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Figure 36. Concentrations Trends for Tritium in the Building 71 Area.

Figure 37. Soil Boring Locations Third and Fourth Quarters FY05, Building 51L Groundwater Solvent Plume Source Area.

 MW25-95-5	Groundwater monitoring well	LT	Less than reporting limit
 MW90-6	Properly destroyed monitoring well	ND (or <)	Not detected
T  SB76-97-3	Temporary groundwater sampling point	NS	Not sampled
T  SB64-98-16	Properly destroyed sampling point	NA	Not analyzed
EW  EW	Groundwater extraction well	grab or g	Grab sample
IW 	Groundwater injection well	Dup	Duplicated sample
 DP	Dual phase extraction well	<u>51-01-10</u> —	Hydrauger
 SSW-31.63	Slope stability well	—	Sanitary sewer line
 SI-3.63	Slope indicator well	—	Storm drain line
71-95-10  or  VZM-OT-1	Vadose zone monitoring well	—·—·—	Surface creek
 SG-76W-7	Soil gas probe	A — A'	Cross section
●	Shallow soil sampling location	— · — · —	LBNL site boundary
⊕	Soil boring	*****	Fence
	Angled soil boring	B 17	Surface structure (e.g. buildings, etc.)
 L-3	Vacuum lysimeter		
	Shallow soil-gas sampling location		
 7-95-1	Soil-gas monitoring well		
 PZ51-92-3	Piezometer		
	Groundwater monitoring point		
	Spring		
— 700 —	Topographic contour line (elevation in ft above mean sea level)		
— 700 —	Water level contour line (elevation in ft above mean sea level)		
746.53	Water level elevation (ft above mean sea level)		
	Area of groundwater contamination		

#### NOTES:

All other symbols used are explained on the figures.

Not all symbols may be included on the attached figures for the current reporting period.

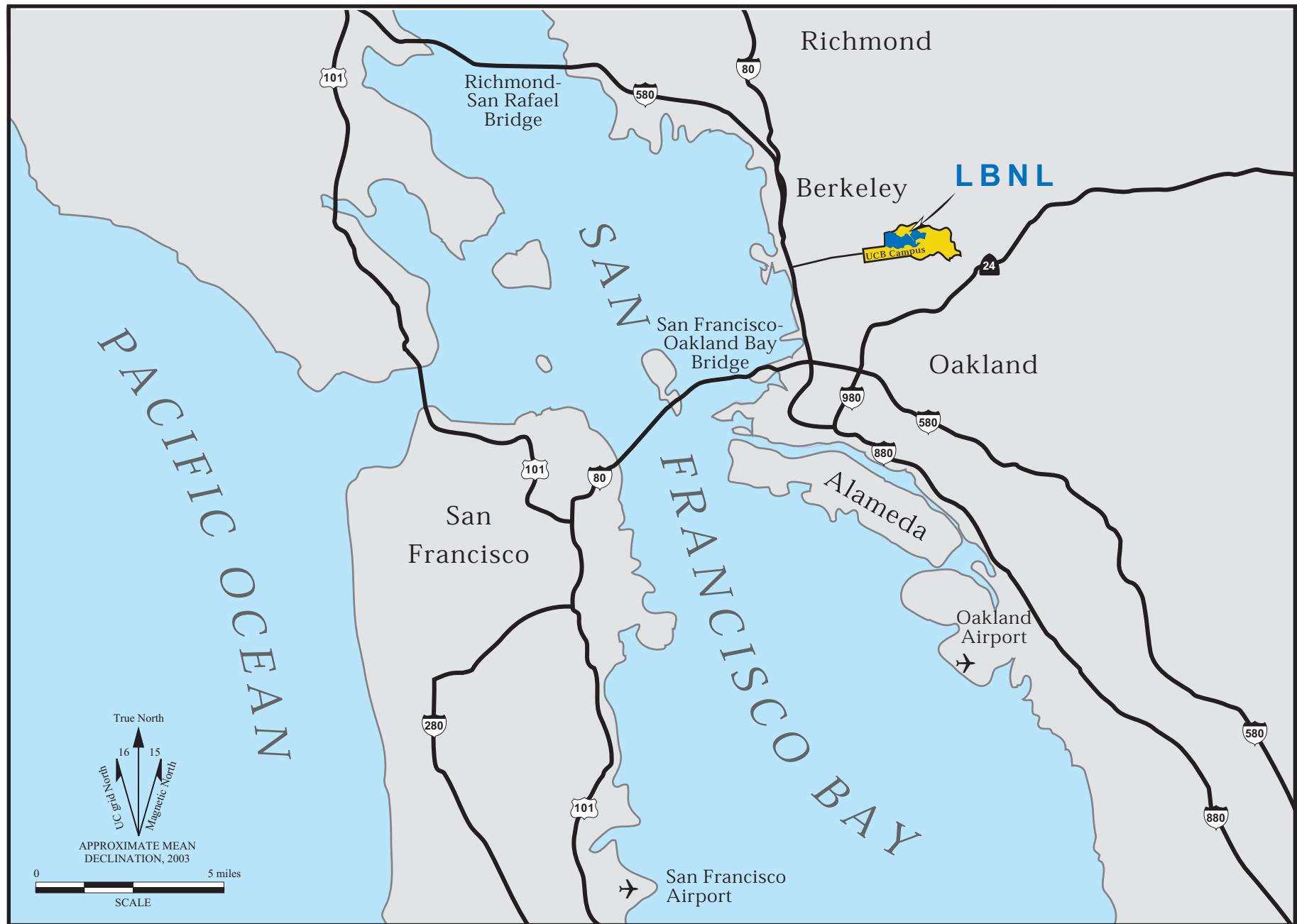


Figure 1. Regional Setting of the Lawrence Berkeley National Laboratory (LBNL).

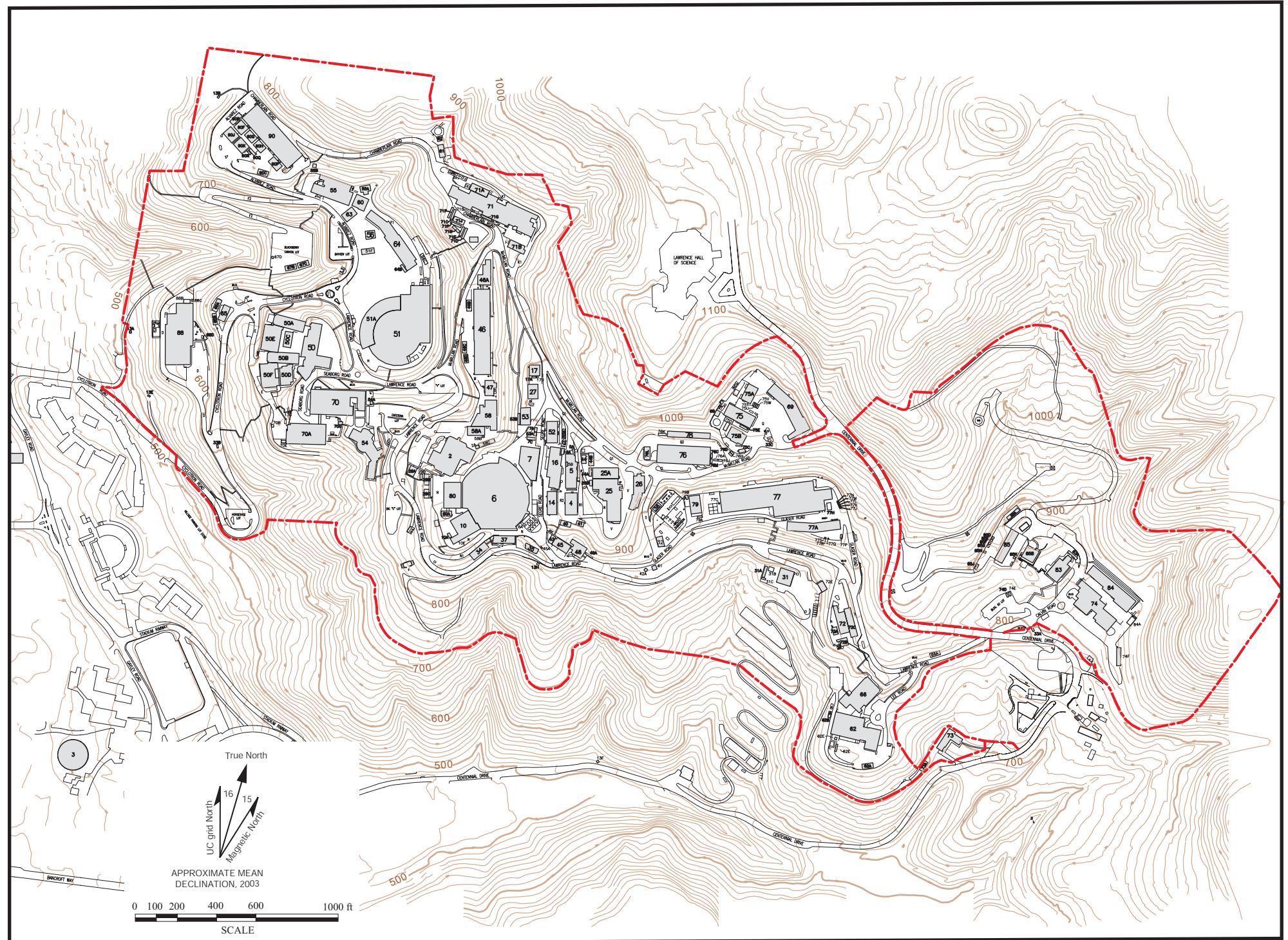


Figure 2. Site Map and Topography, Lawrence Berkeley National Laboratory (LBNL).

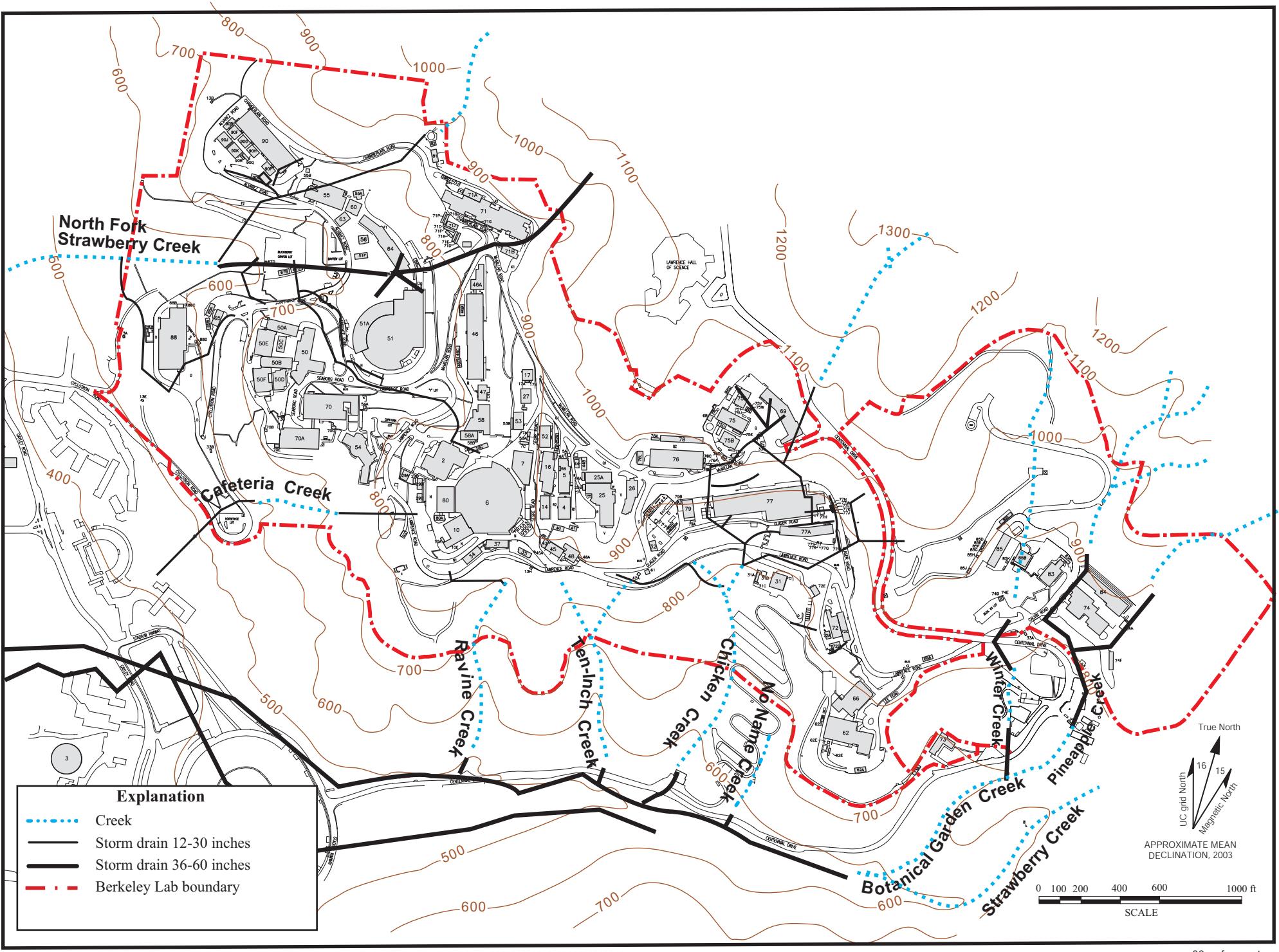


Figure 3. Locations of Creeks, Lawrence Berkeley National Laboratory (LBNL).

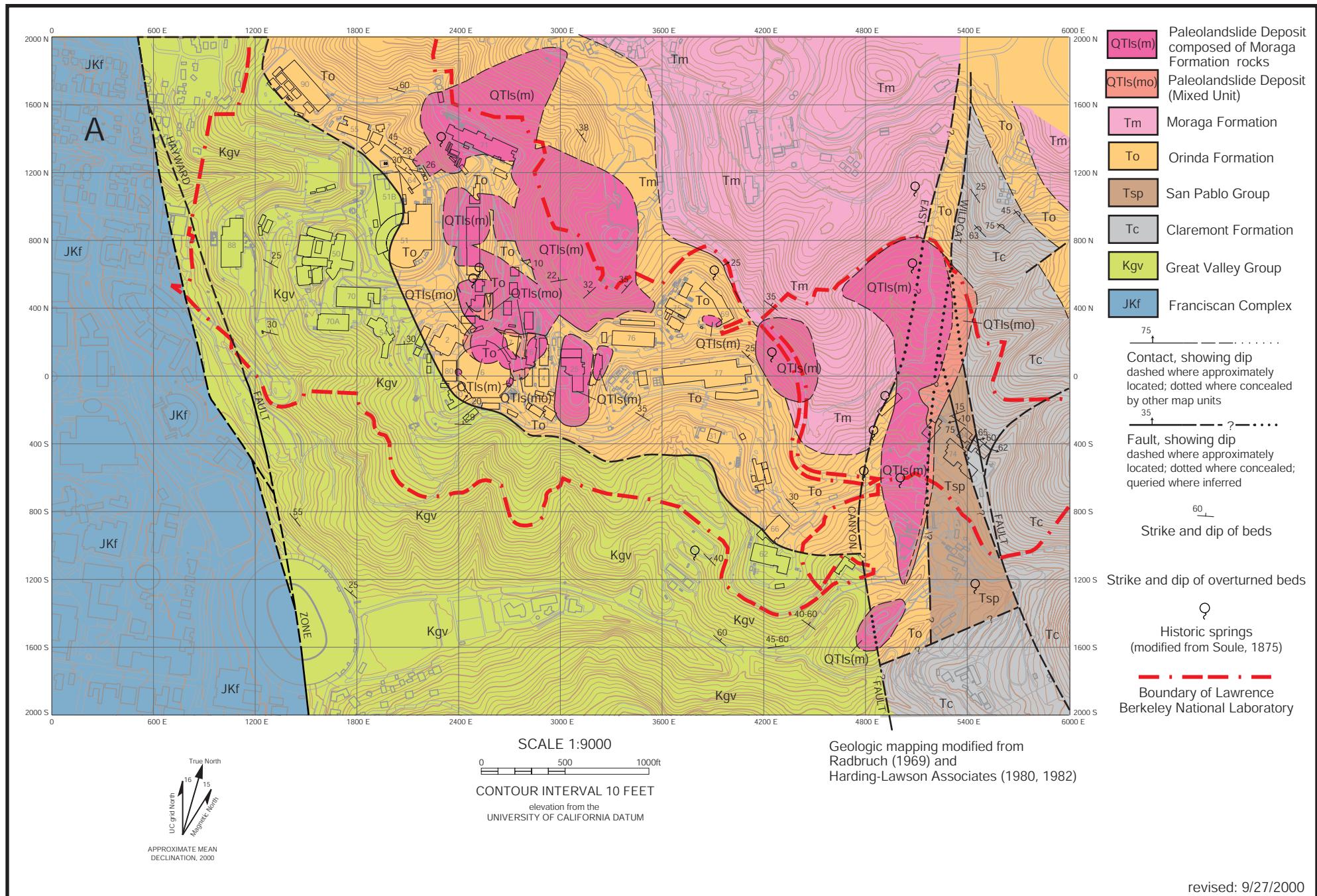


Figure 4a. Bedrock Geologic Map, Lawrence Berkeley National Laboratory.

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revised: 9/27/2000

<b>Age</b>	<b>Formation</b>	<b>Description</b>		
Quaternary	Artificial fill	Generally engineered fill consisting of fine-grained material. Older fills include vegetative and other debris.		
	Colluvium	Predominantly clayey silt.		
	Debris flows	Boulders and gravels of basalt, chert, and porcelenite in a silty clay matrix.		
	Landslides	Translational/rotational slide masses incorporating bedrock. Occur at the Moraga/Orinda Formation contact.		
Tertiary	<b>WEST OF HAYWARD FAULT</b>		<b>EAST OF HAYWARD FAULT</b>	
			<i>West of Life Sciences Area Main Canyon Landslide Deposit</i>	
	<b>Age</b>	<b>Group</b>	<b>Formation</b>	<b>Description</b>
	Contra Costa	Moraga	Andesitic flows, breccias, and agglomerates with minor amounts of basaltic flows and interbedded volcaniclastic sandstone and conglomerate.	<i>East of Life Sciences Area Main Canyon Landslide Deposit</i>
			Alluvial sedimentary deposits consisting primarily of claystone and siltstone with lenticular to linear beds of sandstone and conglomerate.	
Cretaceous	Great Valley		Marine mudstones, shales, and sandstones.	<i>East of Life Sciences Area Main Canyon Landslide Deposit</i>
Jurassic	Franciscan Complex			

