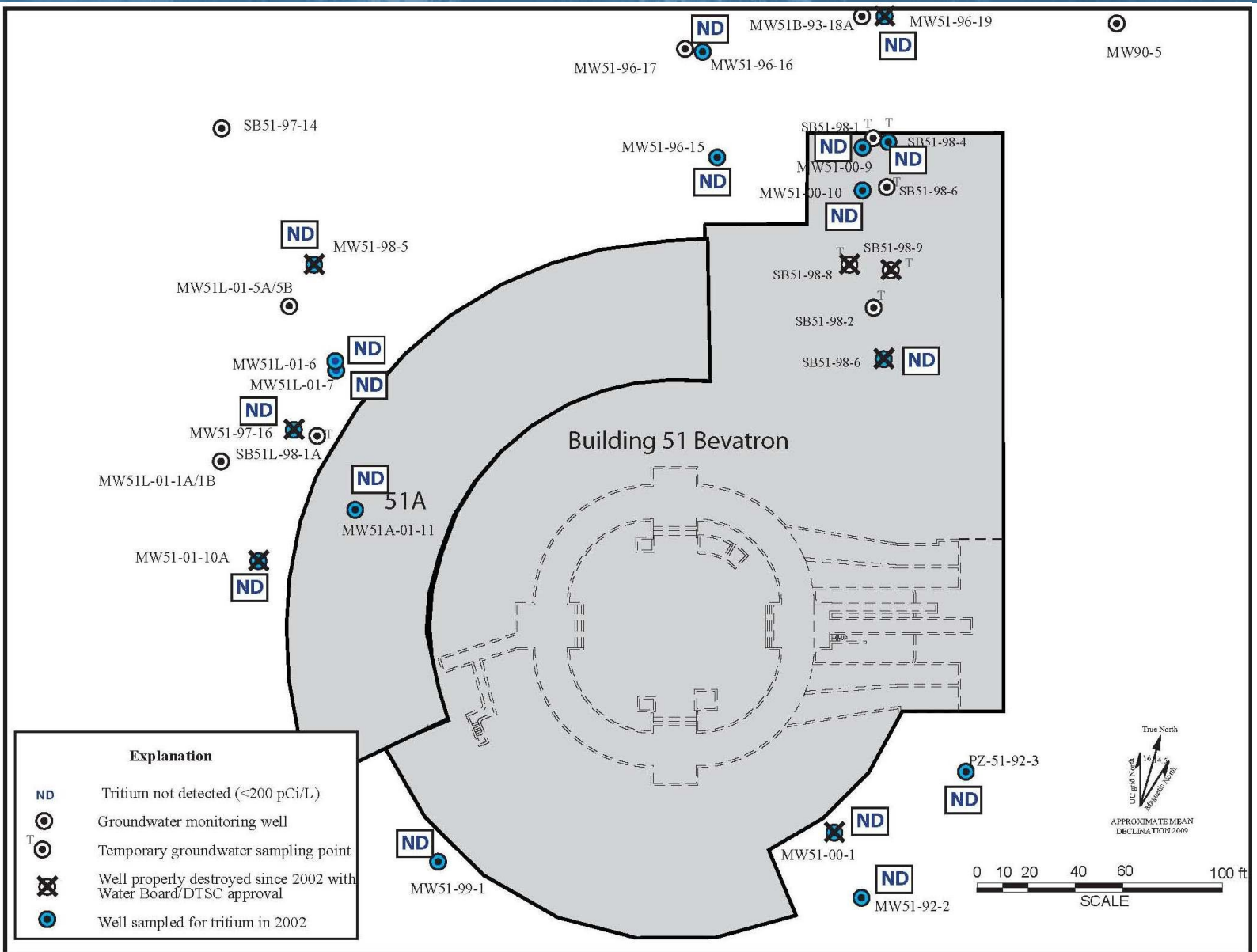
Timeline

1954 to 1993	• **Bevatron Operated.**
2008 to 2012	• **Building 51 and Bevatron Demolition Project.**
Sept 2010	• **Start Bevatron Subsurface Investigation.**
April 2012	• **Bevatron Investigation Completed and Report Submitted to DTSC.**

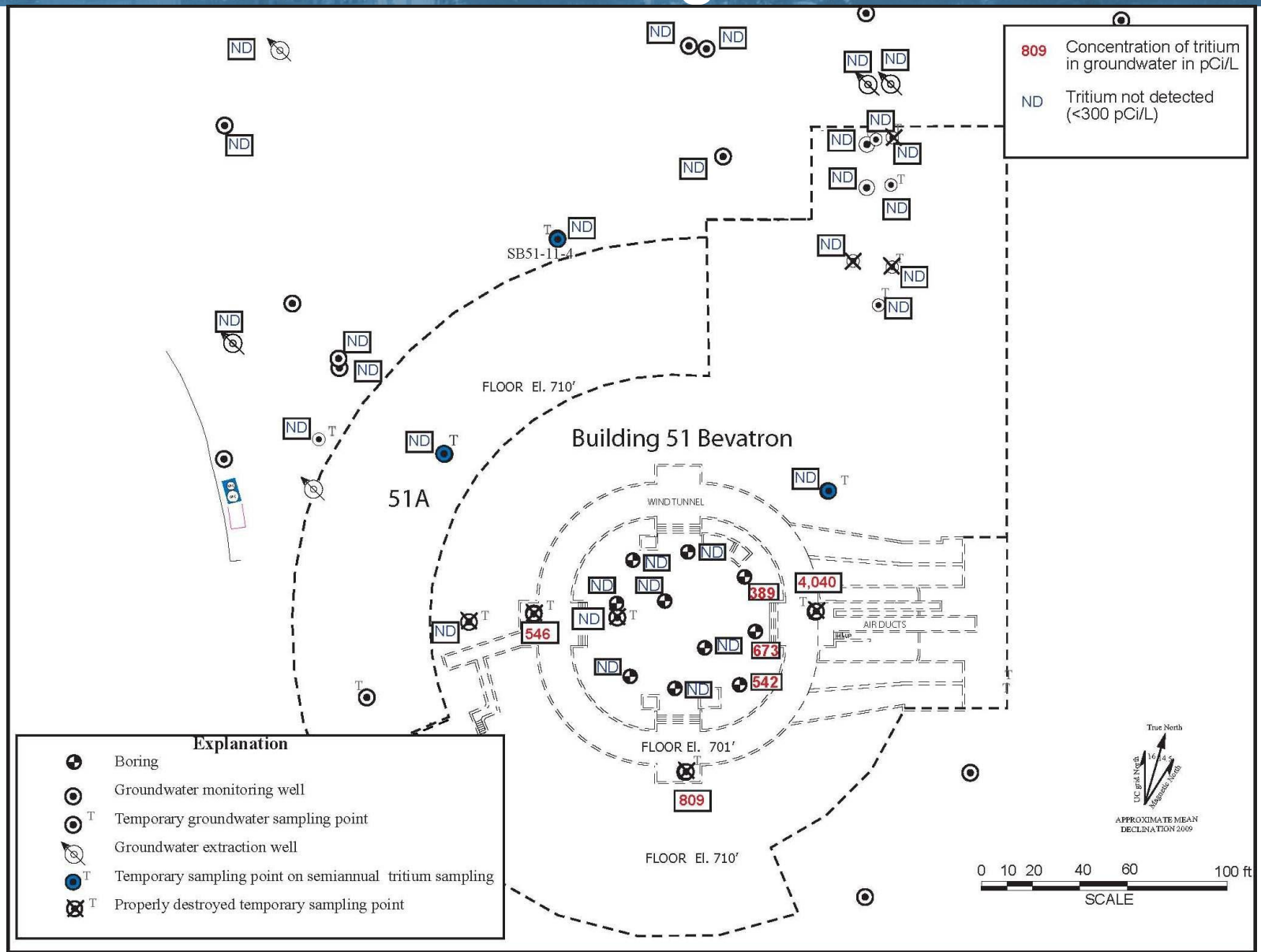
Former Bevatron/Building 51 Site

Tritium Contamination/ Soil Removal

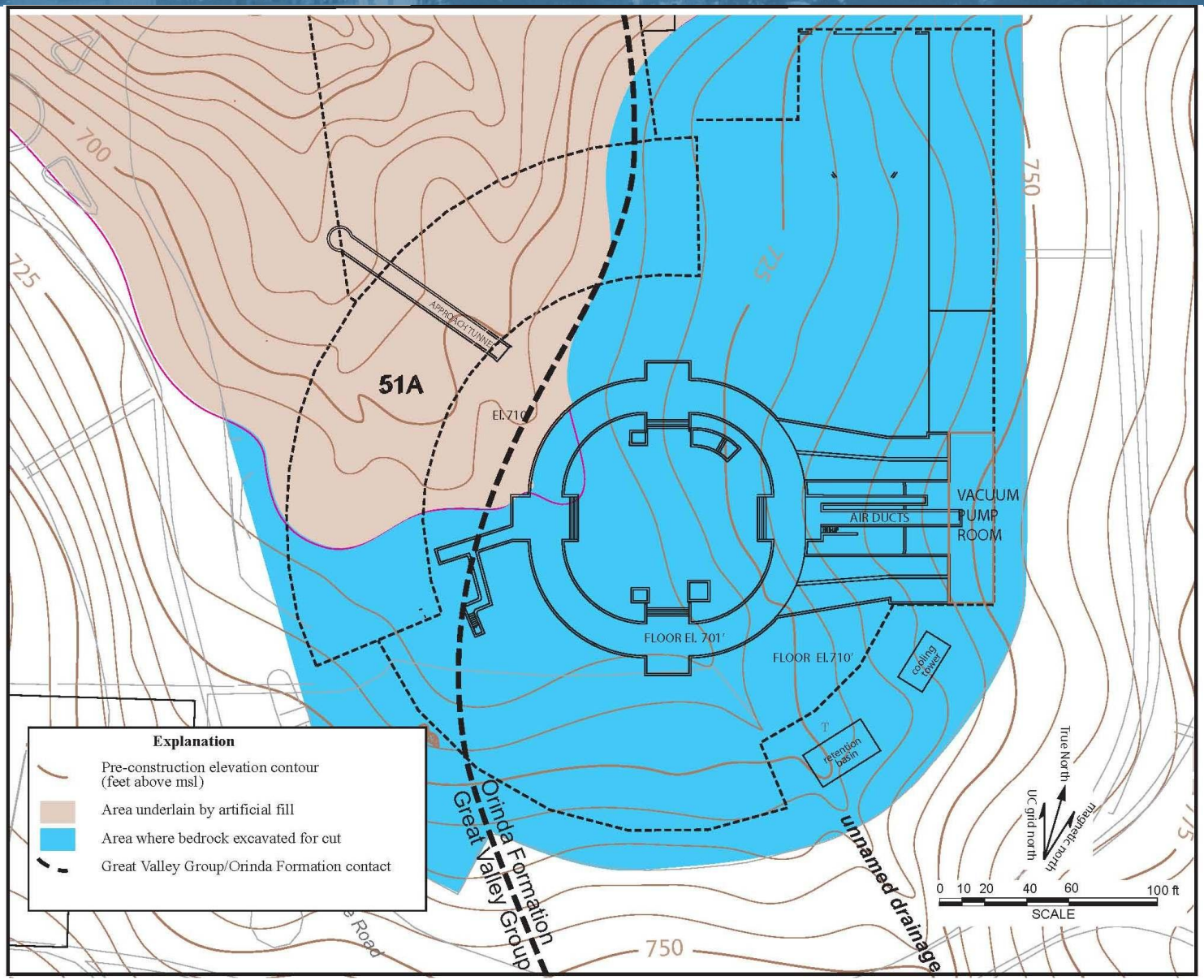