**Figure 4b. Stratigraphic Correlation Chart, Lawrence Berkeley National Laboratory.**

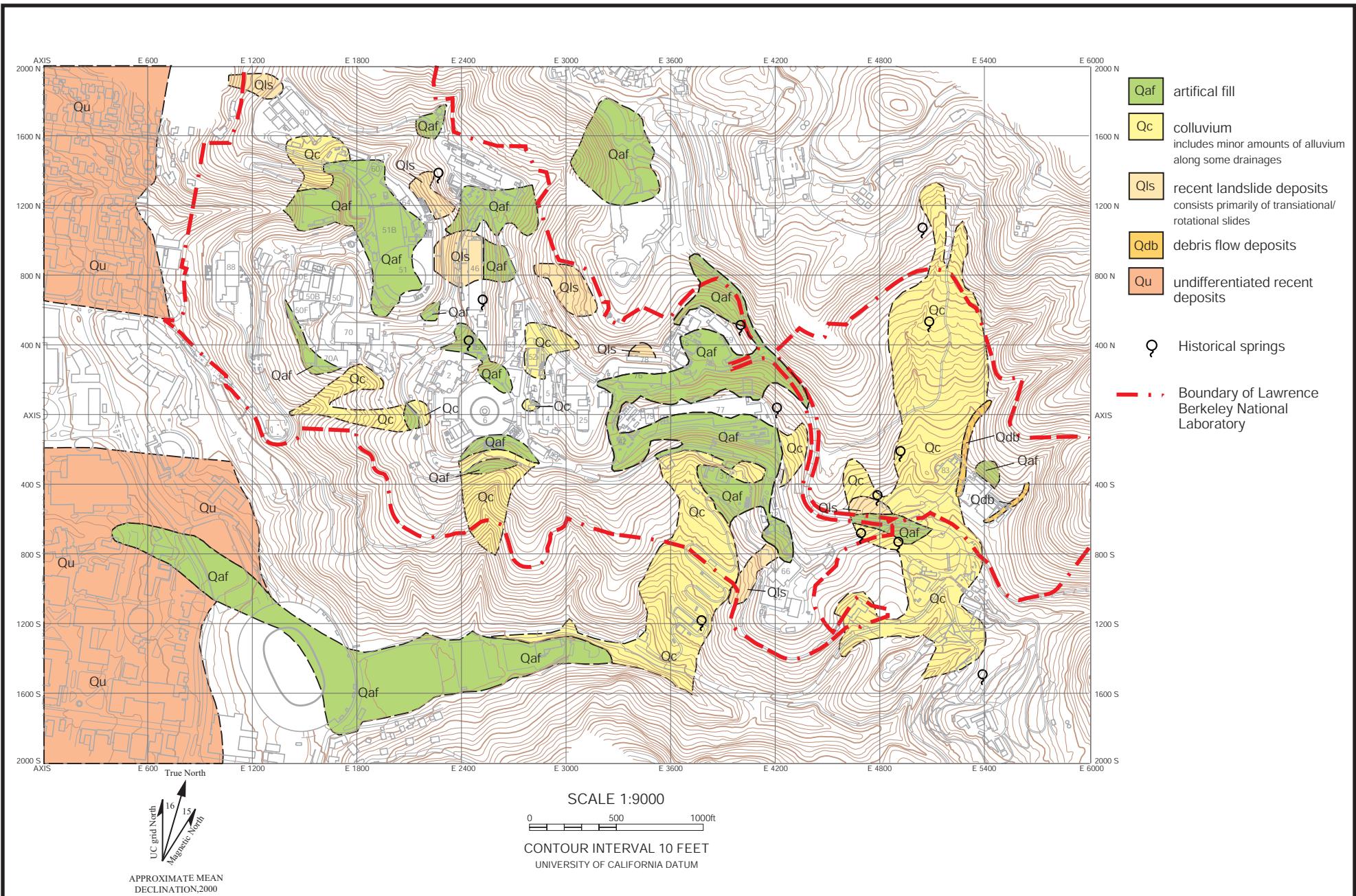
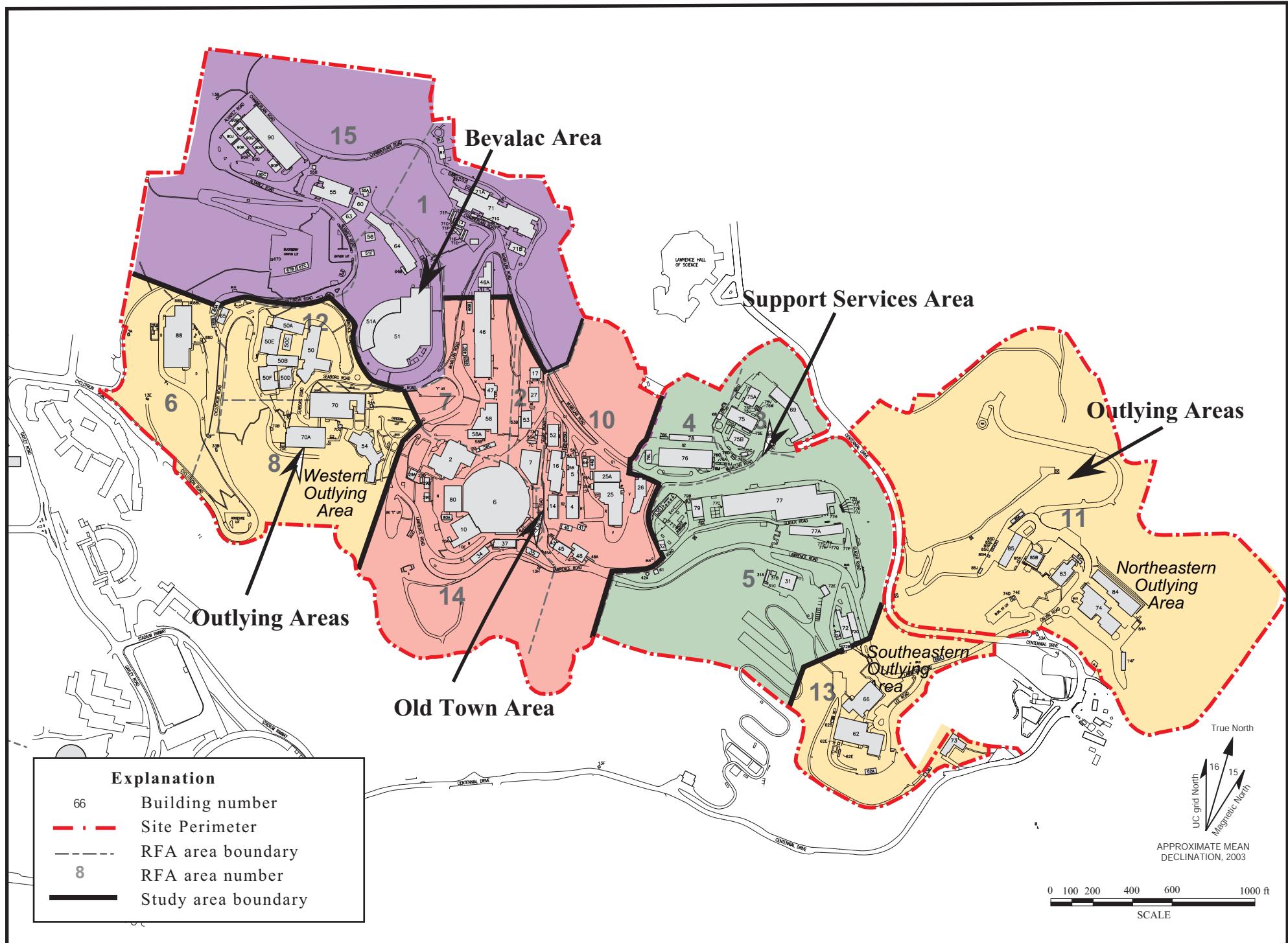


Figure 4c. Surficial Geologic Map, Lawrence Berkeley National Laboratory (modified from Harding-Lawson Associates, 1982).

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**Figure 5. Locations of Study Areas, Lawrence Berkeley National Laboratory.**

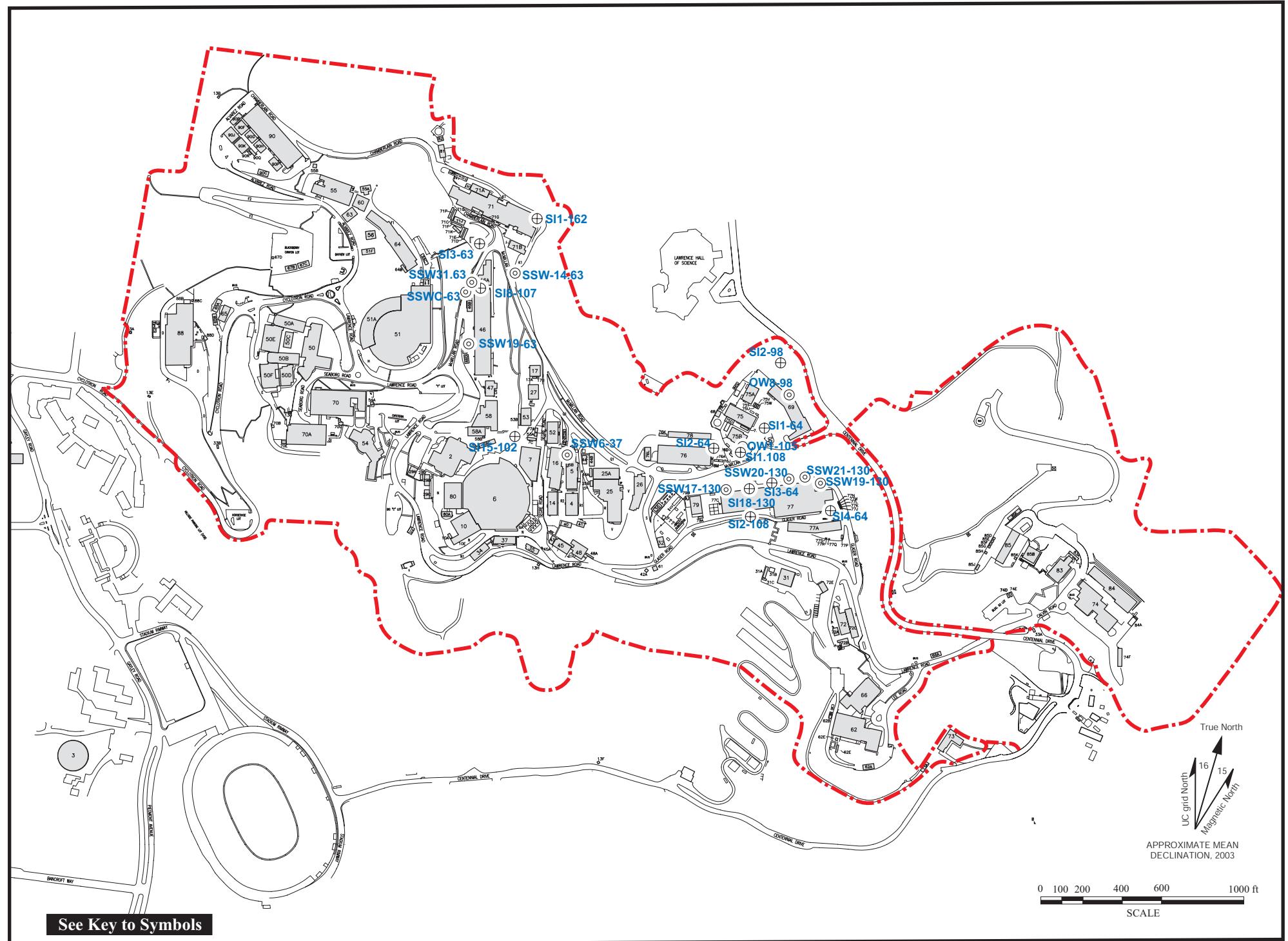
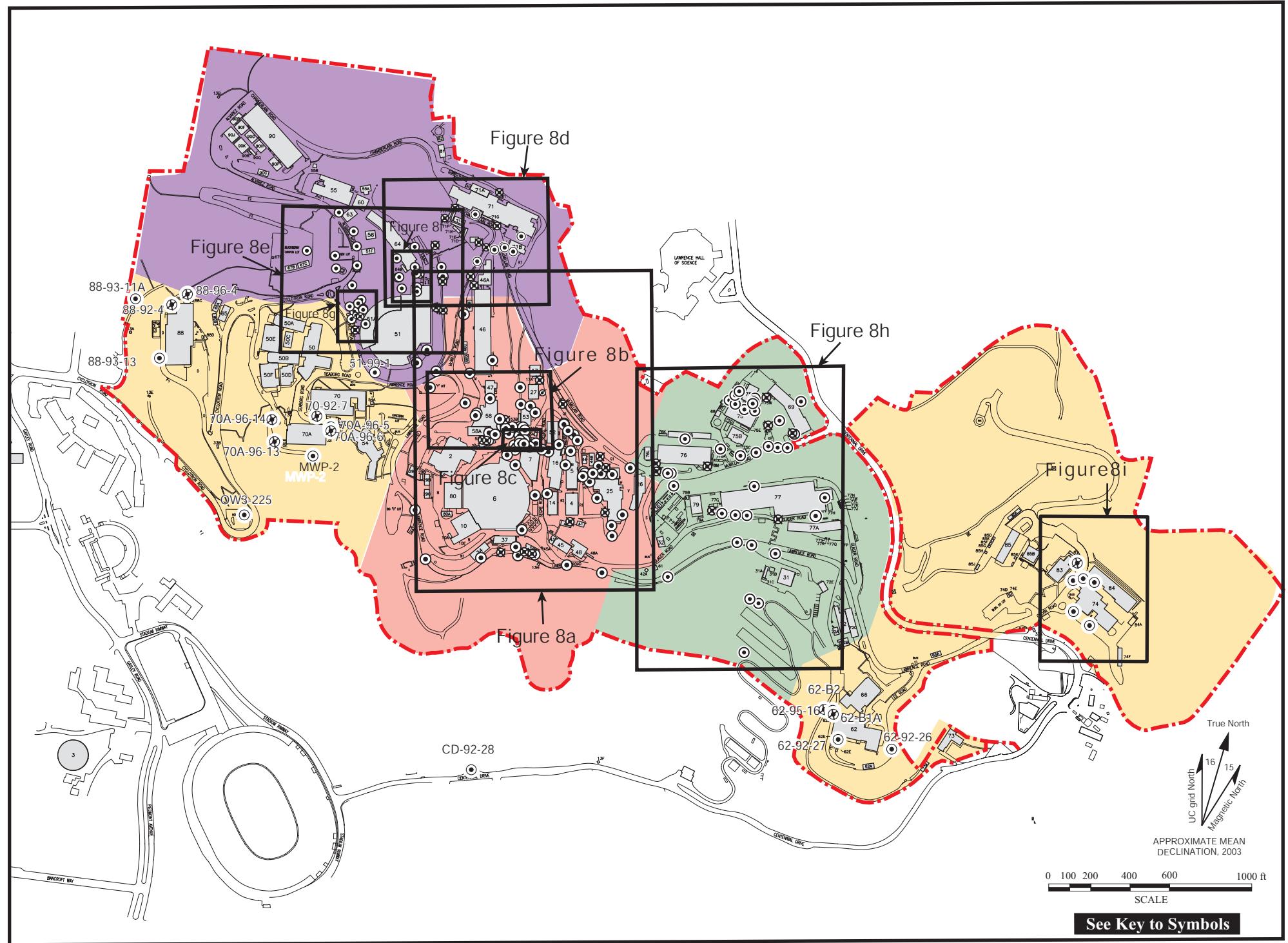
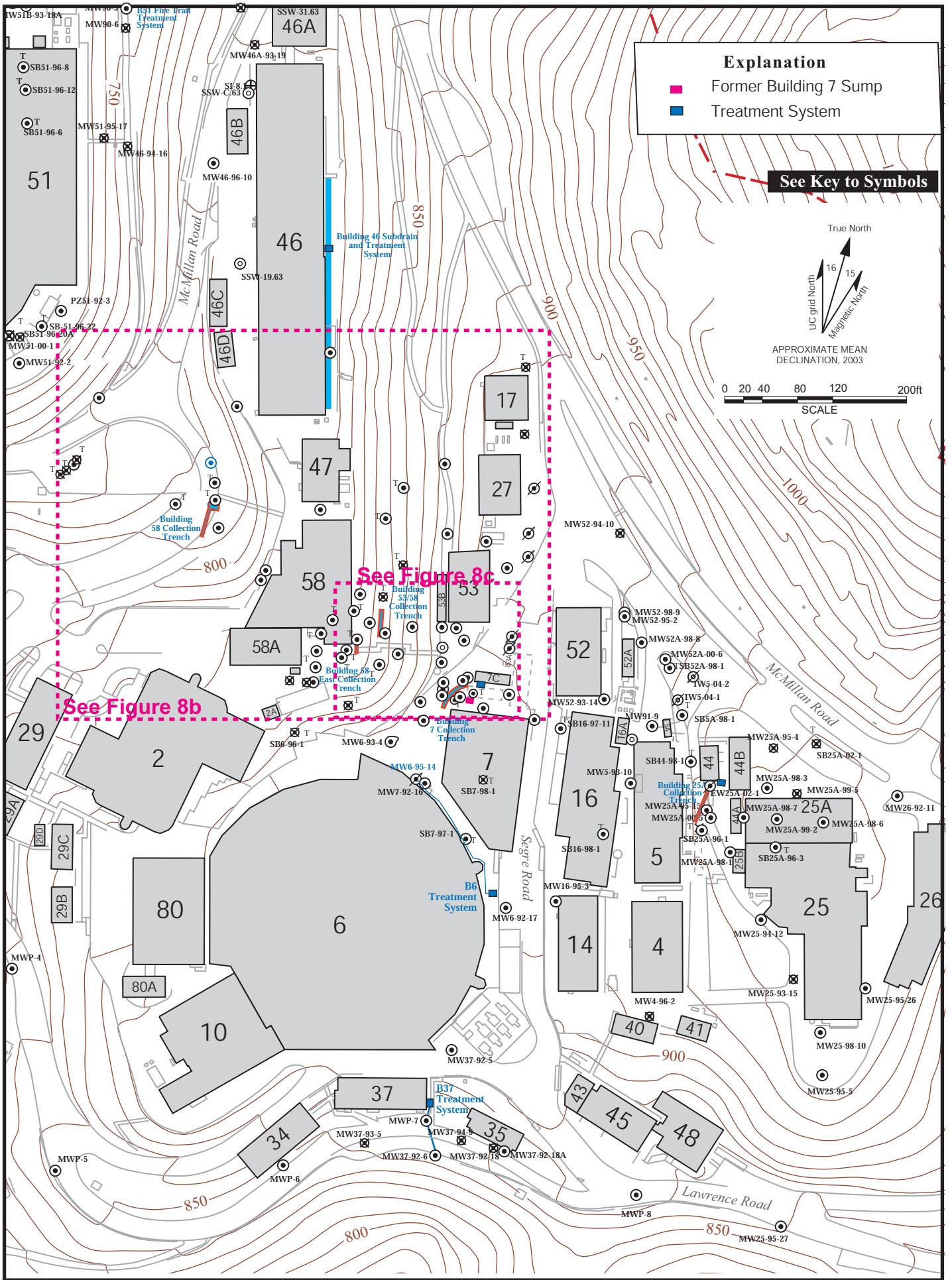


Figure 6. Slope Stability, Slope Indicator, and Observation Well Locations, Lawrence Berkeley National Laboratory (LBNL)



**Figure 7. Monitoring Well Locations at Lawrence Berkeley National Laboratory.**



**Figure 8a. Well Location Map of Old Town Area, Lawrence Berkeley National Laboratory**

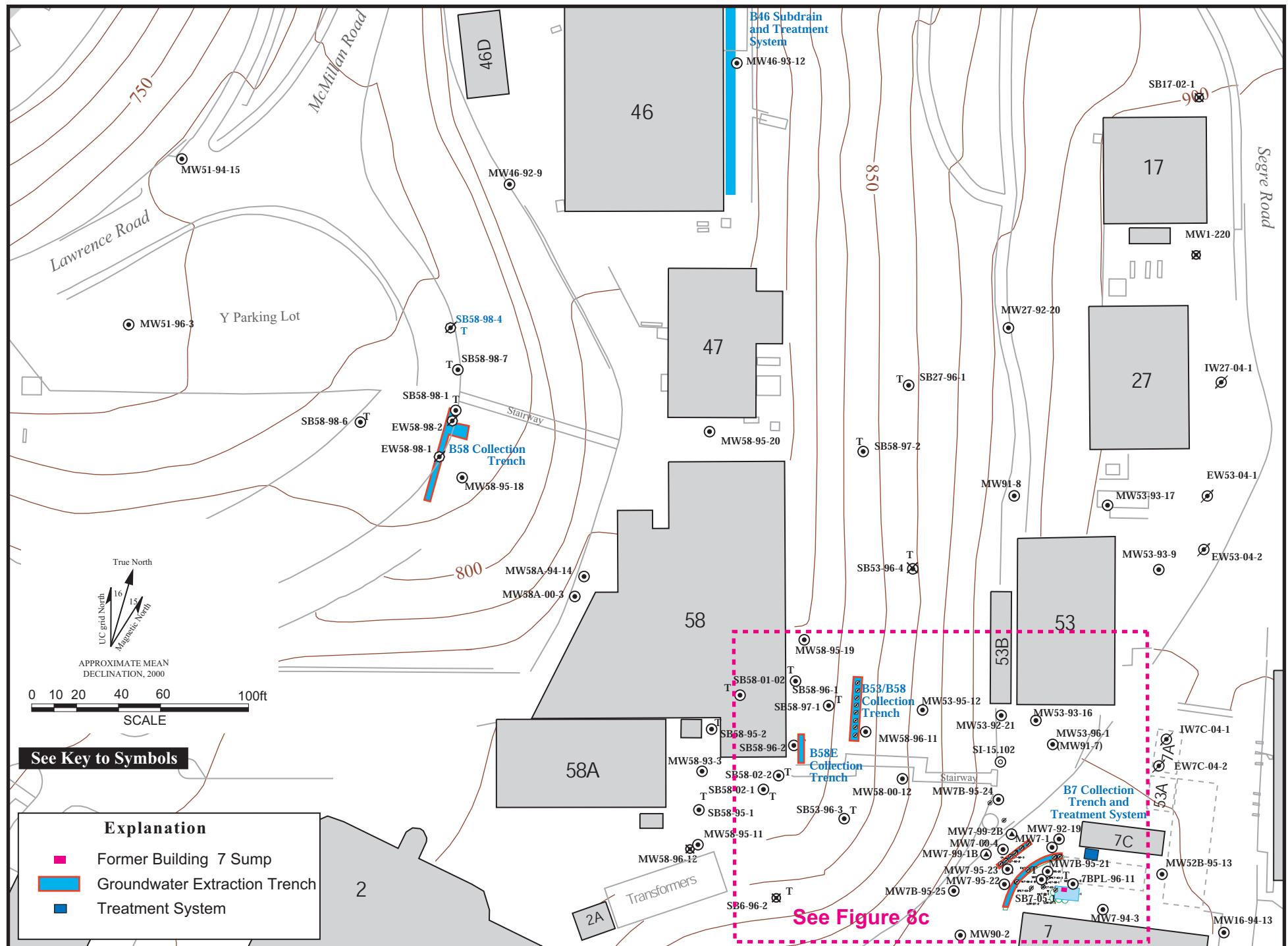
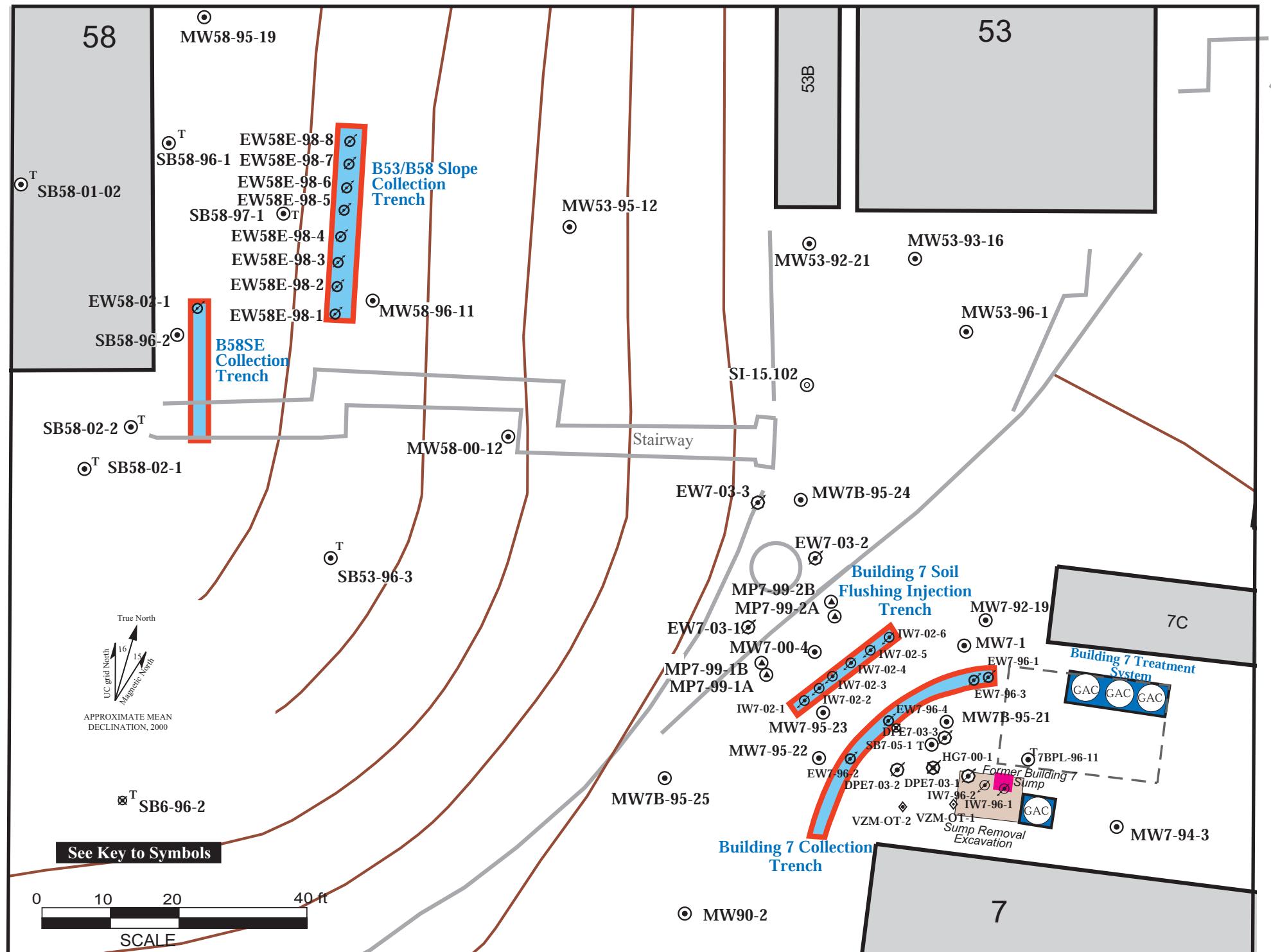


Figure 8b. Well Location Map of the Central Old Town Area, Lawrence Berkeley National Laboratory.