2002 Groundwater Monitoring Network



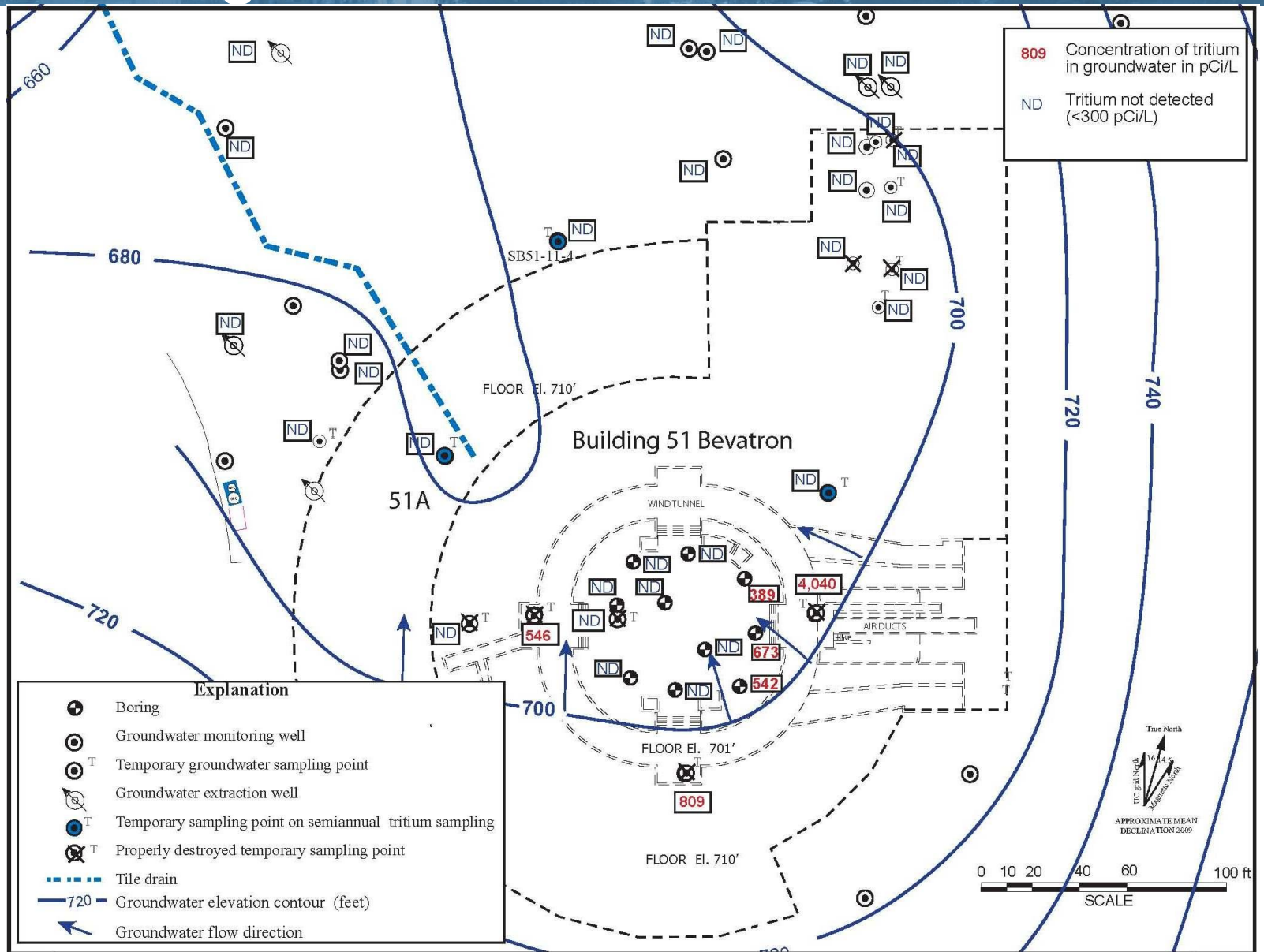
2010 and 2011 Groundwater Monitoring Network