**Figure 8c. Well Location Map of the Old Town Plume Source Area, Lawrence Berkeley National Laboratory.**

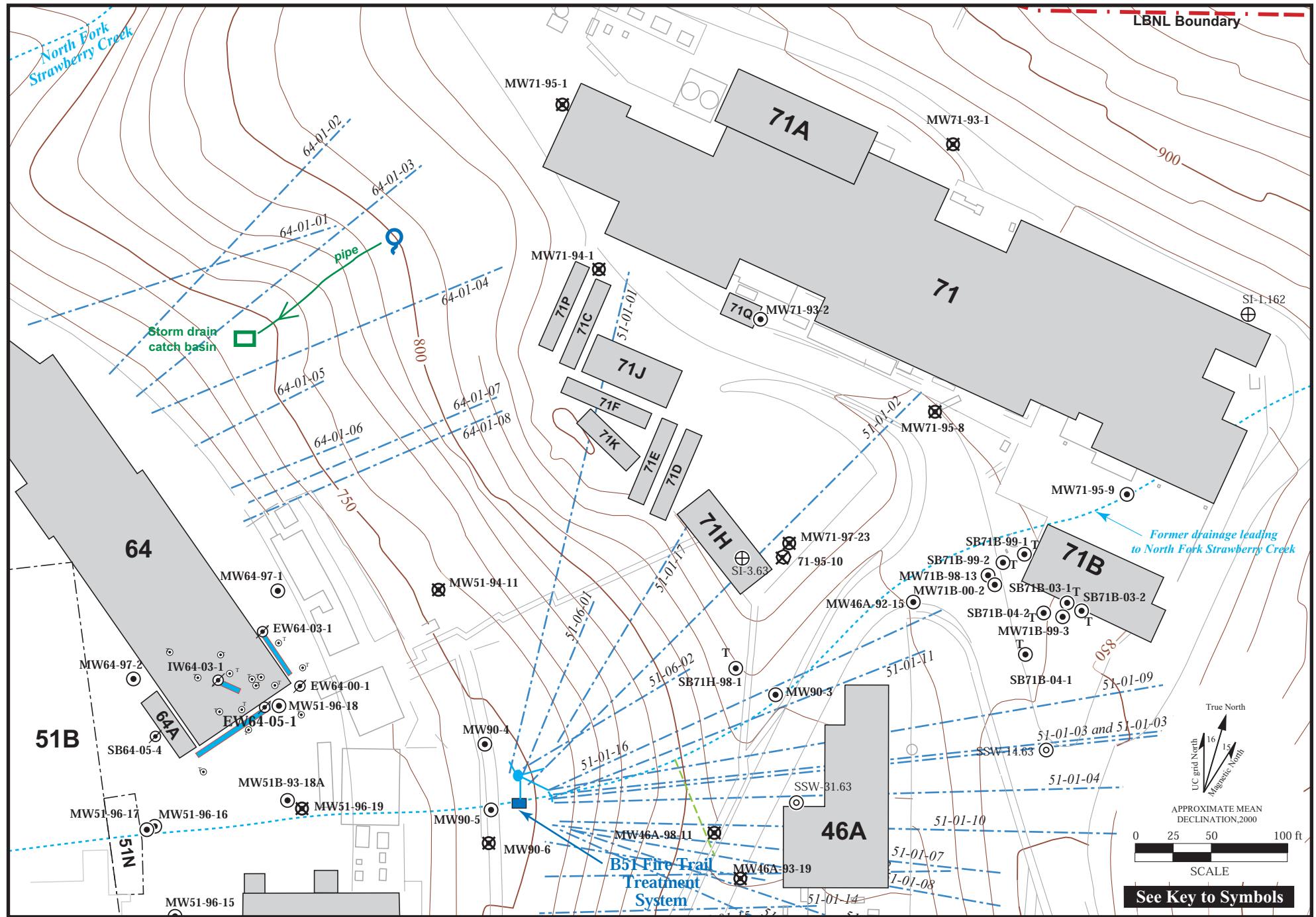


Figure 8d. Well Location Map of the Building 71 Area, Lawrence Berkeley National Laboratory.

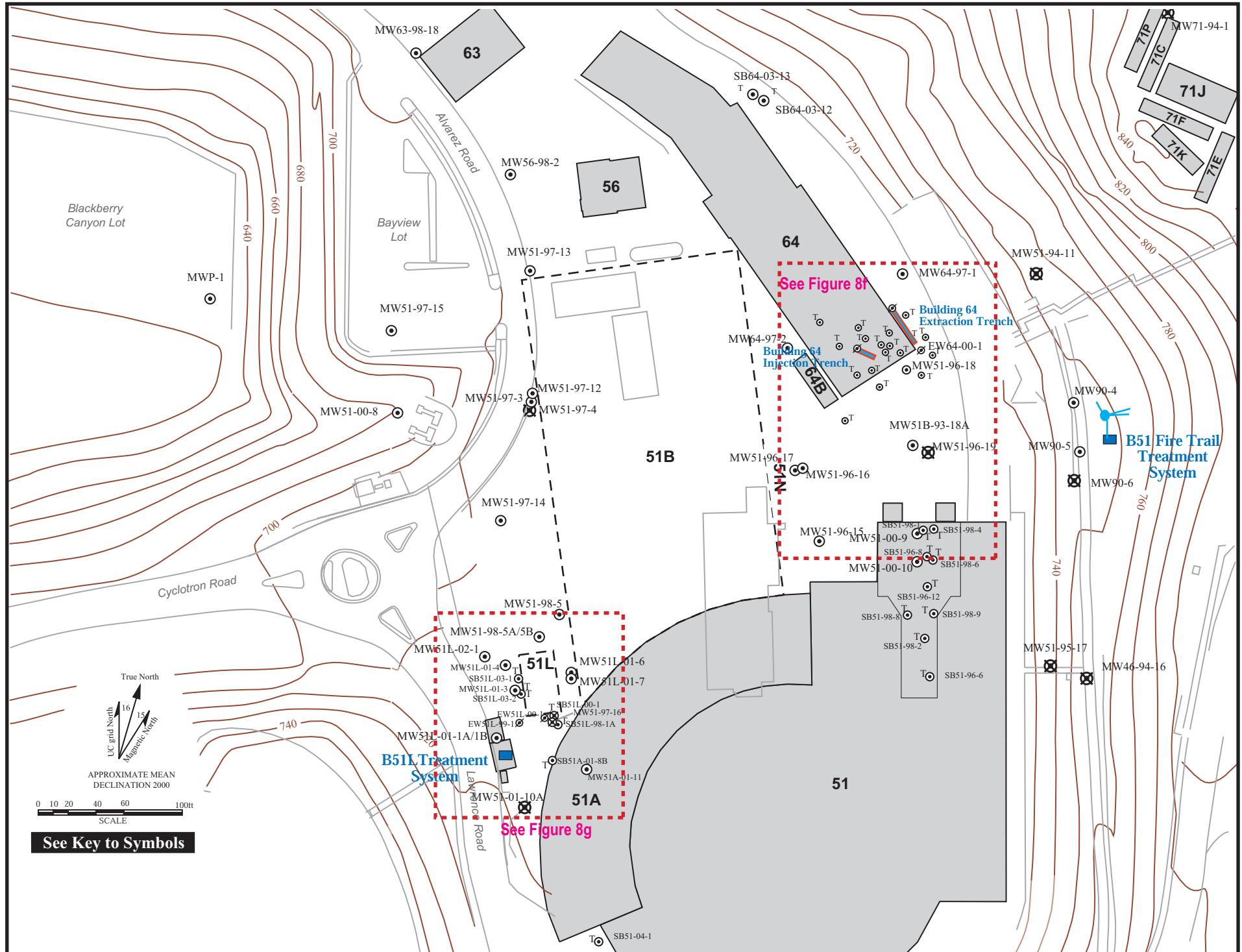


Figure 8e. Well Location Map of the Building 51 and Building 64 Area, Lawrence Berkeley National Laboratory.

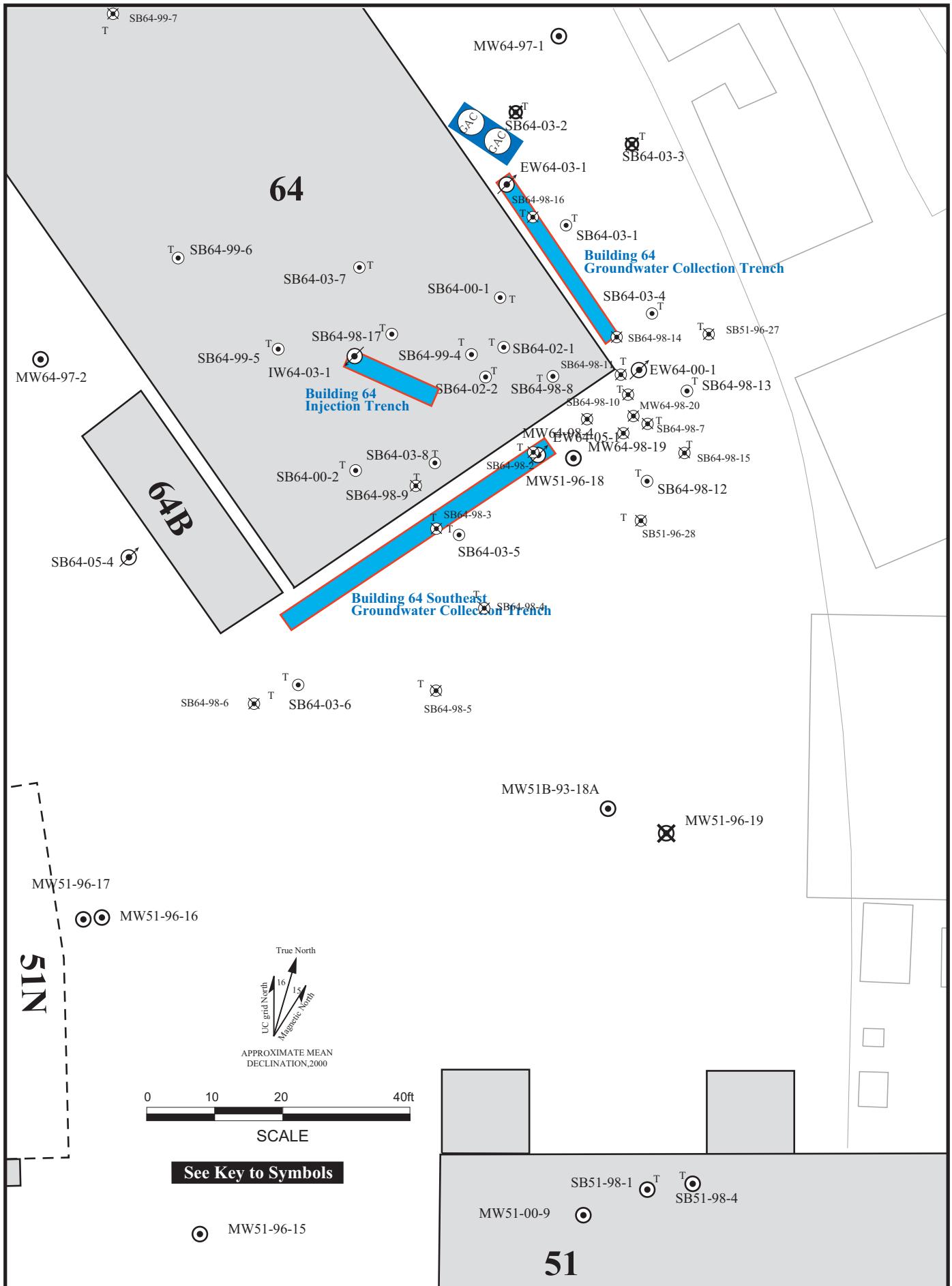


Figure 8f. Detailed Base Map of the Building 51/64 Area, Lawrence Berkeley National Laboratory.

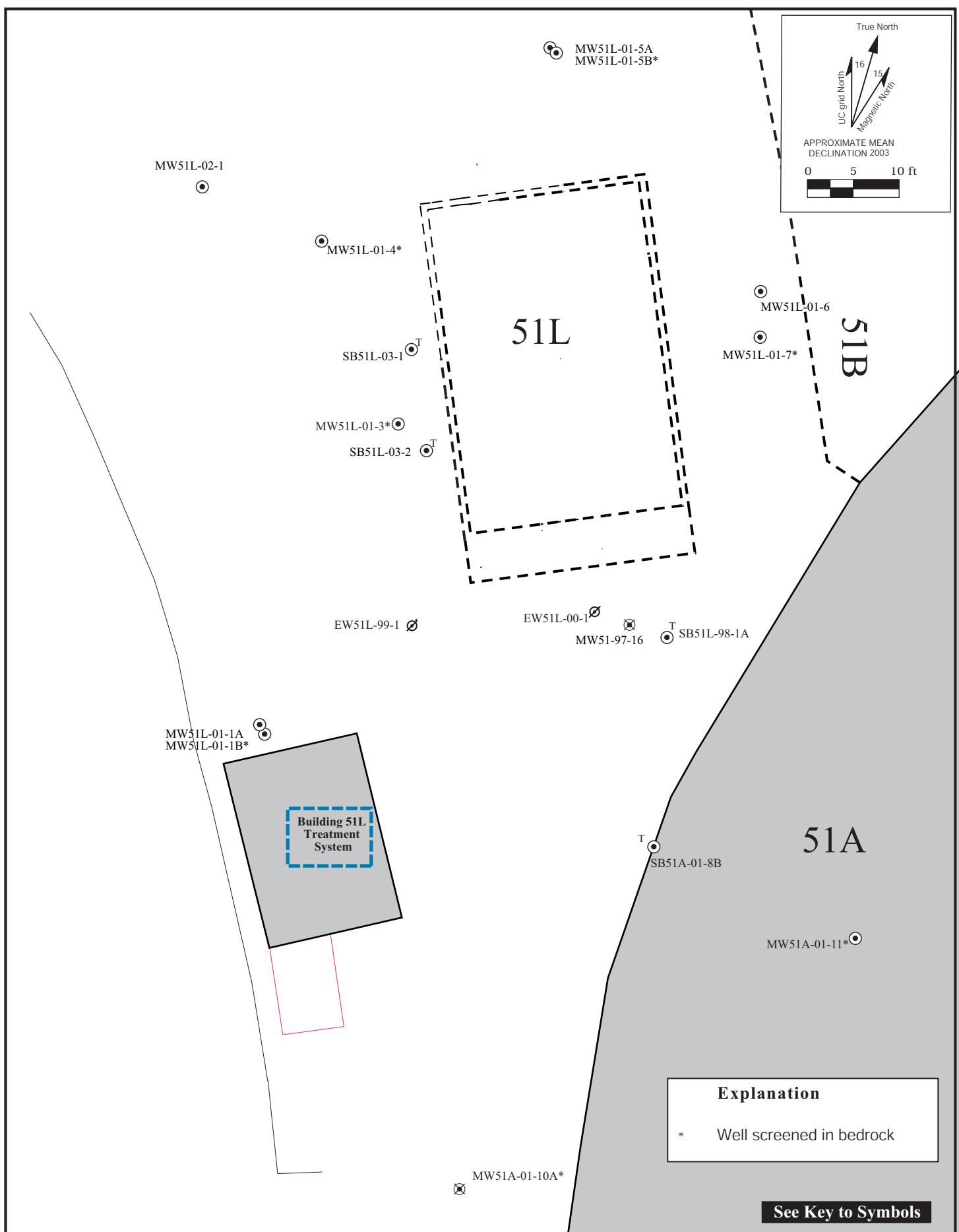
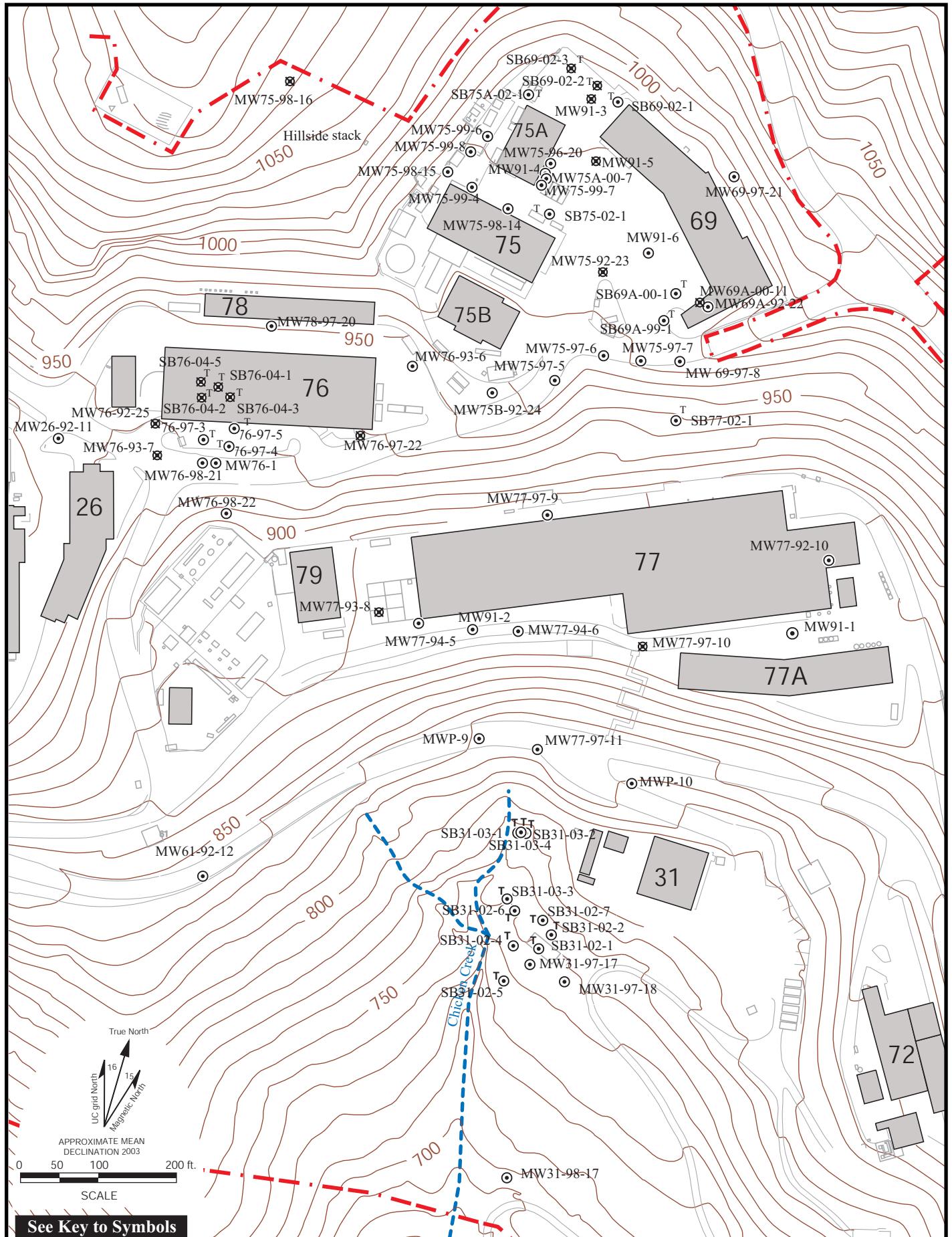
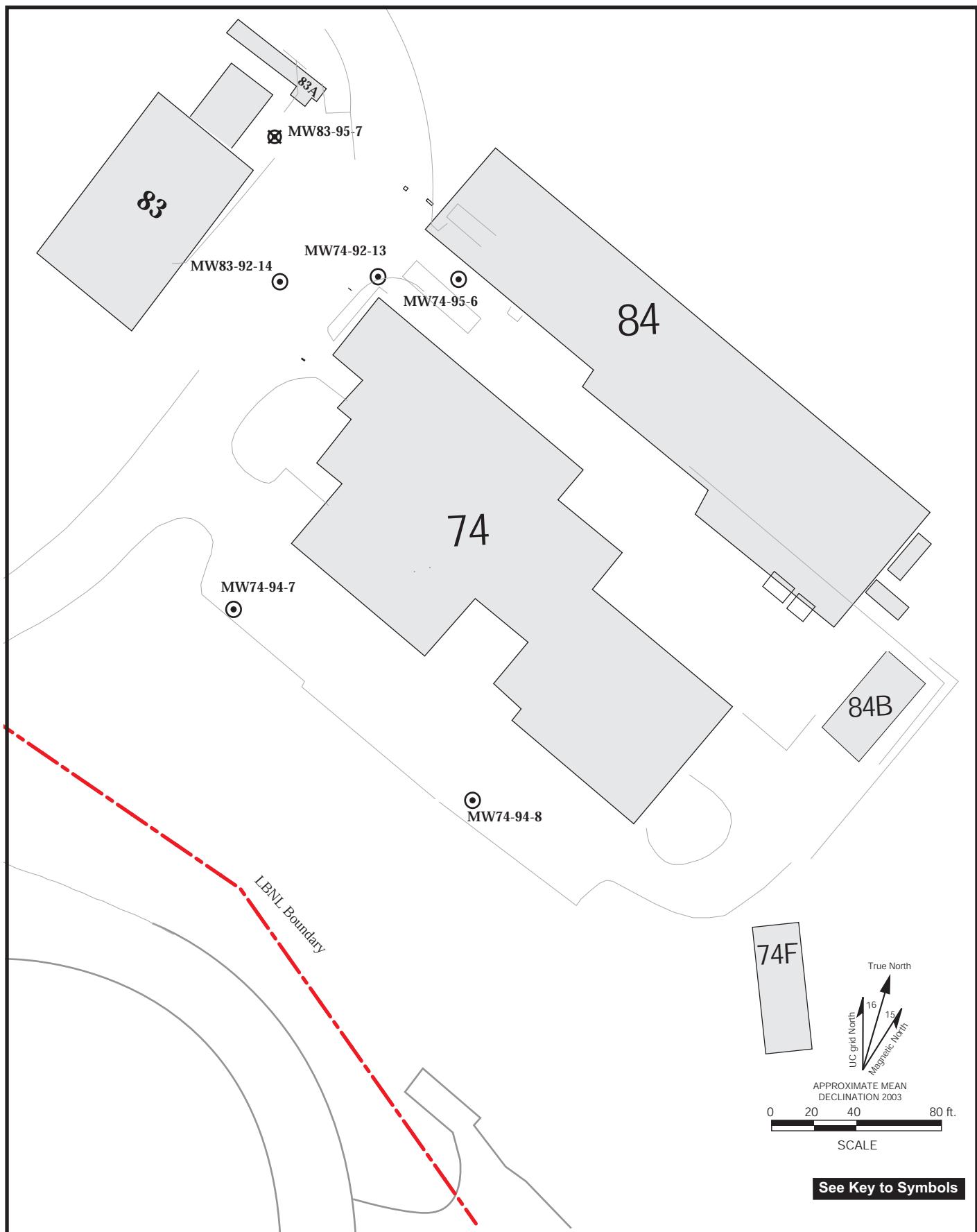


Figure 8g. Well Location Map of the Building 51L Area, Lawrence Berkeley National Laboratory.

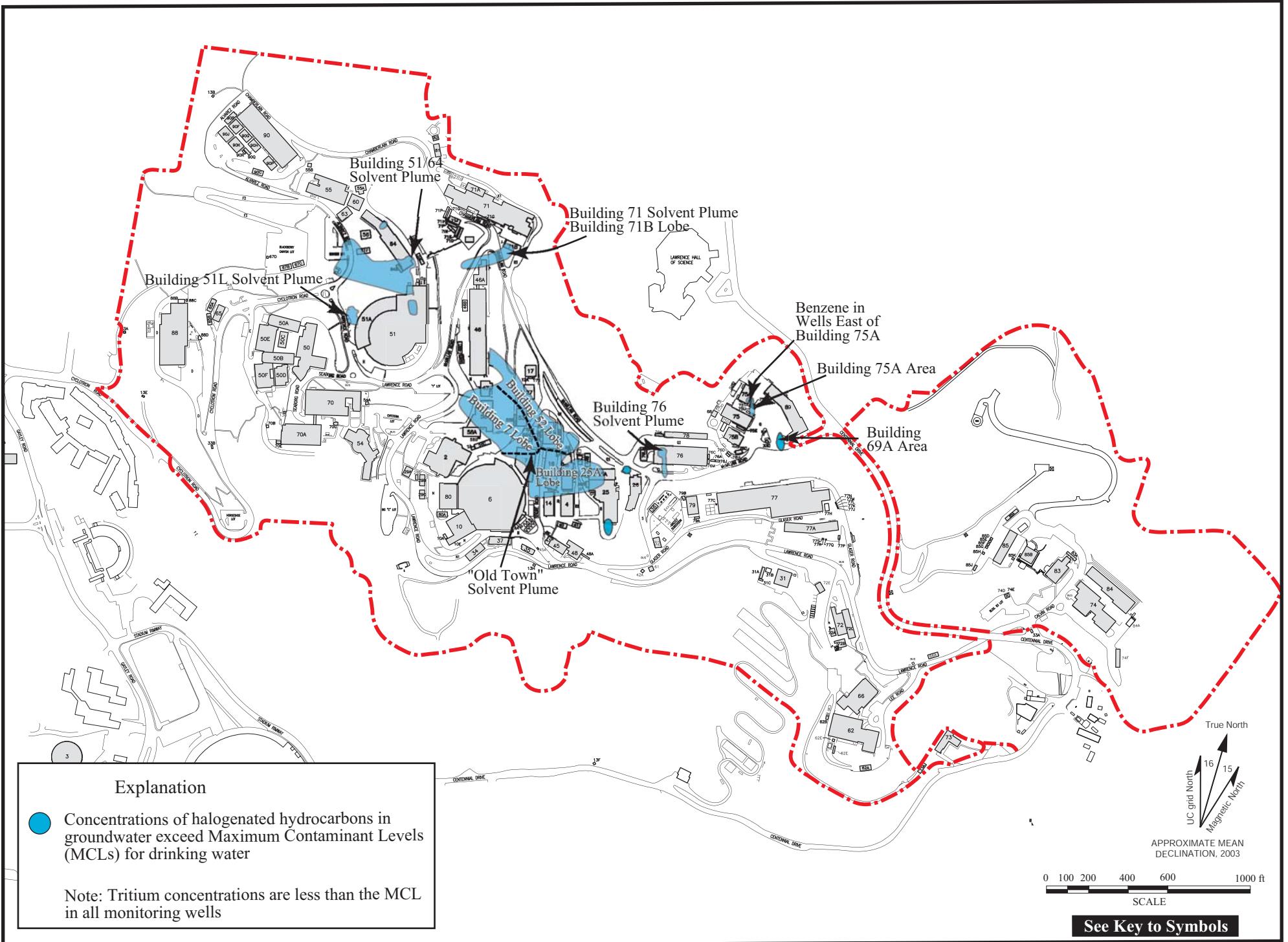


**Figure 8h. Well Location Map of the Corporation Yard Area, Lawrence Berkeley National Laboratory.**



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**Figure 8i. Well Location Map of the Building 74 Area, Lawrence Berkeley National Laboratory**



**Figure 9. Extent of Groundwater Contamination, Fourth Quarter FY05.**

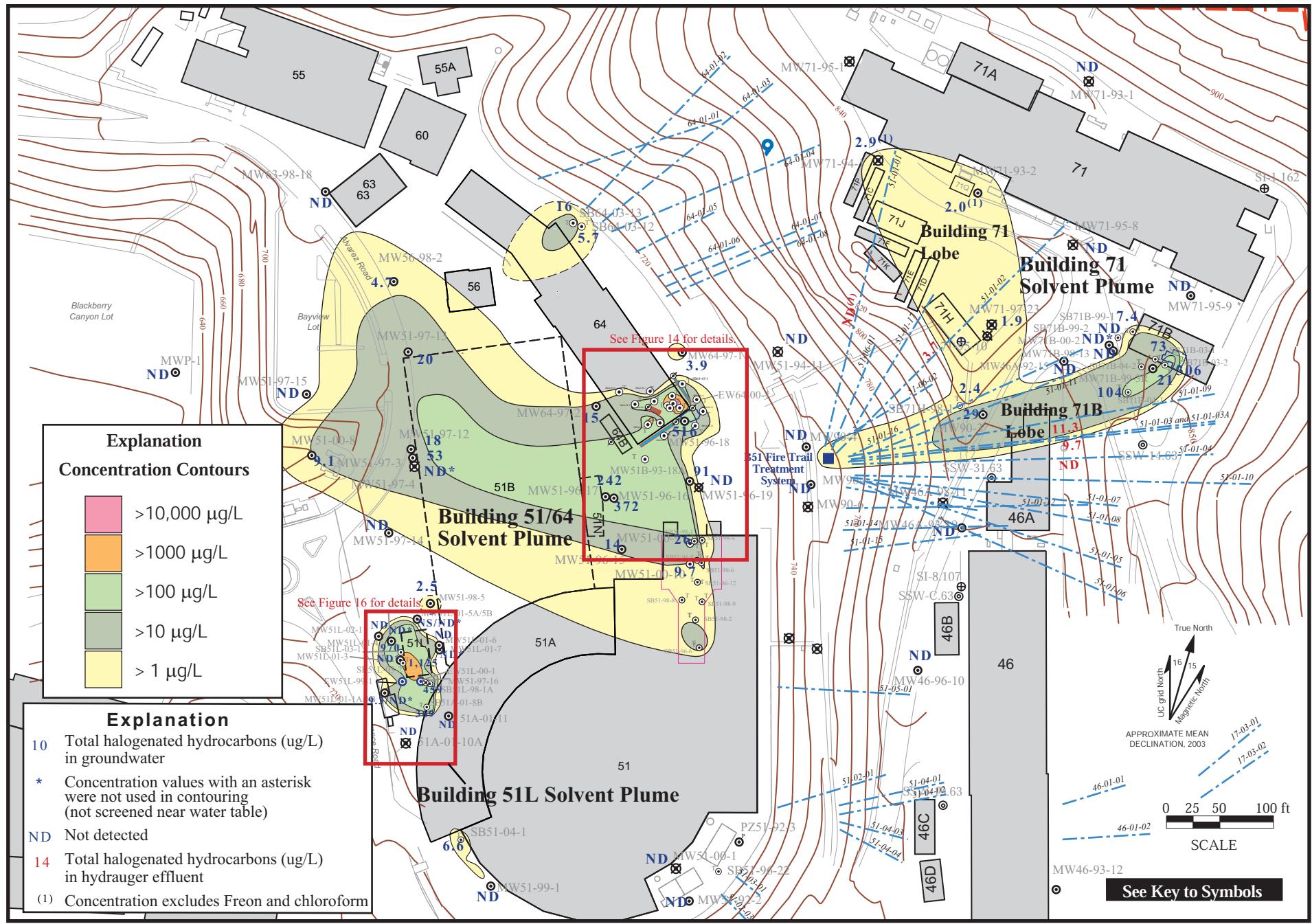


Figure 10. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater in the Bevalac Area, Fourth Quarter FY05.

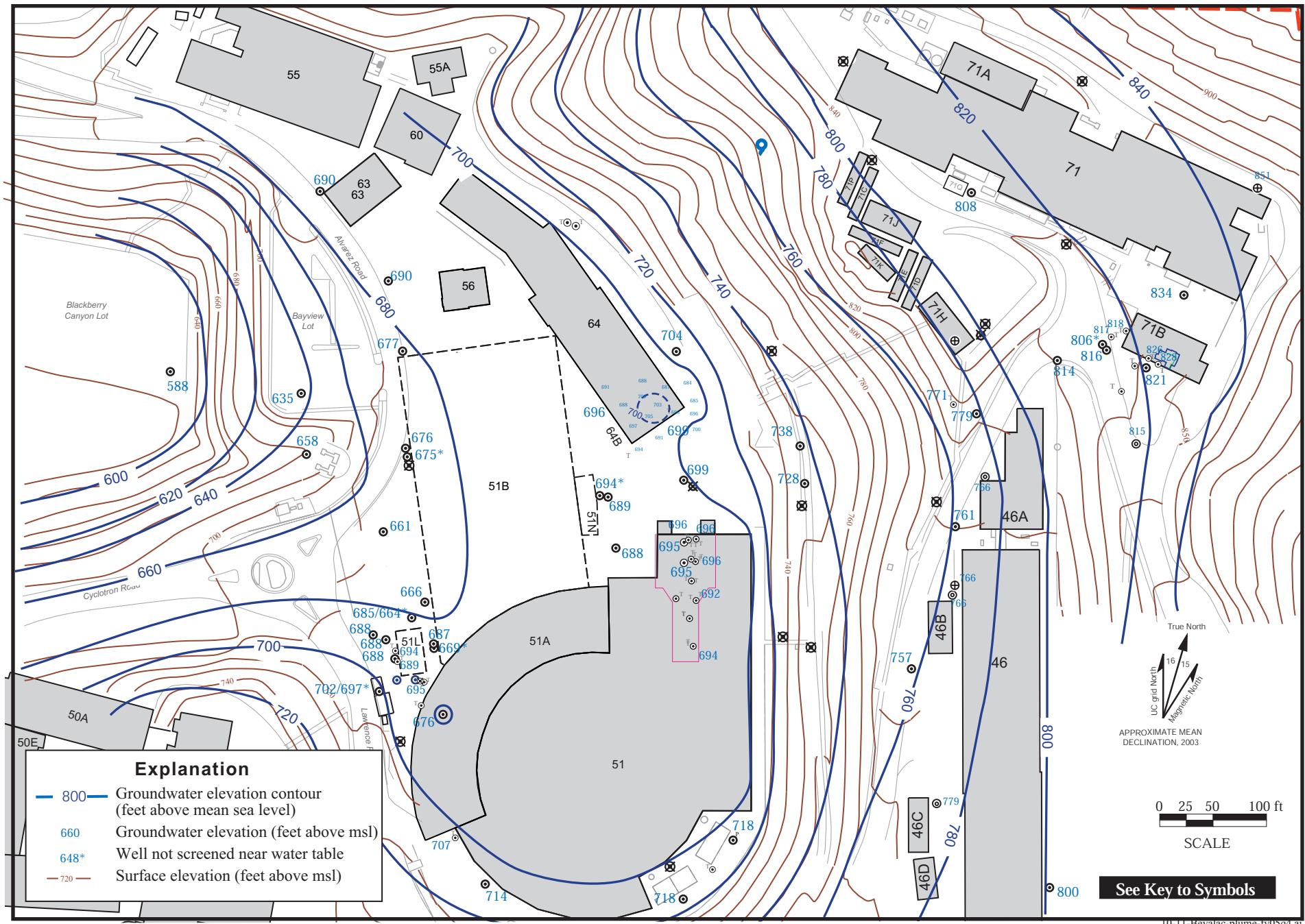
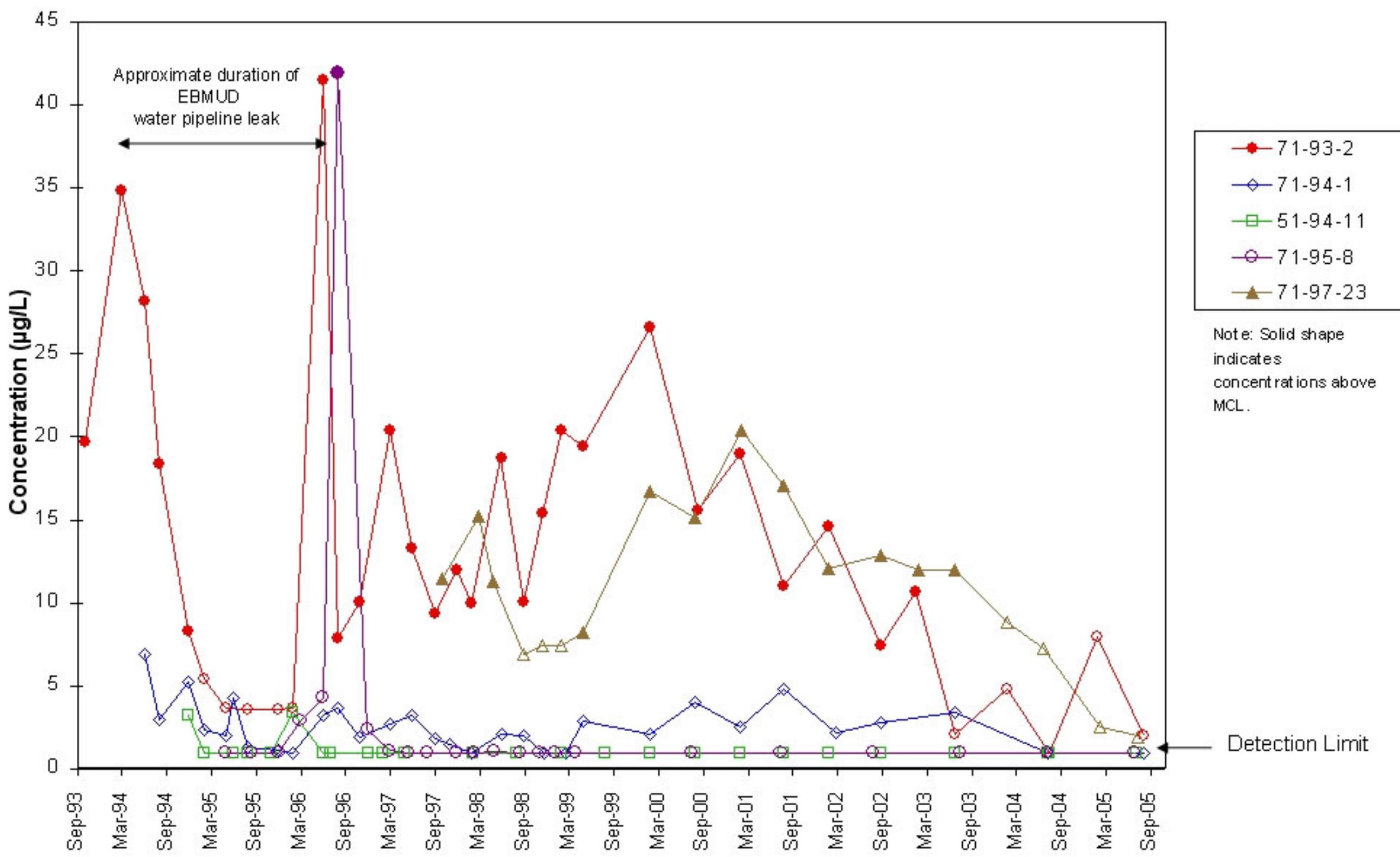
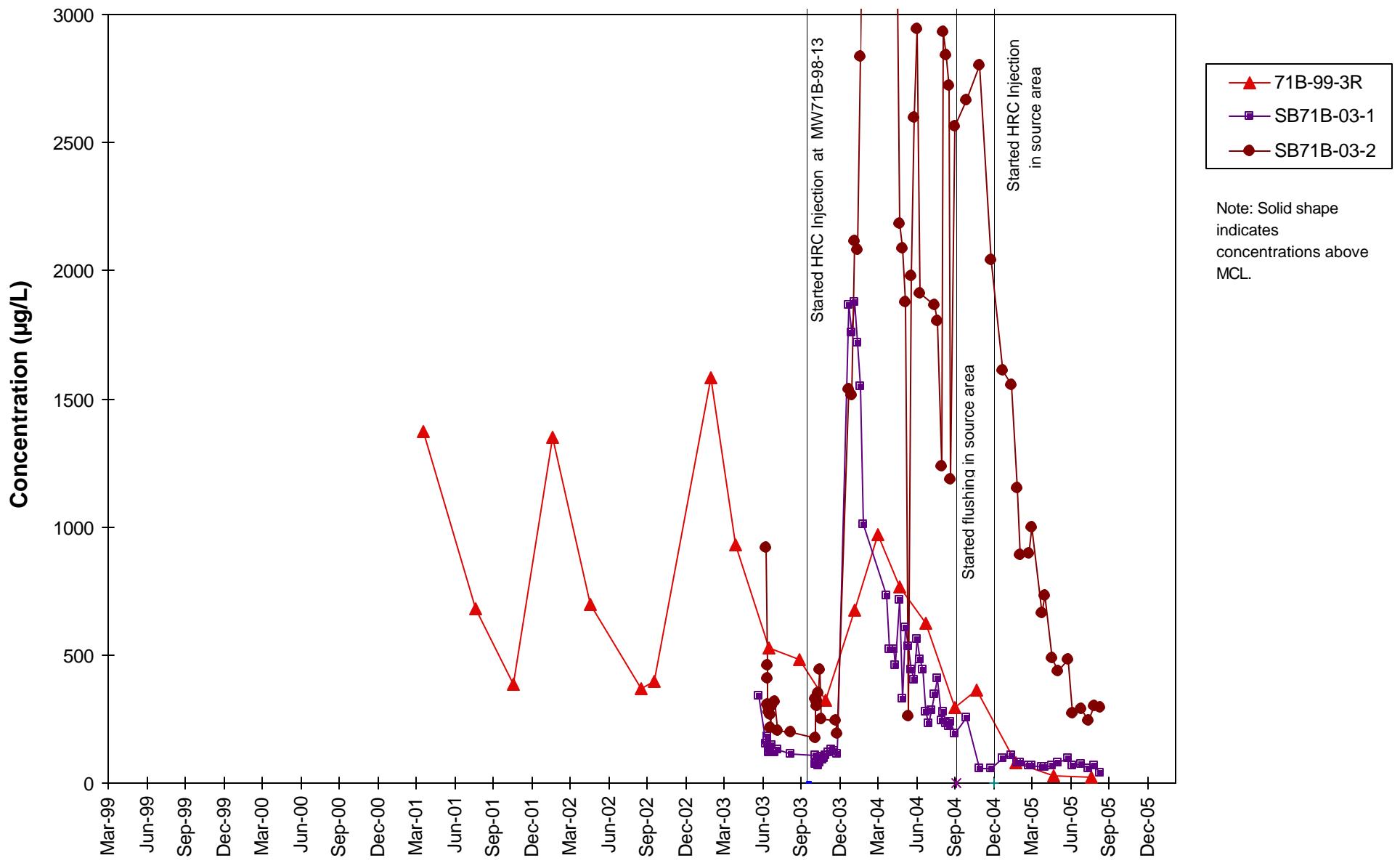