Former Bevatron/Building 51 Site



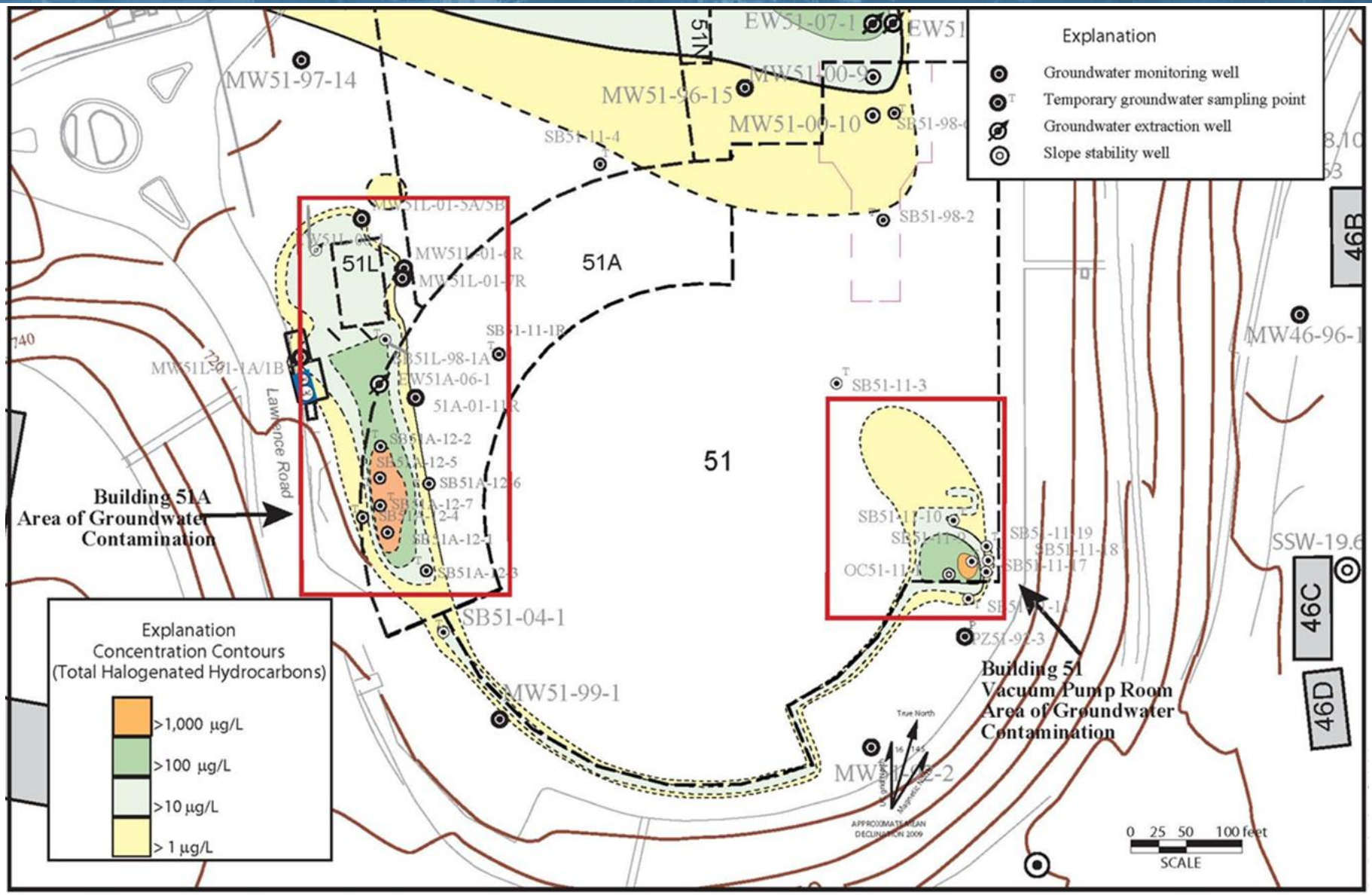
2010 and 2011 Groundwater Monitoring and Soil Removal