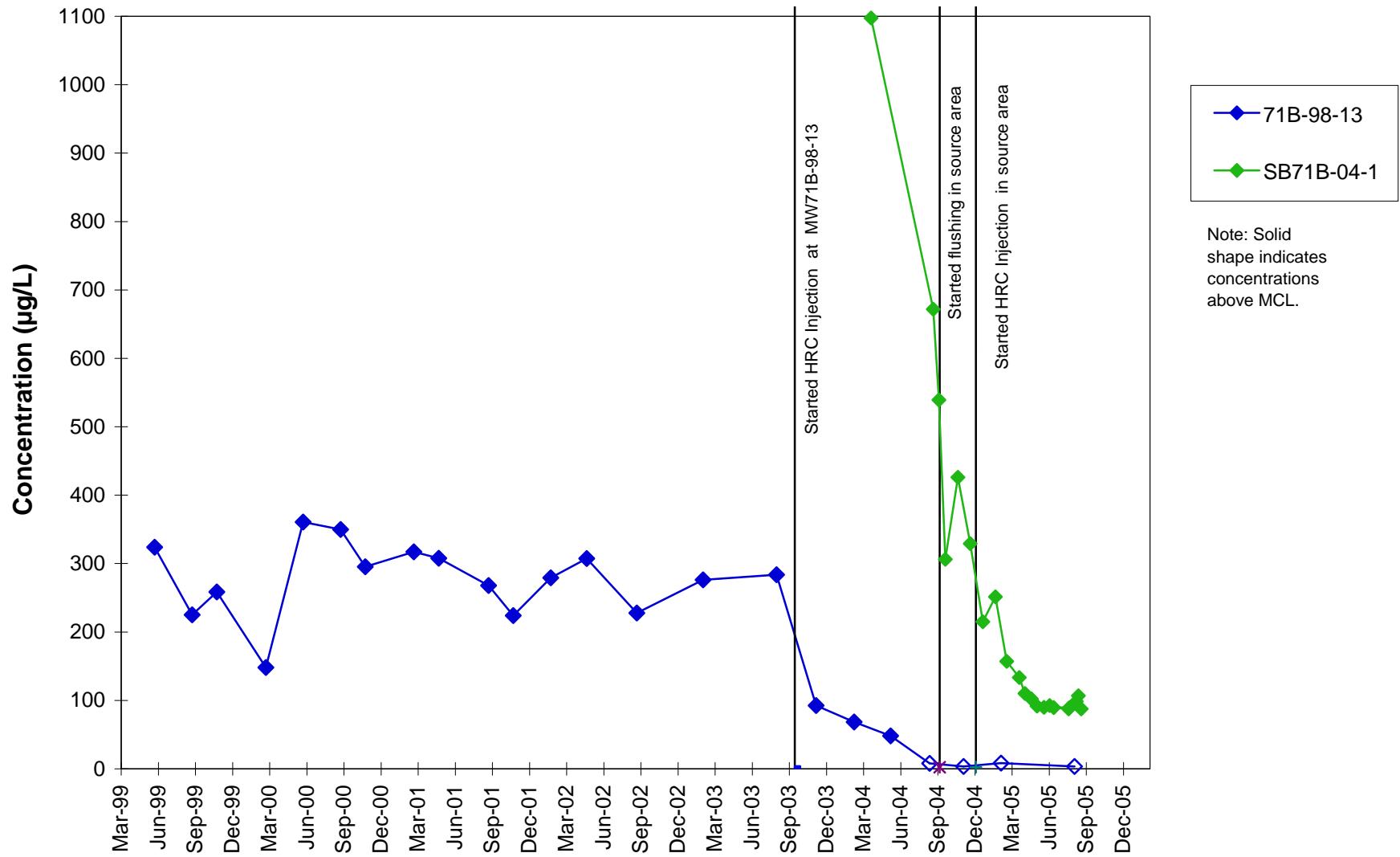
Figure 11. Water Level Elevation Map in the Bevalac Area, Fourth Quarter FY2005.



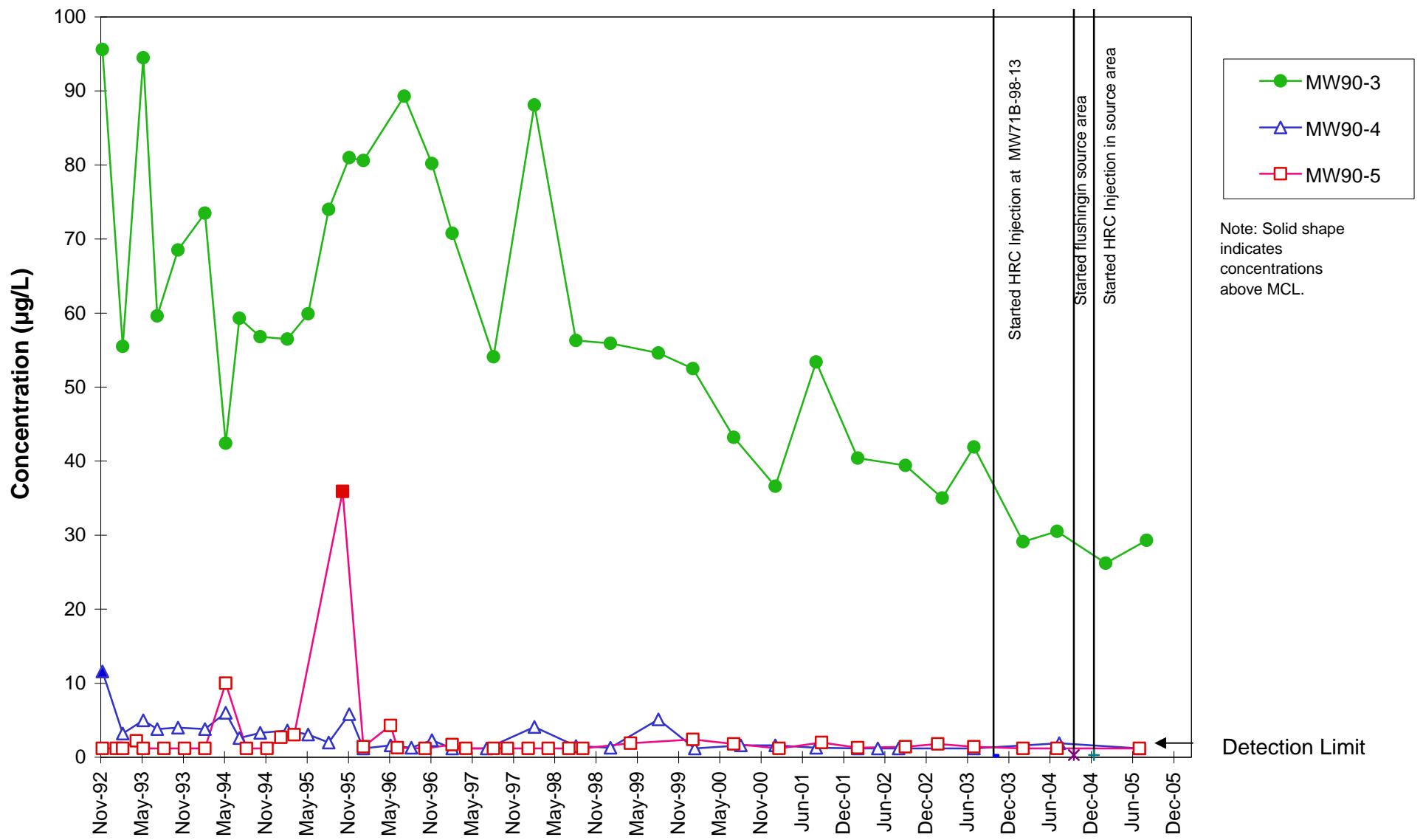
**Figure 12a. Concentration Trends for Total Halogenated VOCs (excluding Freon, Chloroform, and Bromodichloromethane) in the Building 71 Groundwater Solvent Plume (Building 71 Lobe).**



**Figure 12b. Concentration Trends for Total Halogenated VOCs in the Source Area of the Building 71 Groundwater Solvent Plume (Building 71B Lobe).**



**Figure 12c. Concentration Trends for Total Halogenated VOCs in the Core Area of the Building 71 Groundwater Solvent Plume (Building 71B Lobe).**



**Figure 12d. Concentration Trends for Total Halogenated VOCs (excluding Freon, Chloroform, and Bromodichloromethane) in Downgradient Area of the Building 71 Groundwater Solvent Plume (Building 71B Lobe).**

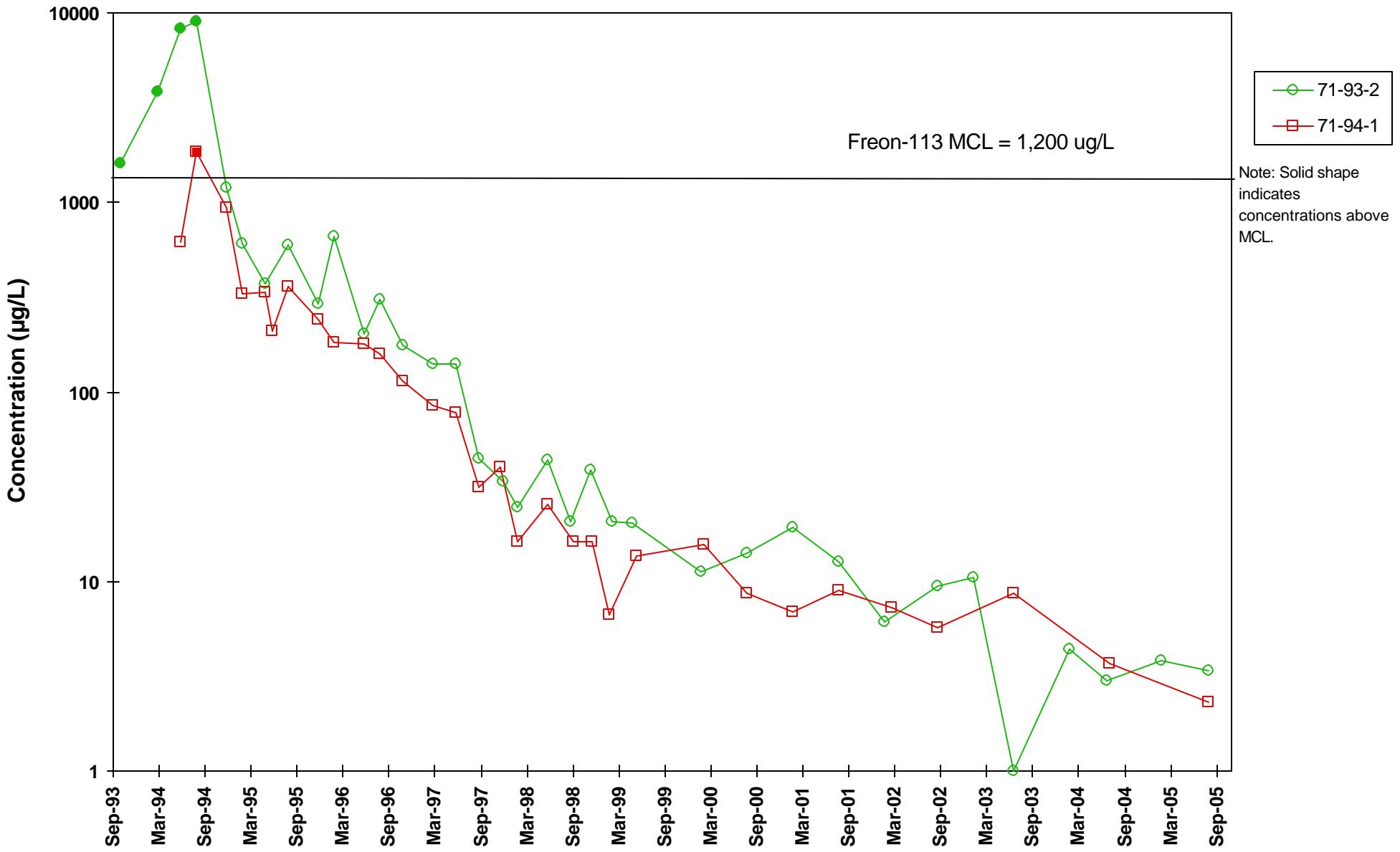


Figure 13. Concentration Trends for Freon-113 in Selected Wells Monitoring the Building 71 Freon Plume.

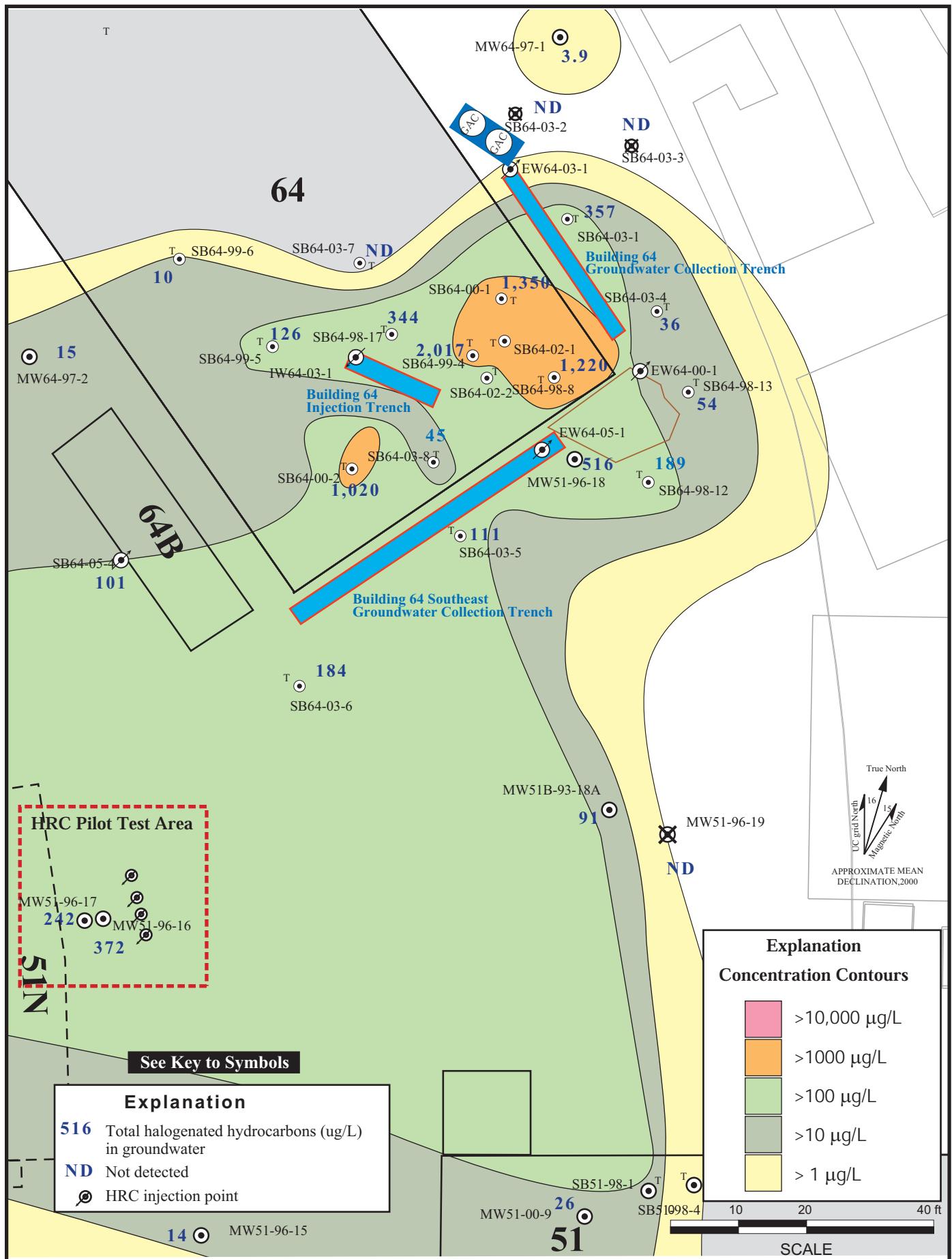
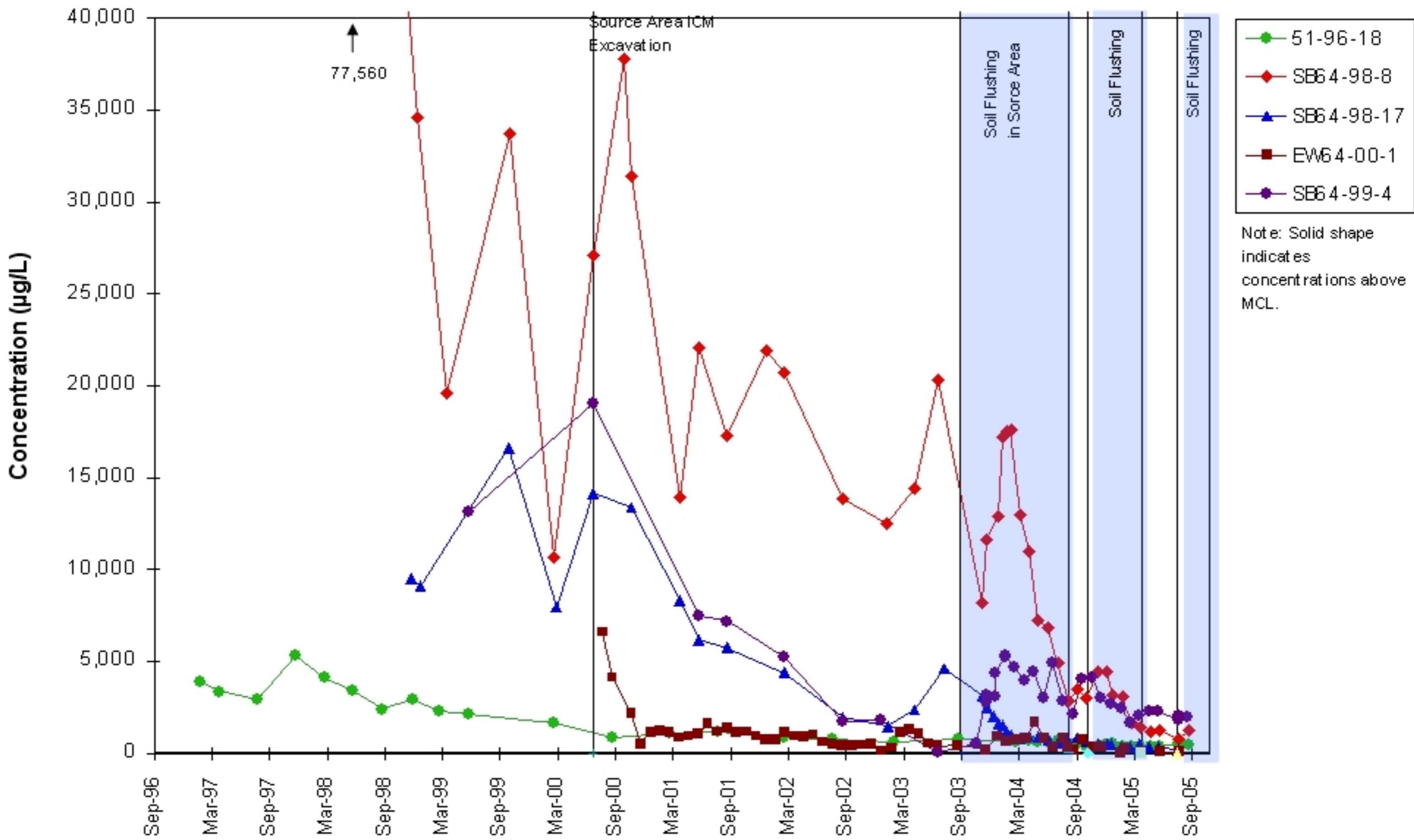
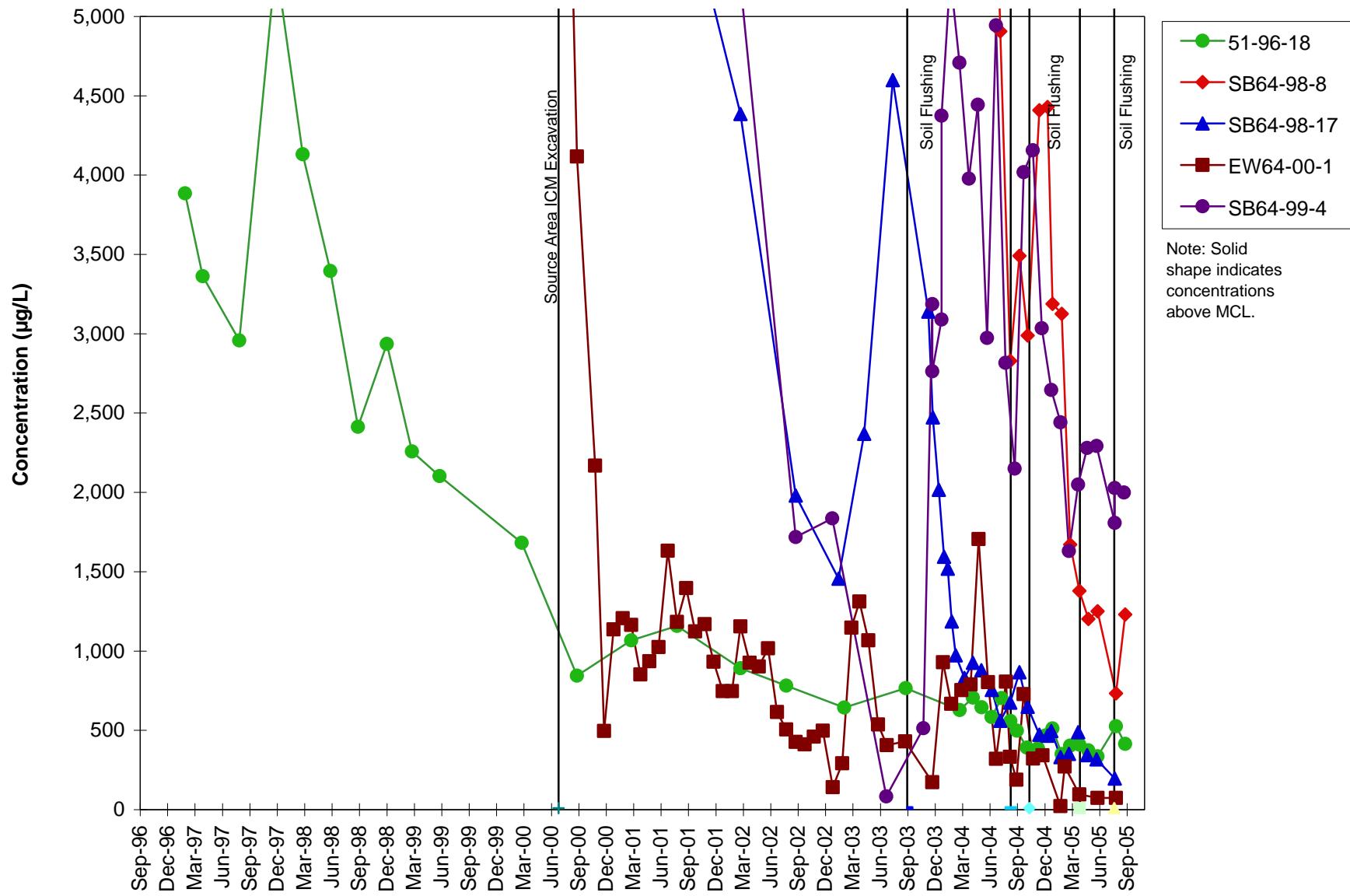


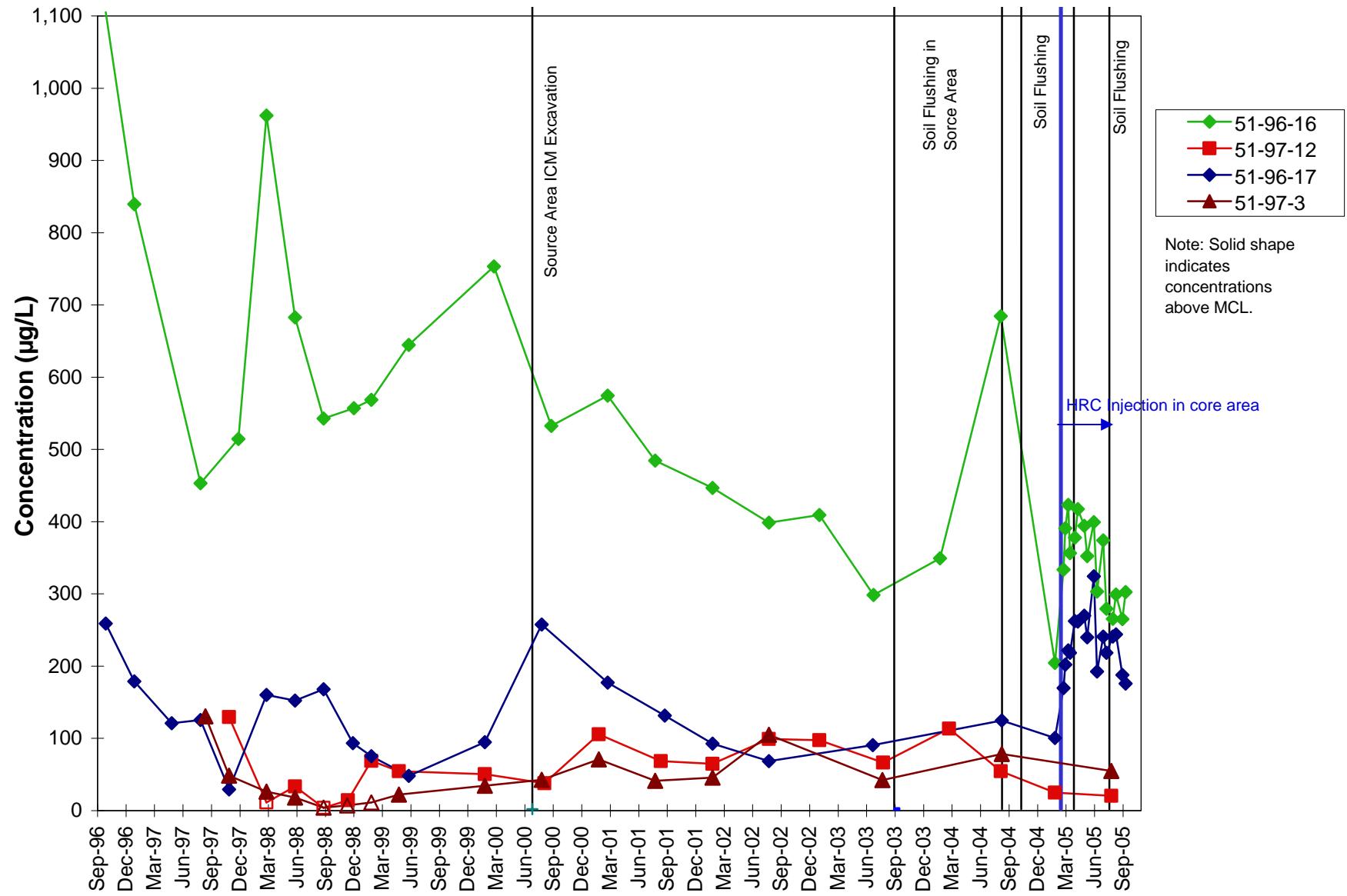
Figure 14. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater, Source Area Building 51/64 Solvent Plume, Fourth Quarter FY05.



**Figure 15a. Concentration Trends for Total Halogenated VOCs in the Source Area of the Building 51/64 Groundwater Solvent Plume.**



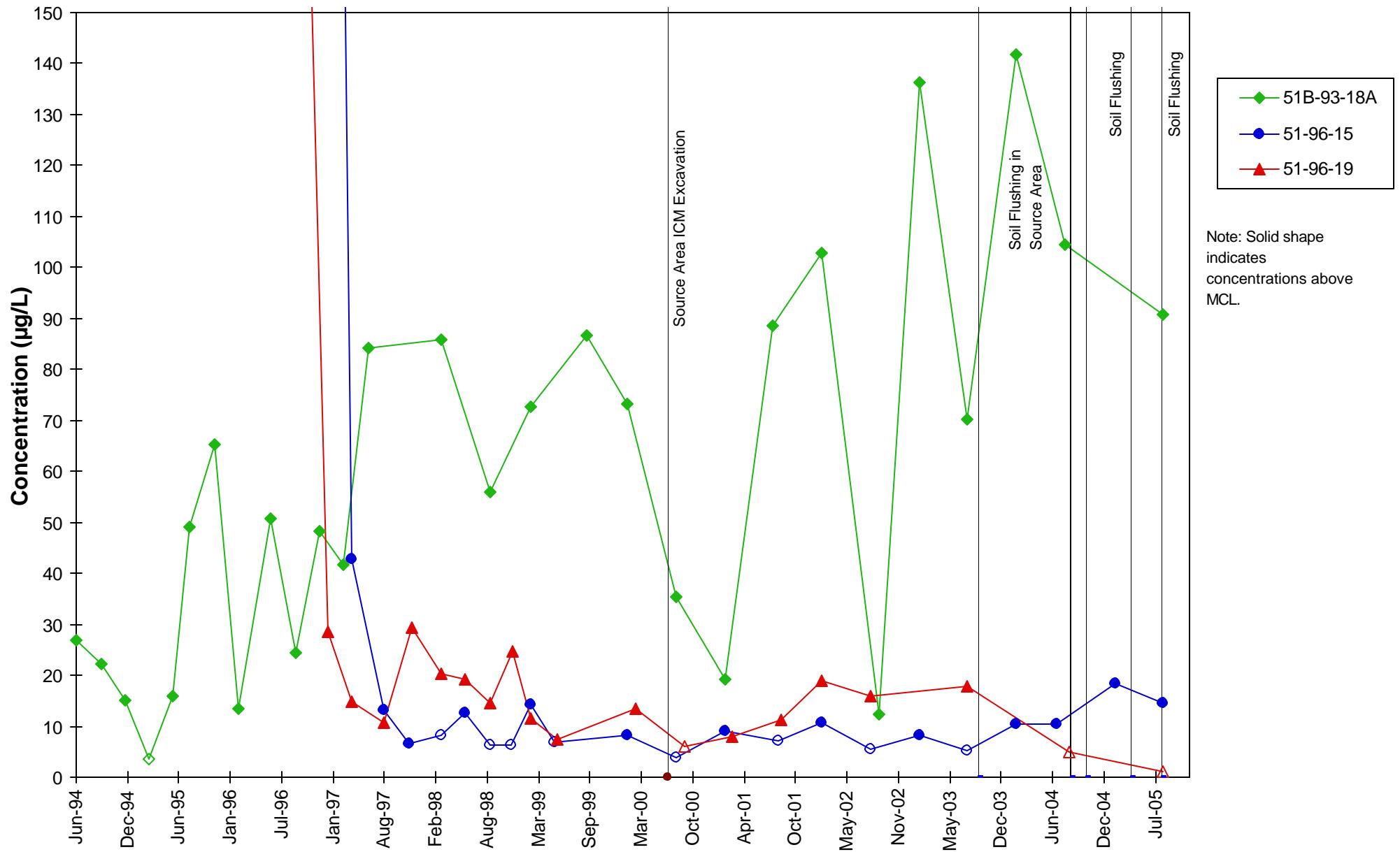
**Figure 15b. Concentration Trends for Total Halogenated VOCs in the Source Area of the Building 51/64 Groundwater Solvent Plume (Detail).**



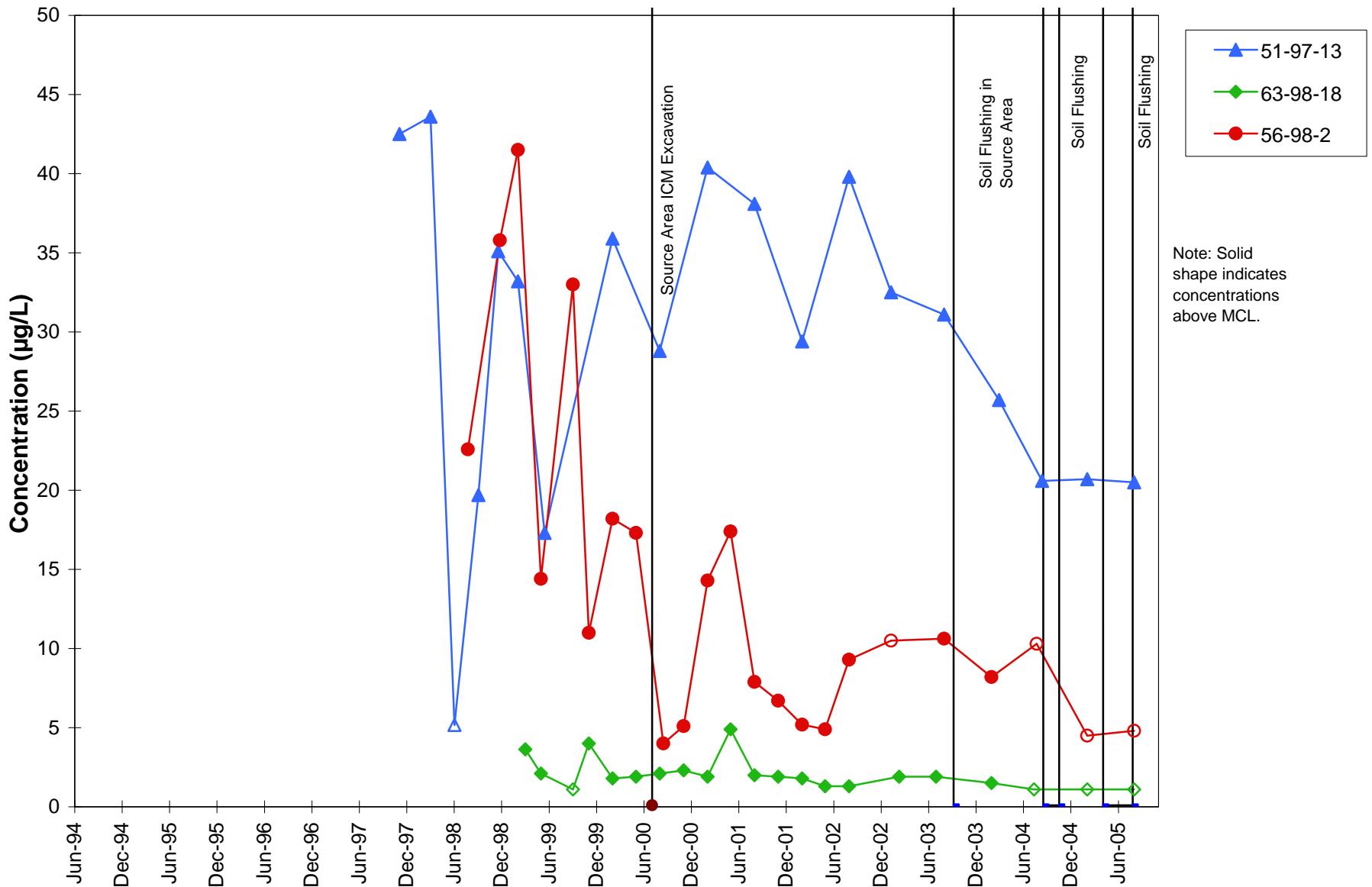
Note: Solid shape  
indicates  
concentrations  
above MCL.

HRC injection in core area

**Figure 15c. Concentration Trends for Total Halogenated VOCs in the Core Area of the Building 51/64 Groundwater Solvent Plume.**



**Figure 15d. Concentration Trends for Total Halogenated VOCs in the Crossgradient Area of the Building 51/64 Groundwater Solvent Plume.**



**Figure 15e. Concentration Trends for Total halogenated VOCs in the Downgradient Area of the Building 51/64 Groundwater Solvent Plume.**

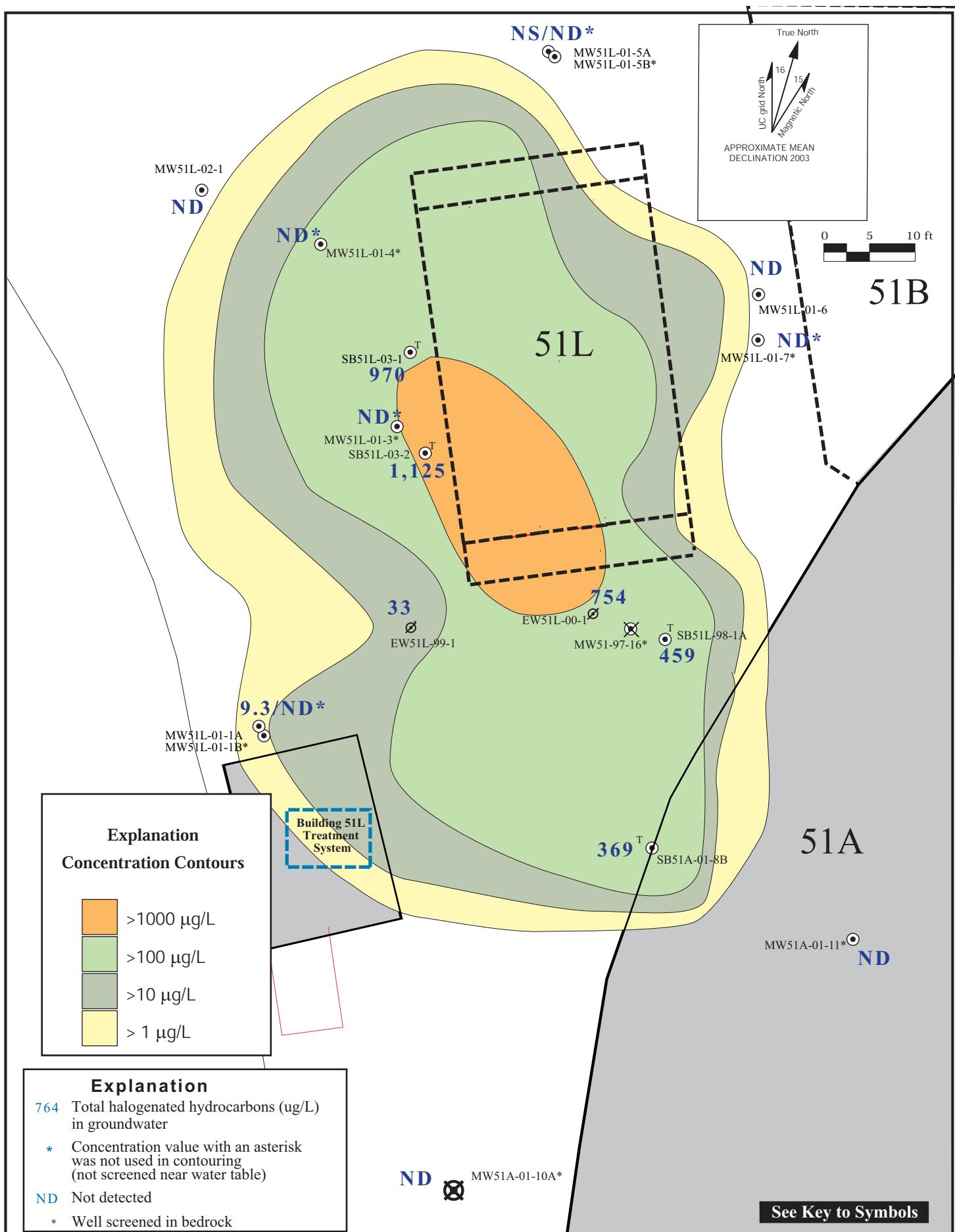


Figure 16. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater in Fill, Building 51L Solvent Plume, Fourth Quarter FY05.

16-b51ltotlvcsfy05q412/05

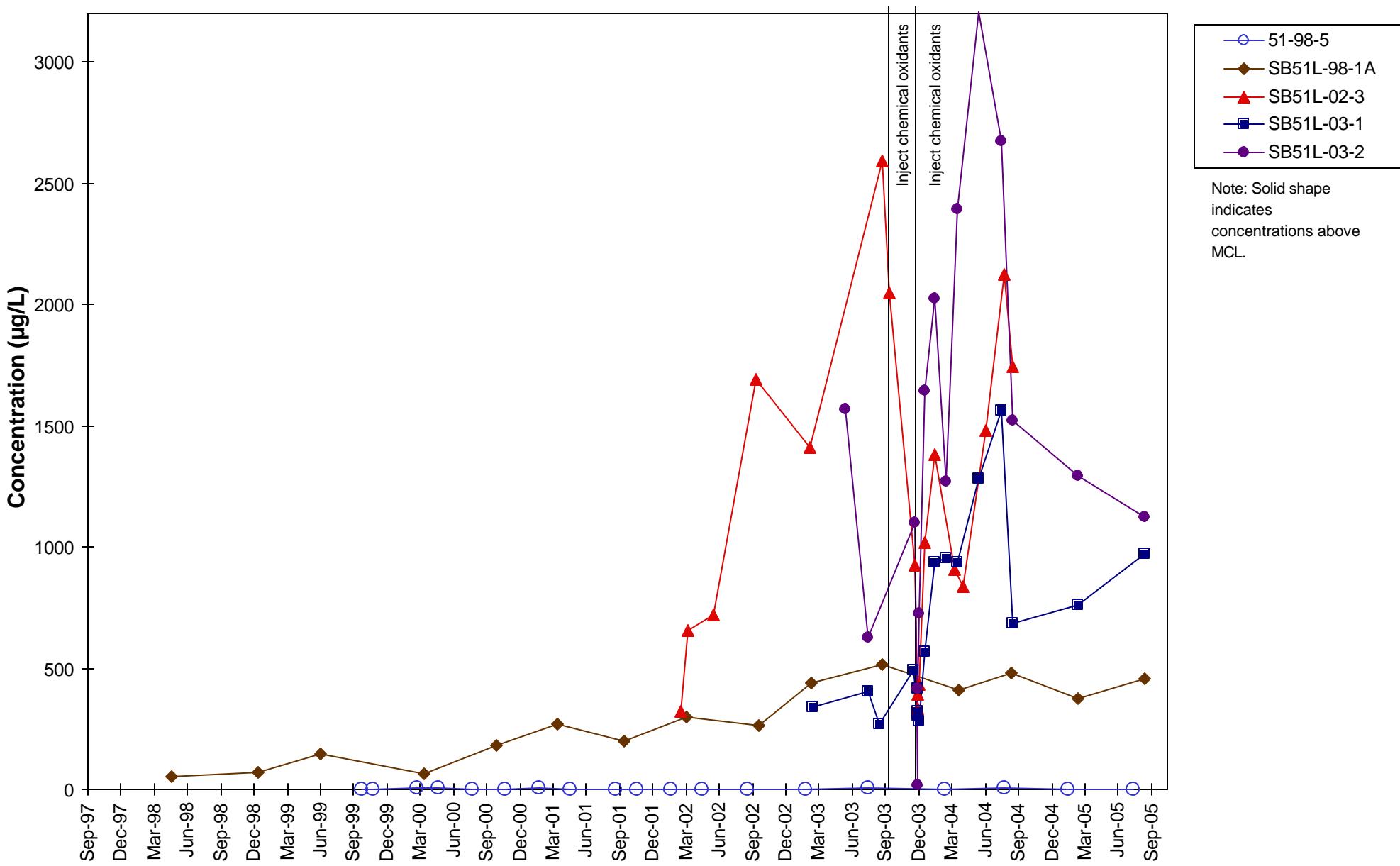


Figure 17. Concentration Trends for Total Halogenated VOCs in the Building 51L Groundwater Solvent Plume.