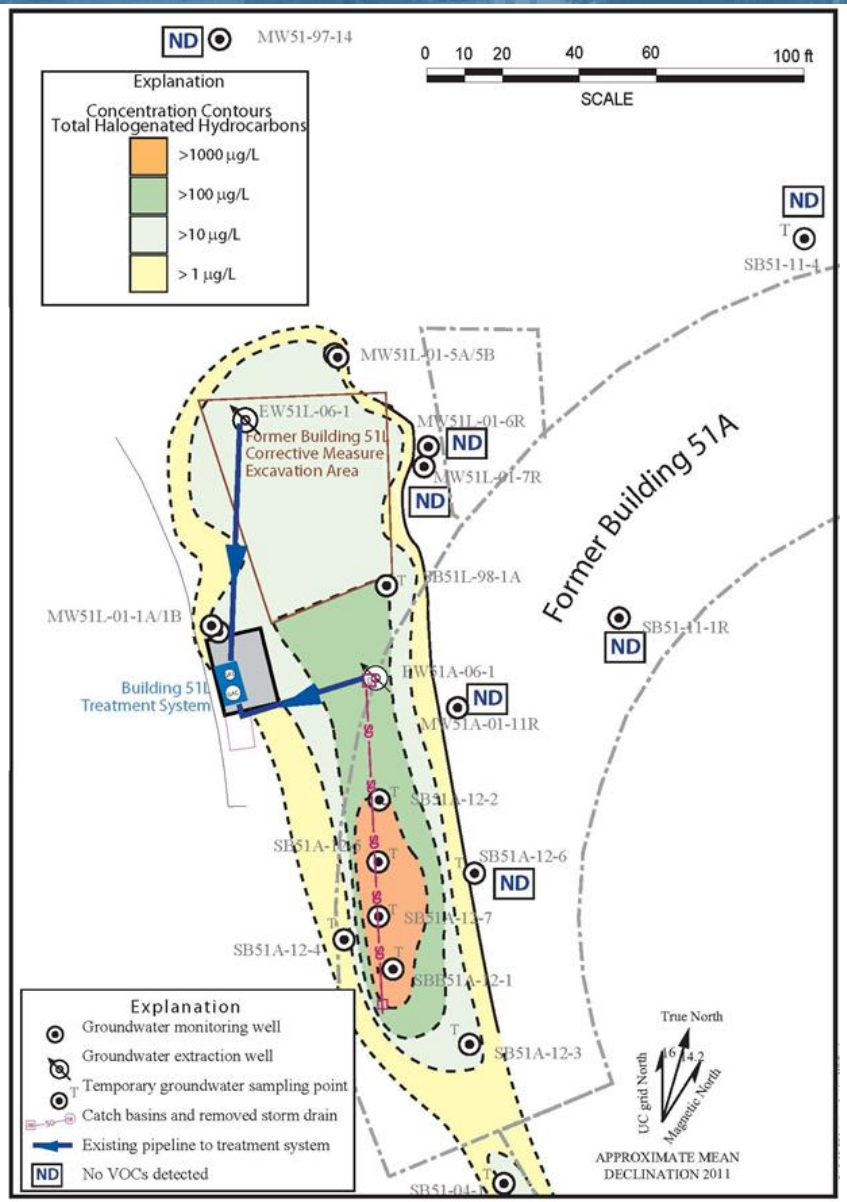
Former Bevatron/Building 51 Site

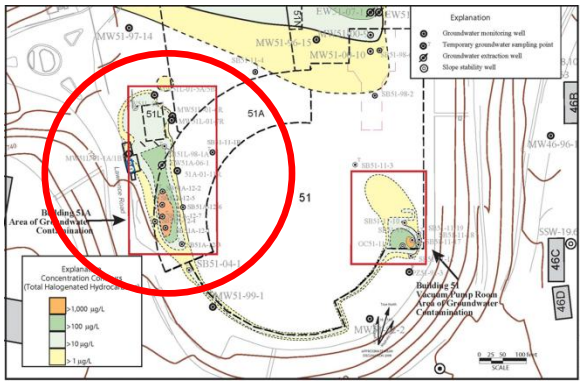
VOC Contamination

Areas of VOC Contamination

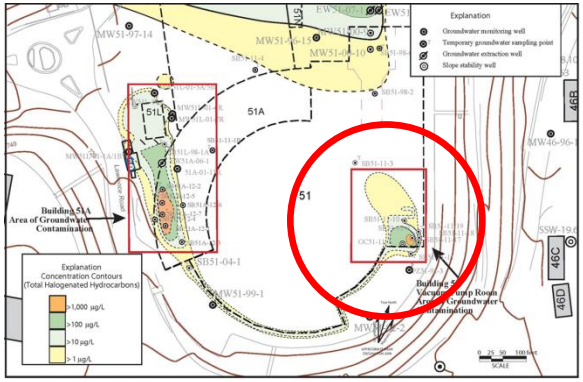


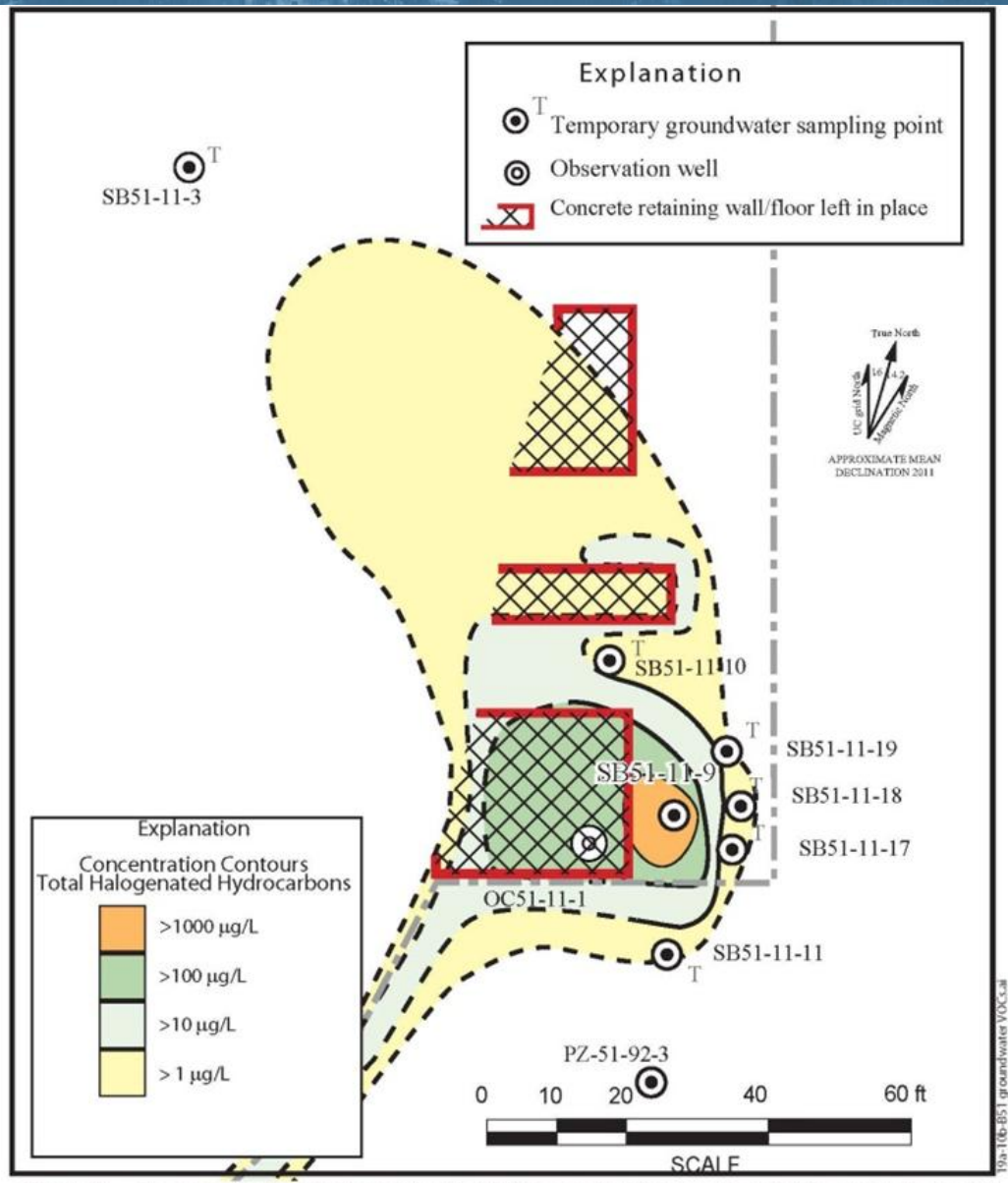
Building 51A Area





Vacuum Pump Room Area