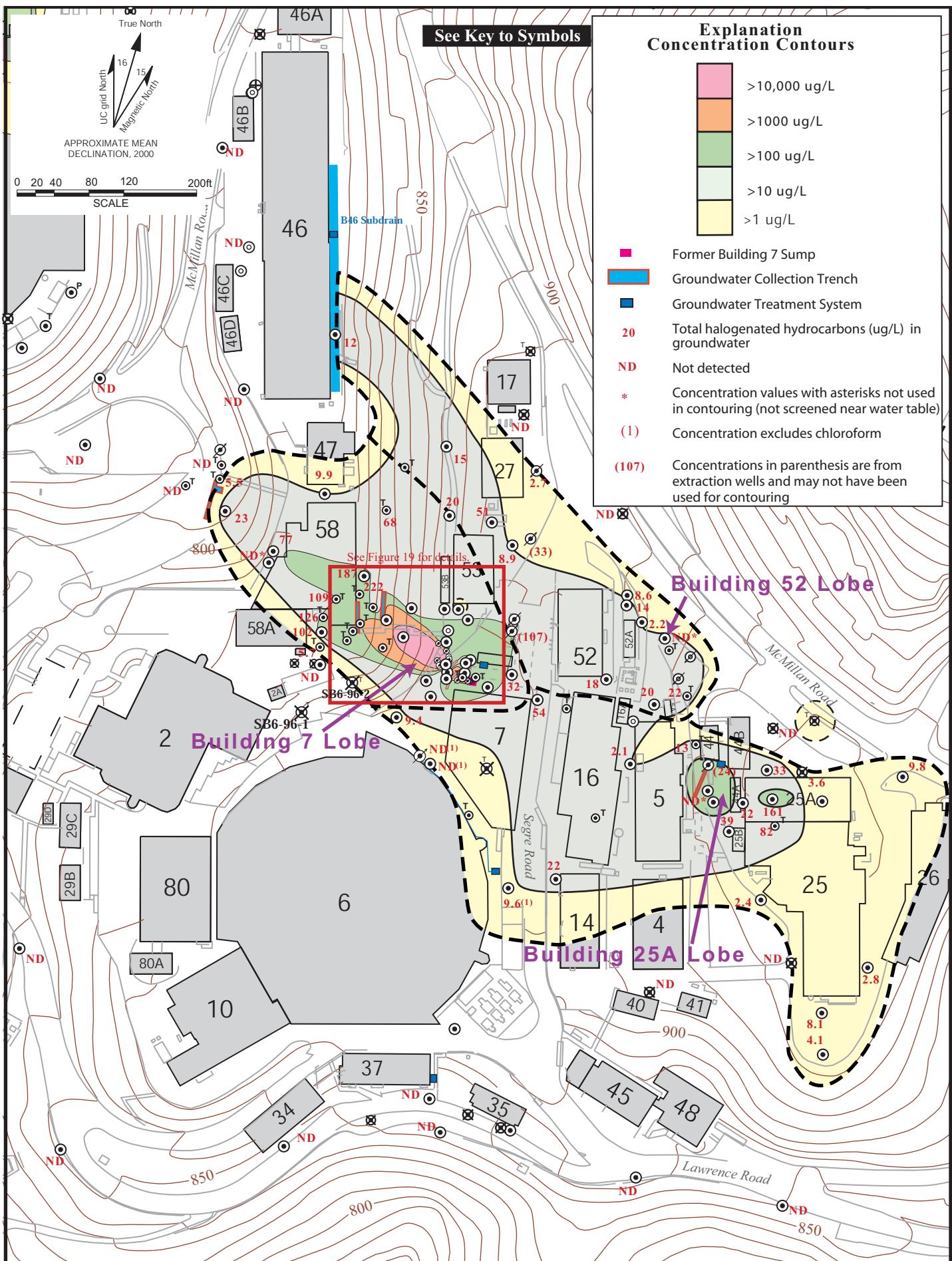
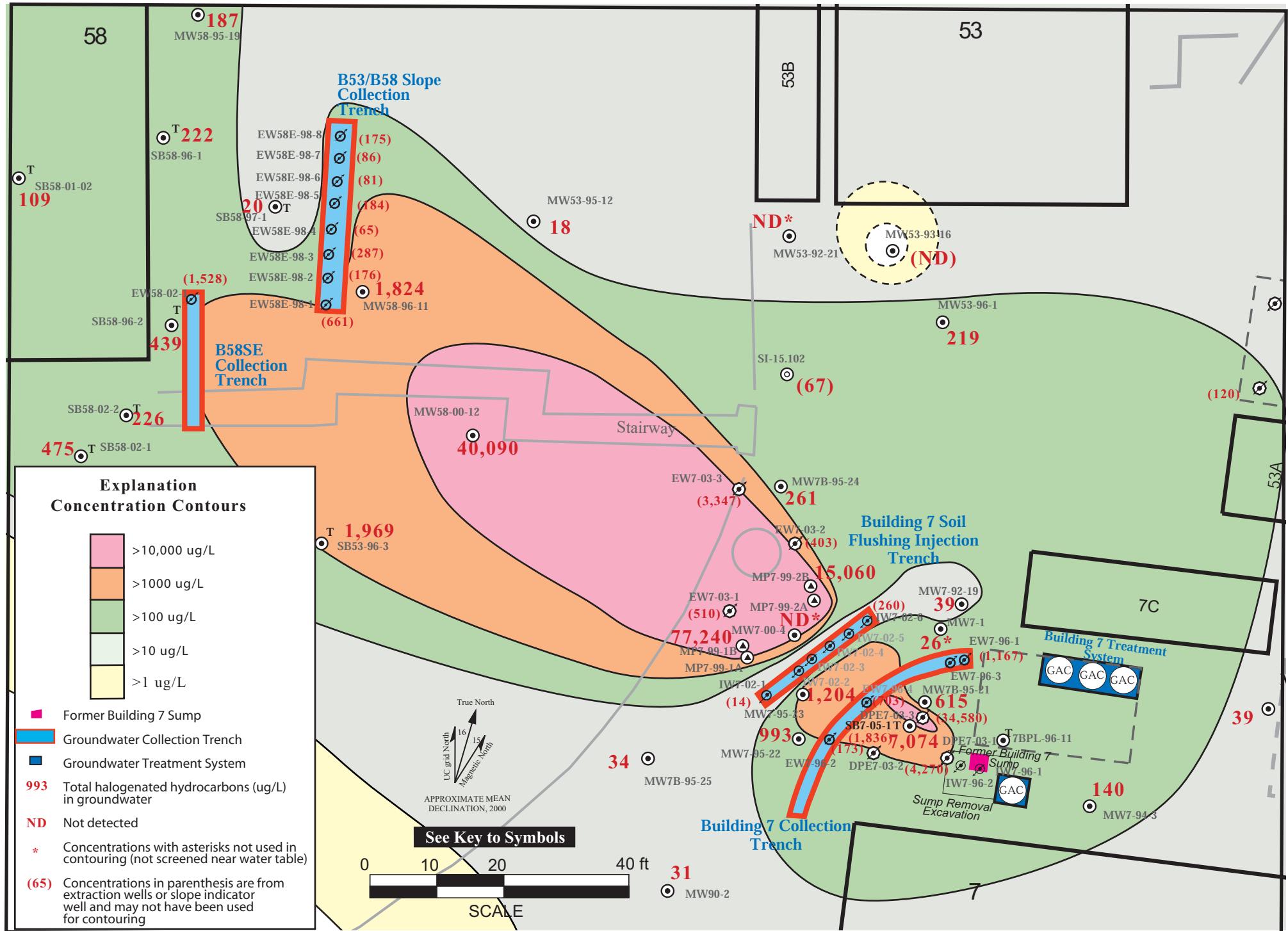
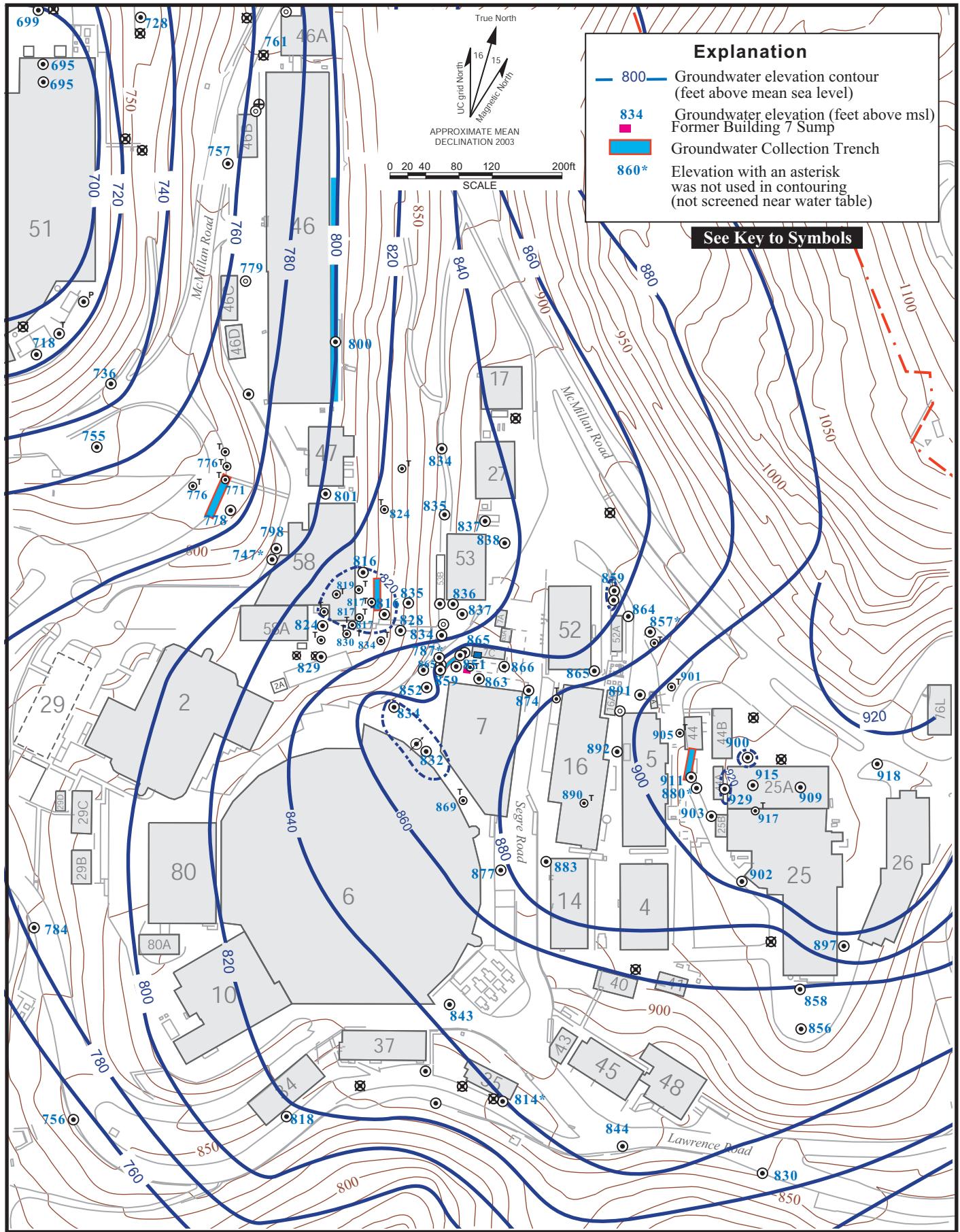


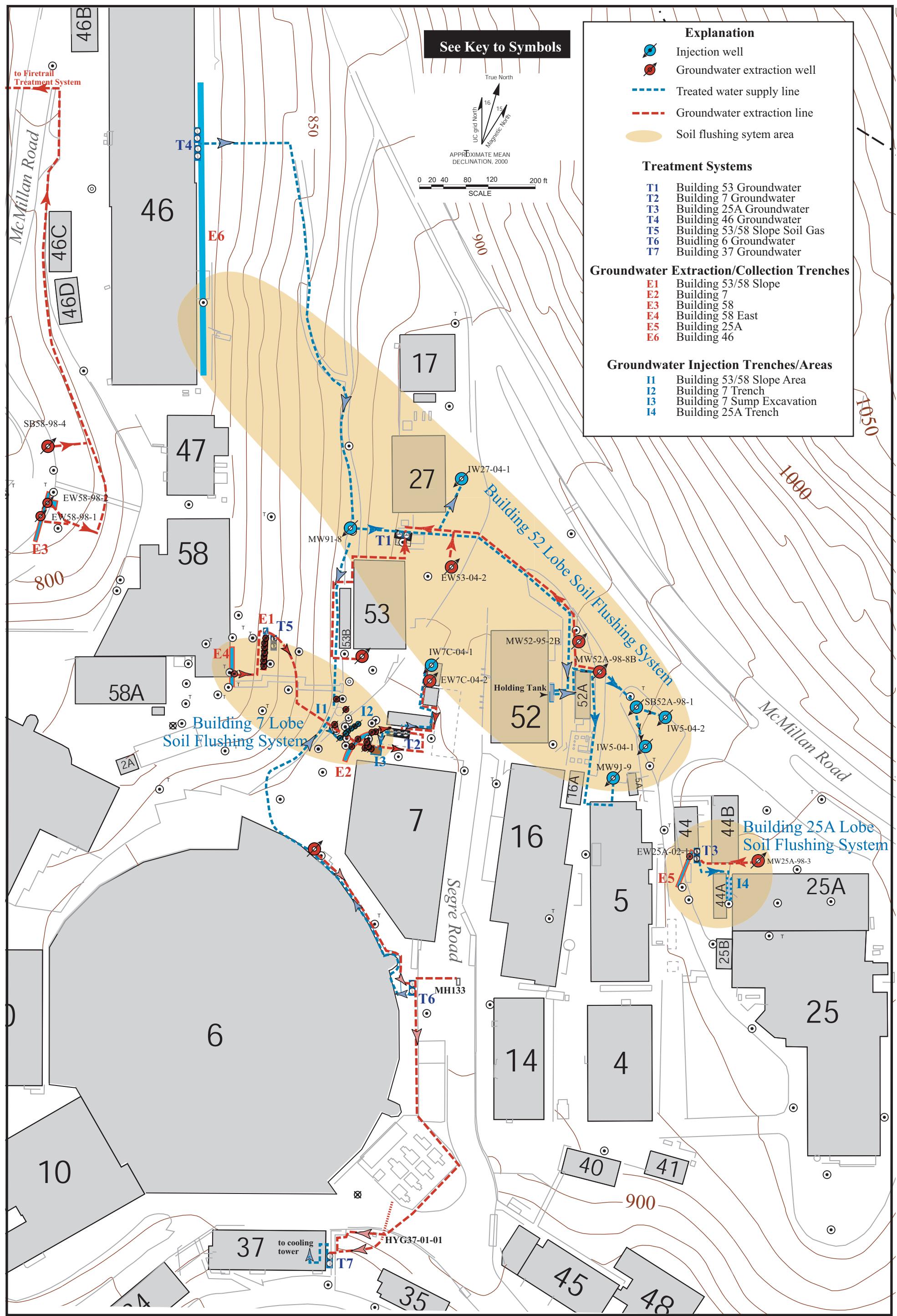
Figure 18. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Old Town Area, Fourth Quarter FY2005.



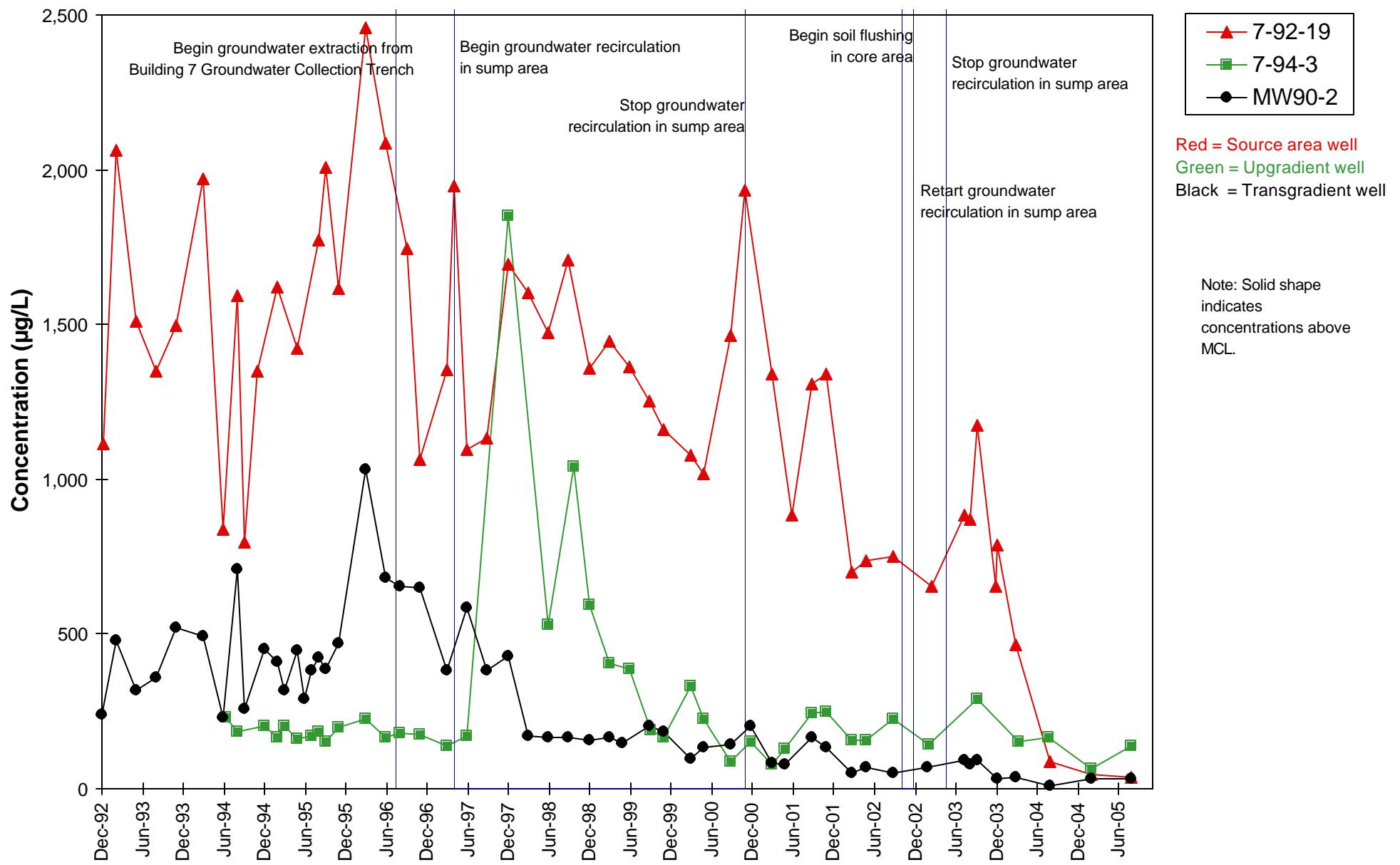
**Figure 19. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Source Area for the Old Town Plume, Fourth Quarter FY2005.**



**Figure 20. Water Level Elevation Map of the Old Town Area, Fourth Quarter FY2005.**



**Figure 21. Soil Flushing and Groundwater Migration Control Systems, Old Town Groundwater Solvent Plume.**



**Figure 22a. Concentration Trends for Total Halogenated VOCs in Wells Located Near the Source Area of the Old Town Groundwater Solvent Plume (Building 7 Lobe).**