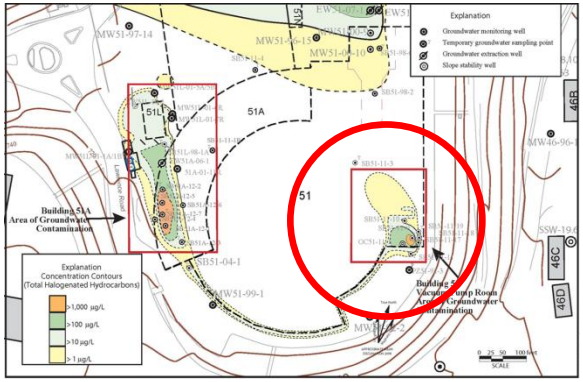
Former Bevatron/Building 51 Site

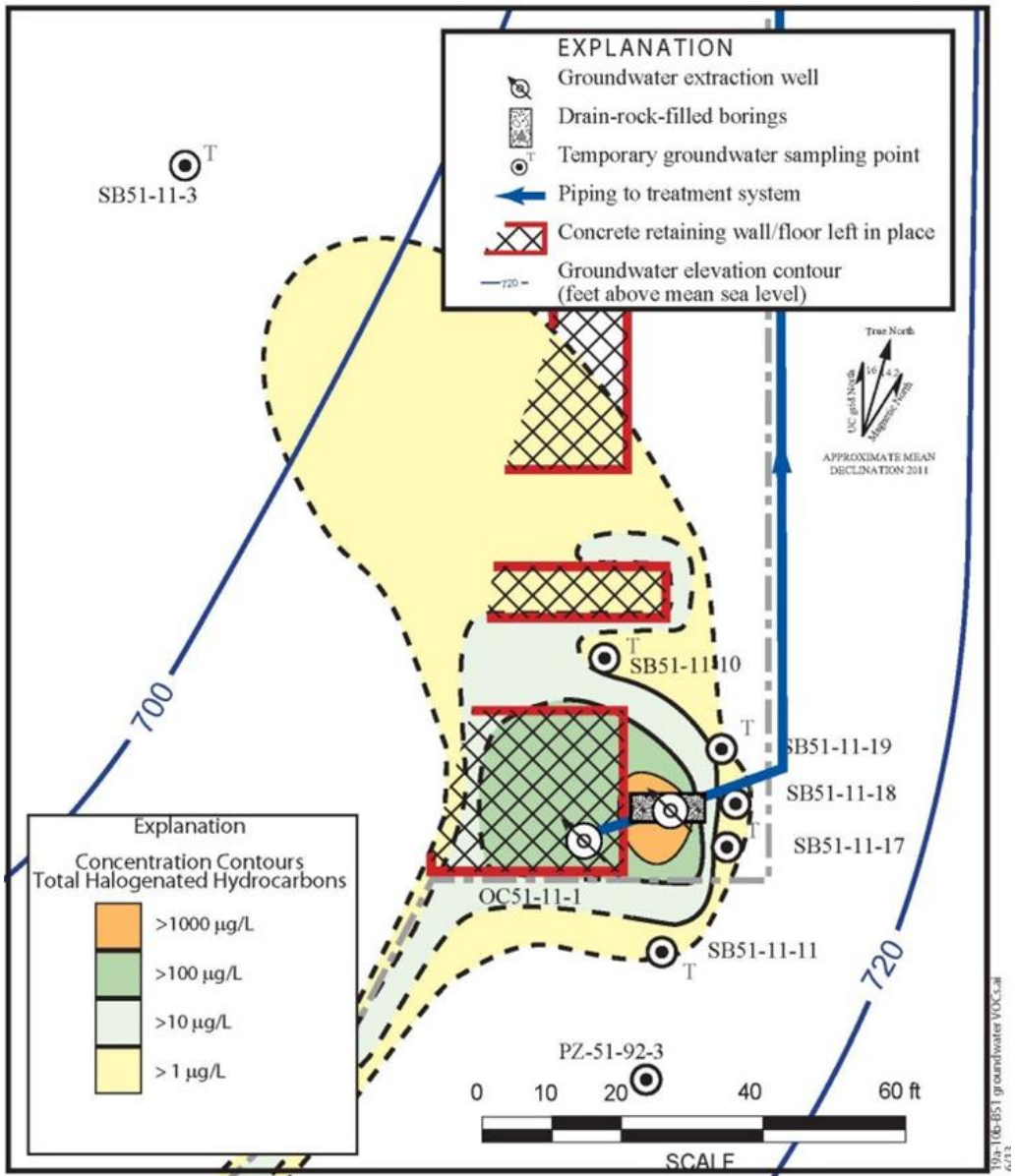
Interim Corrective Measures to Control VOC Contamination

Timeline

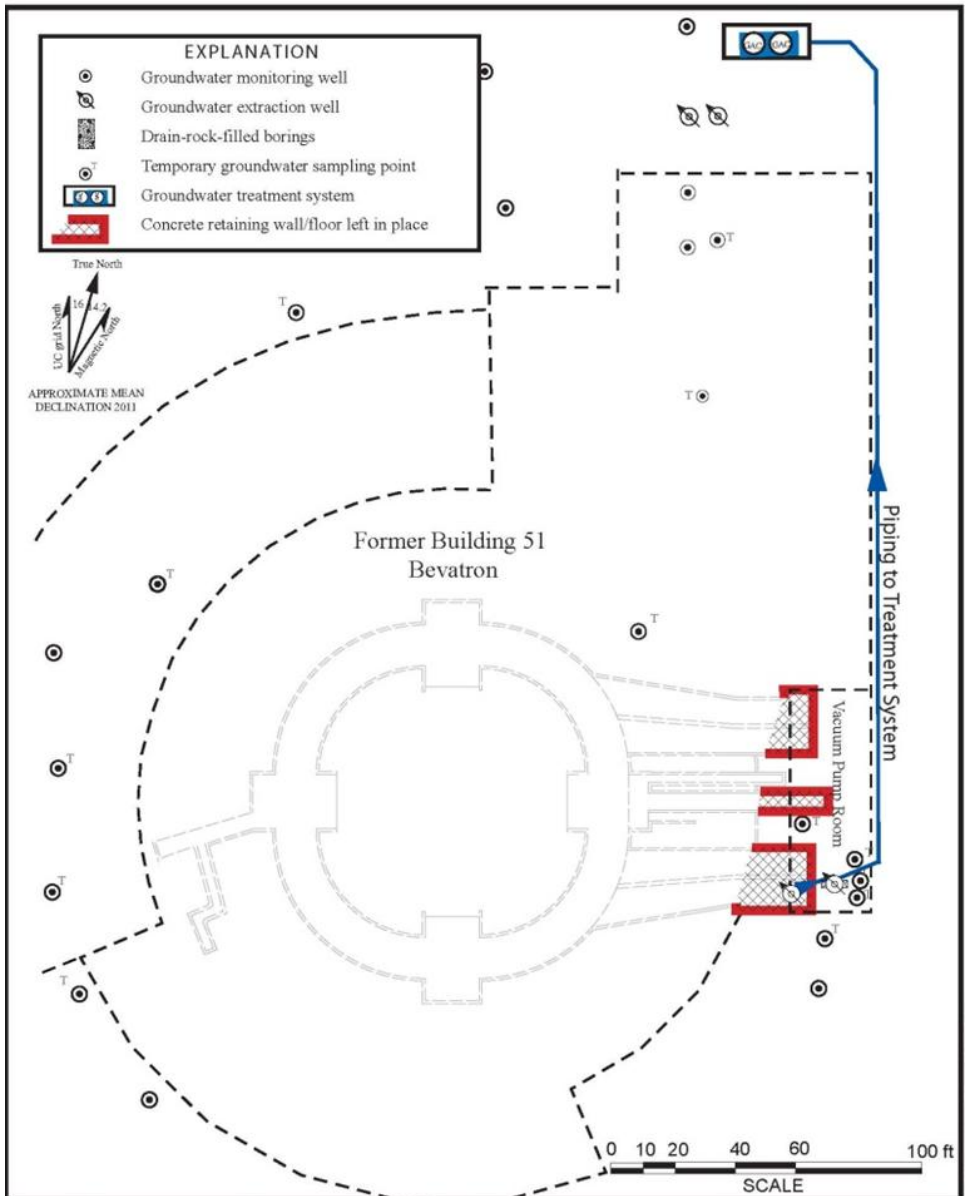
Mar 2012	• LBNL Submits Report to DTSC Requesting Approval of ICM. DTSC Requests a more Detailed Workplan.
Apr 2012	• LBNL Submits a Detailed ICM Workplan to DTSC.
July 2012	• DTSC Provides comments on the ICM Workplan.
Aug 2012	• LBNL Submits Revised ICM Workplan to DTSC.
Apr 2013	• DTSC Approves Draft ICM Workplan.
May 2013	• May 7 to June 7 Public Comment Period.
July 2013	• DTSC Approves ICM implementation.

Vacuum Pump Room Area



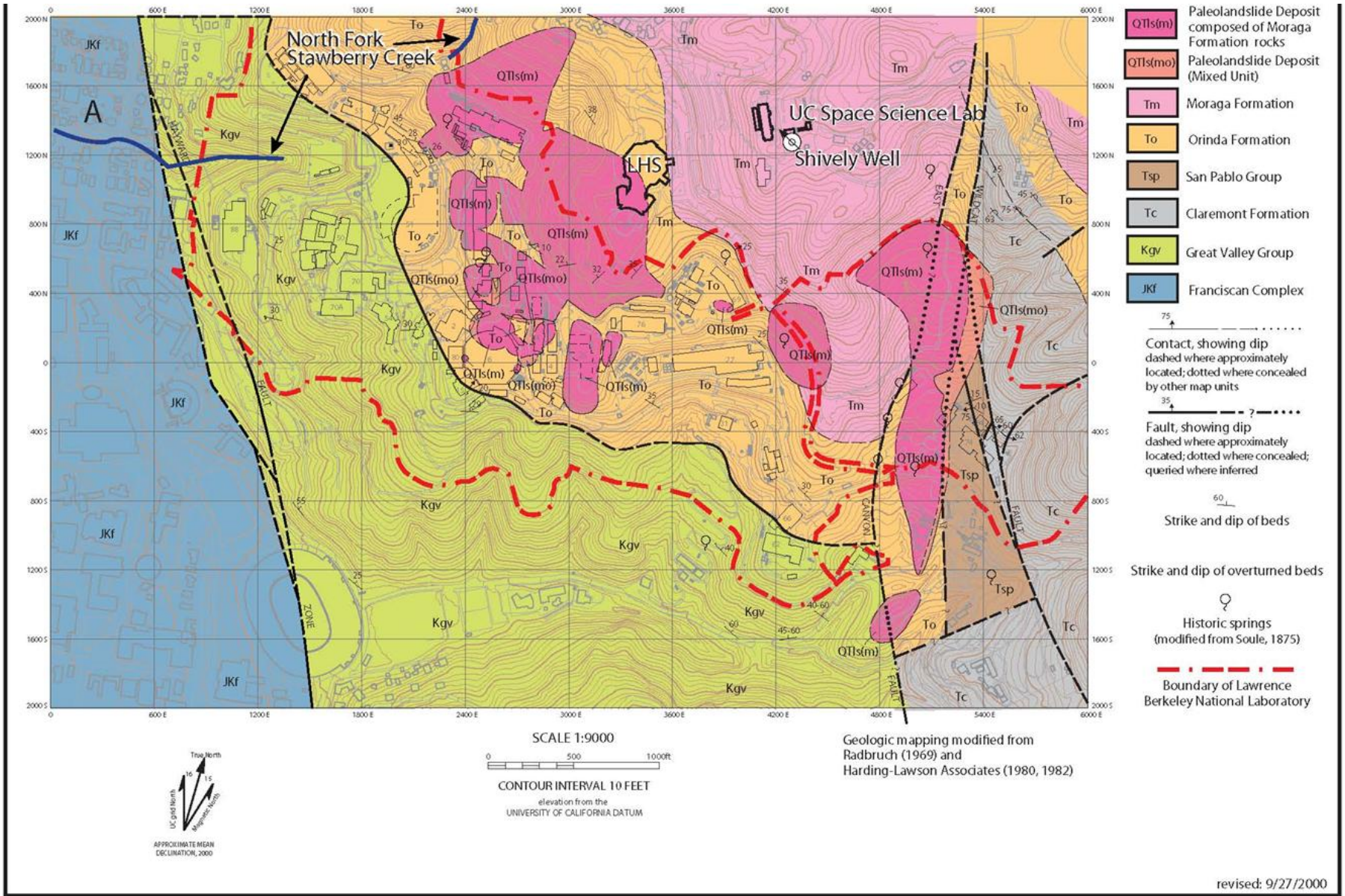


Treatment System



Shively Well and Lennert Aquifer

Location of Shively Well



Thank You

Berkeley Lab's
Environmental Restoration Program (ERP)

http://www.lbl.gov/ehs/erp/index.shtml