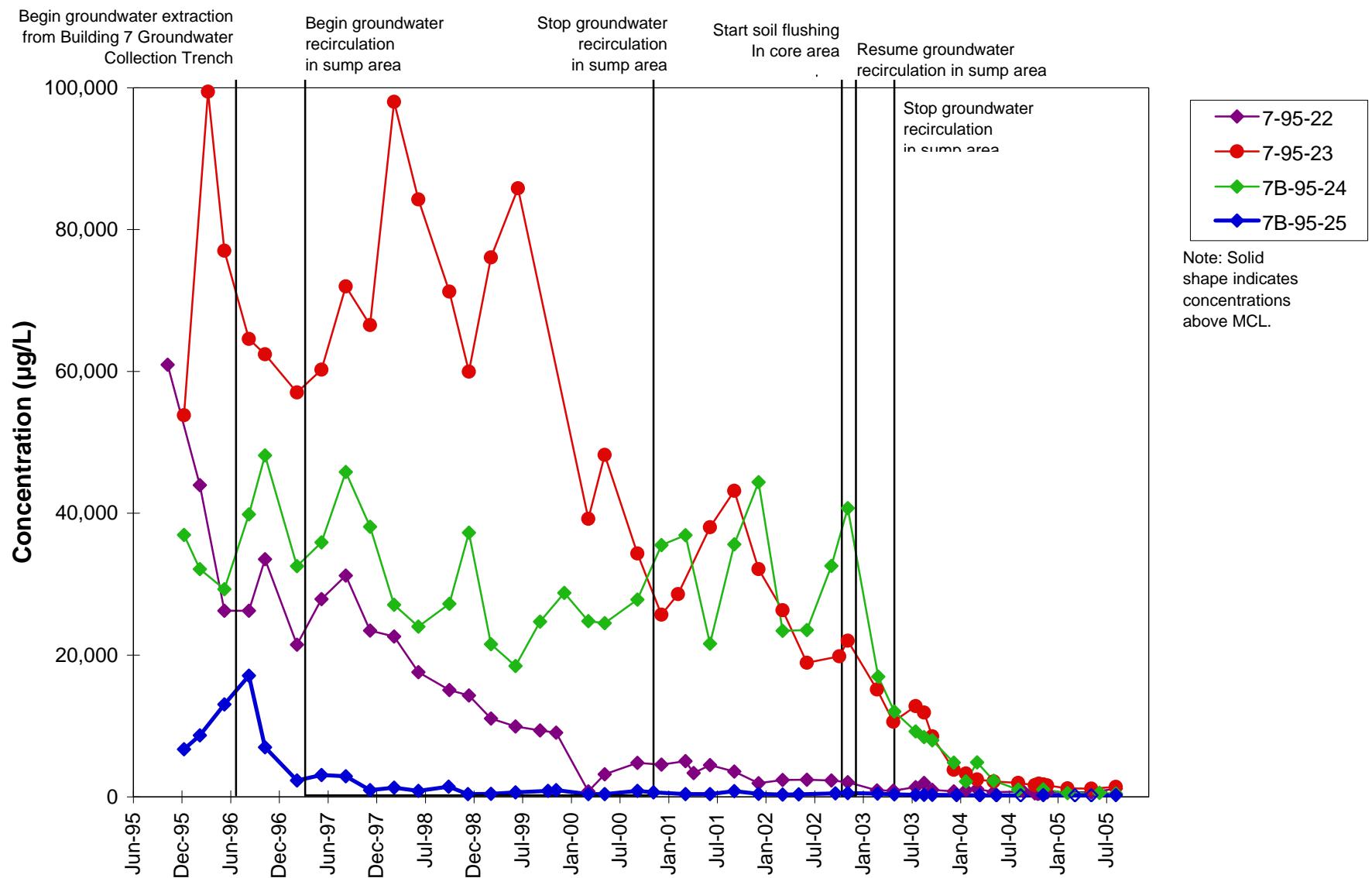
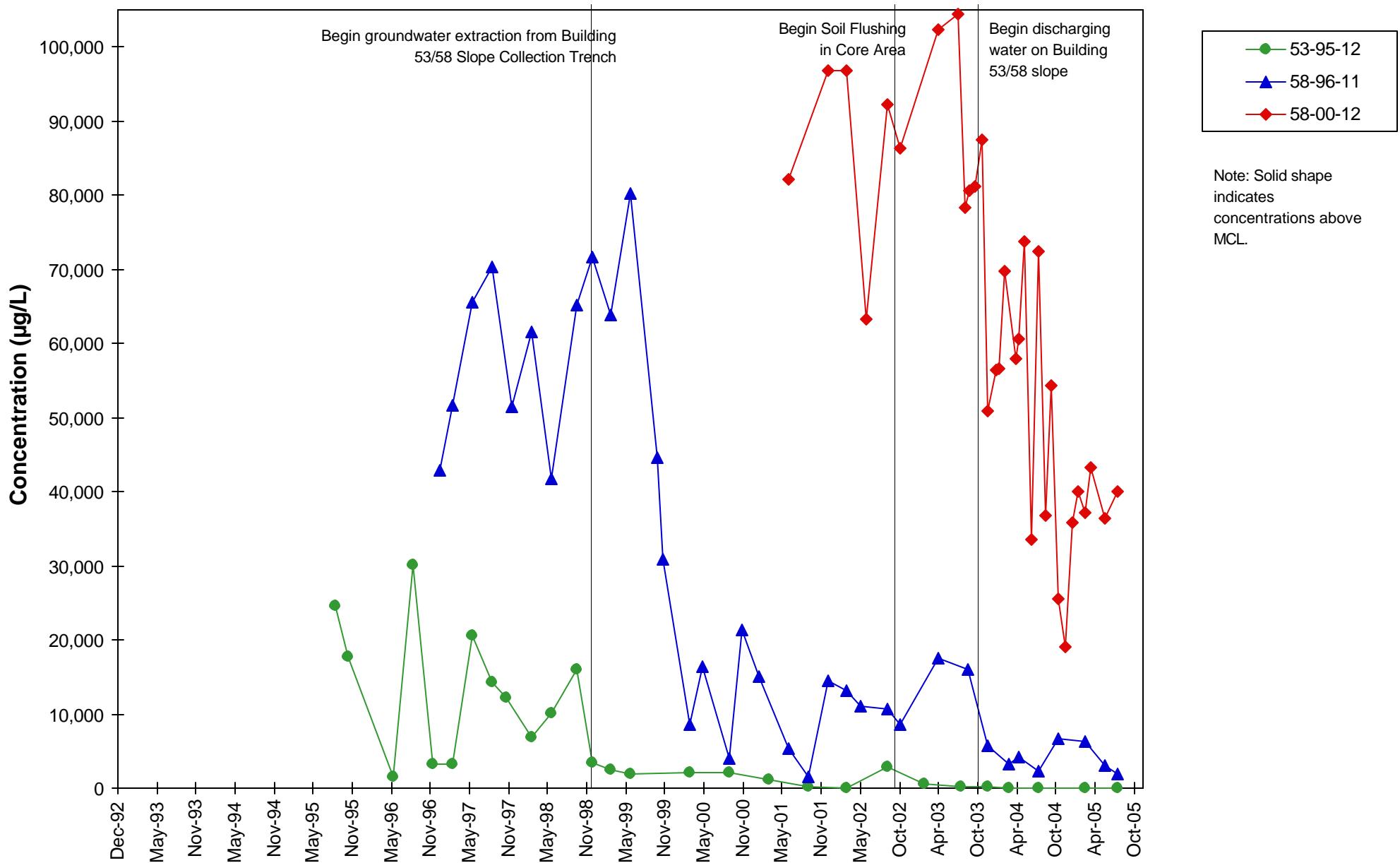
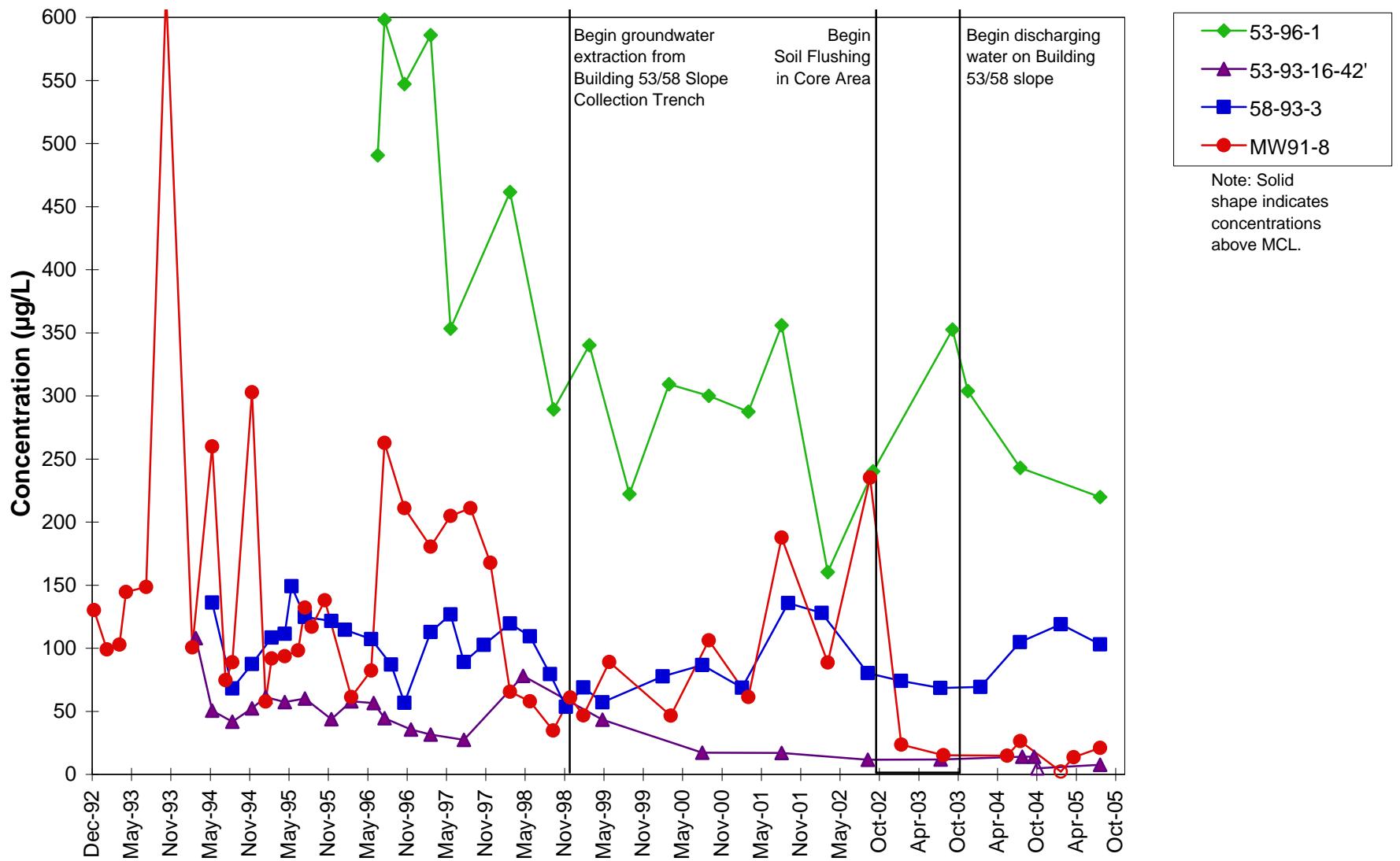


Figure 22b. Concentration Trends for Total Halogenated VOCs in the Upgradient Core Area of the Old Town Groundwater Solvent Plume (Building 7 Lobe).



**Figure 22c. Concentration Trends for Total Halogenated VOCs in Wells Located in the Downgradient Plume Core Area of the Old Town Groundwater Solvent Plume (Building 7 Lobe).**



**Figure 22d. Concentration Trends for Total Halogenated VOCs in Wells Located in the Transgradient Area of the Old Town Groundwater Solvent Plume (Building 7 Lobe).**

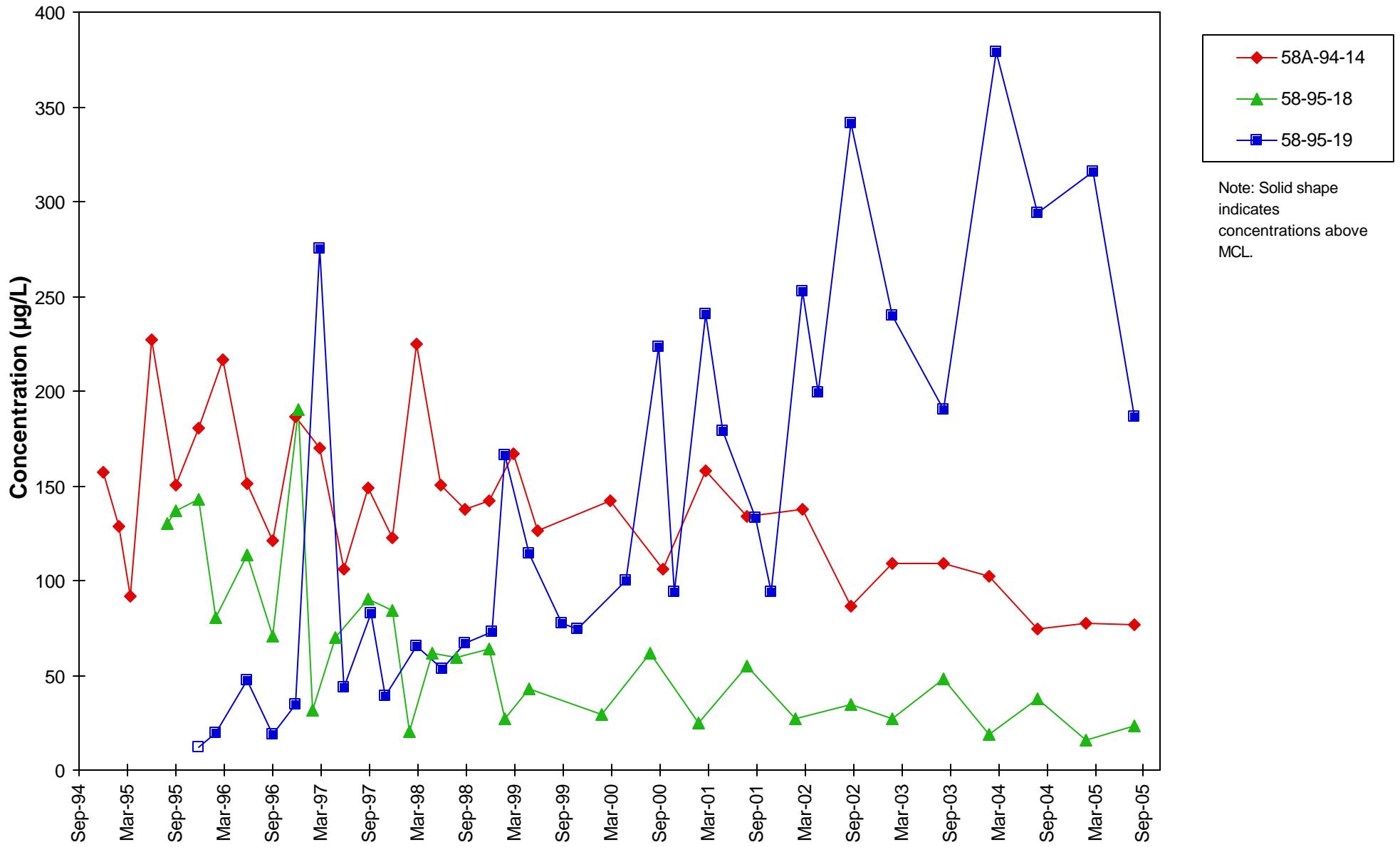
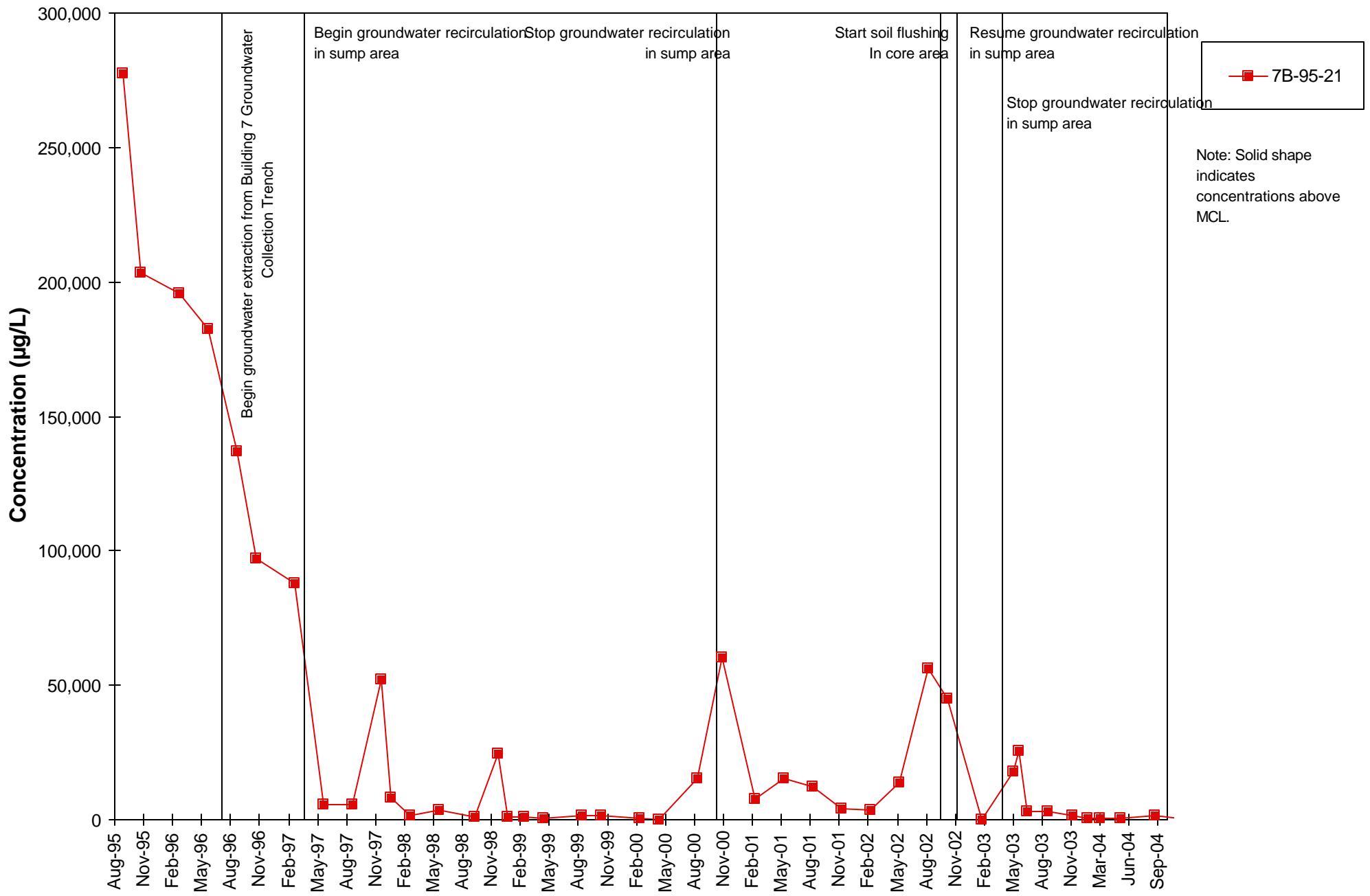
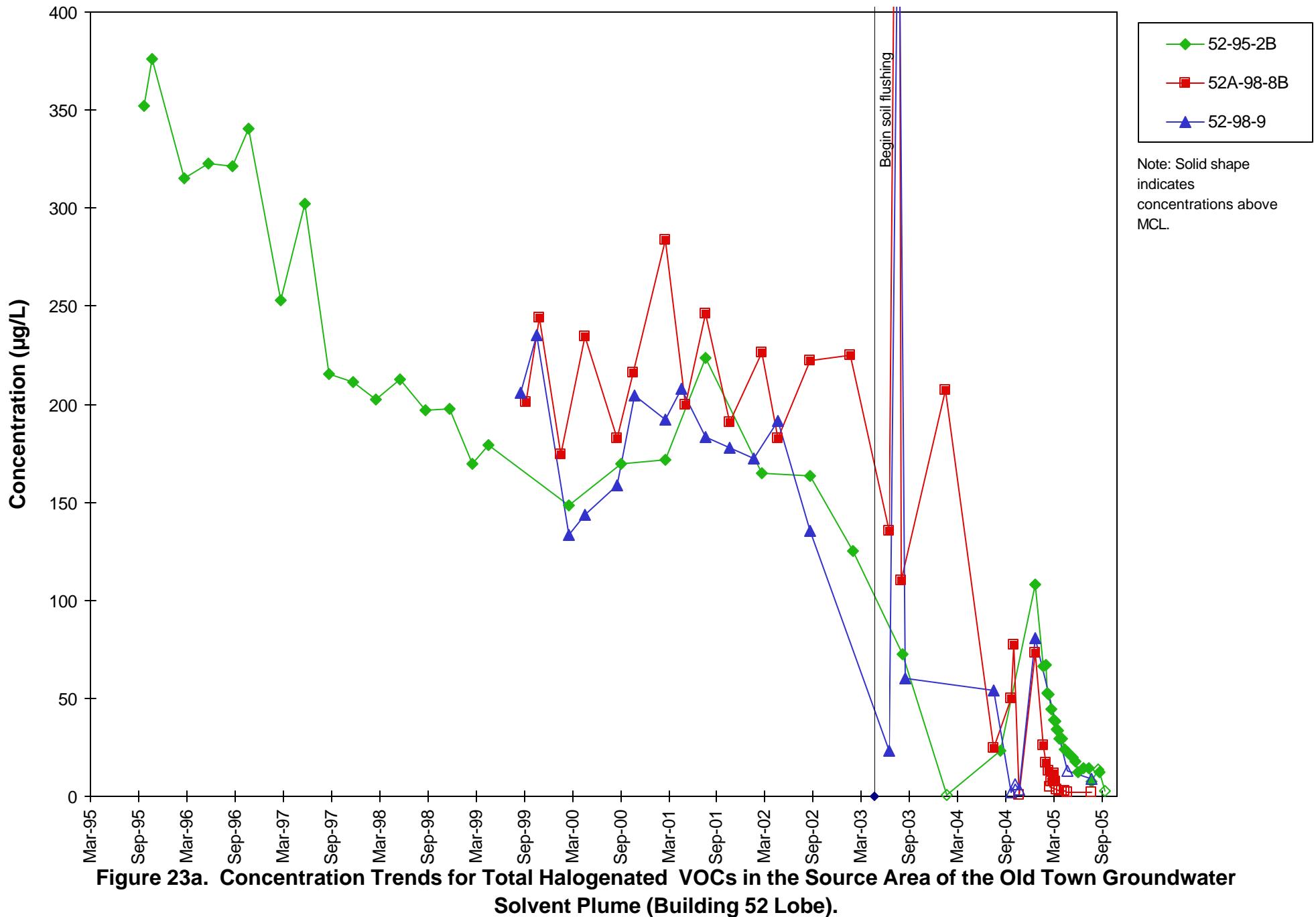
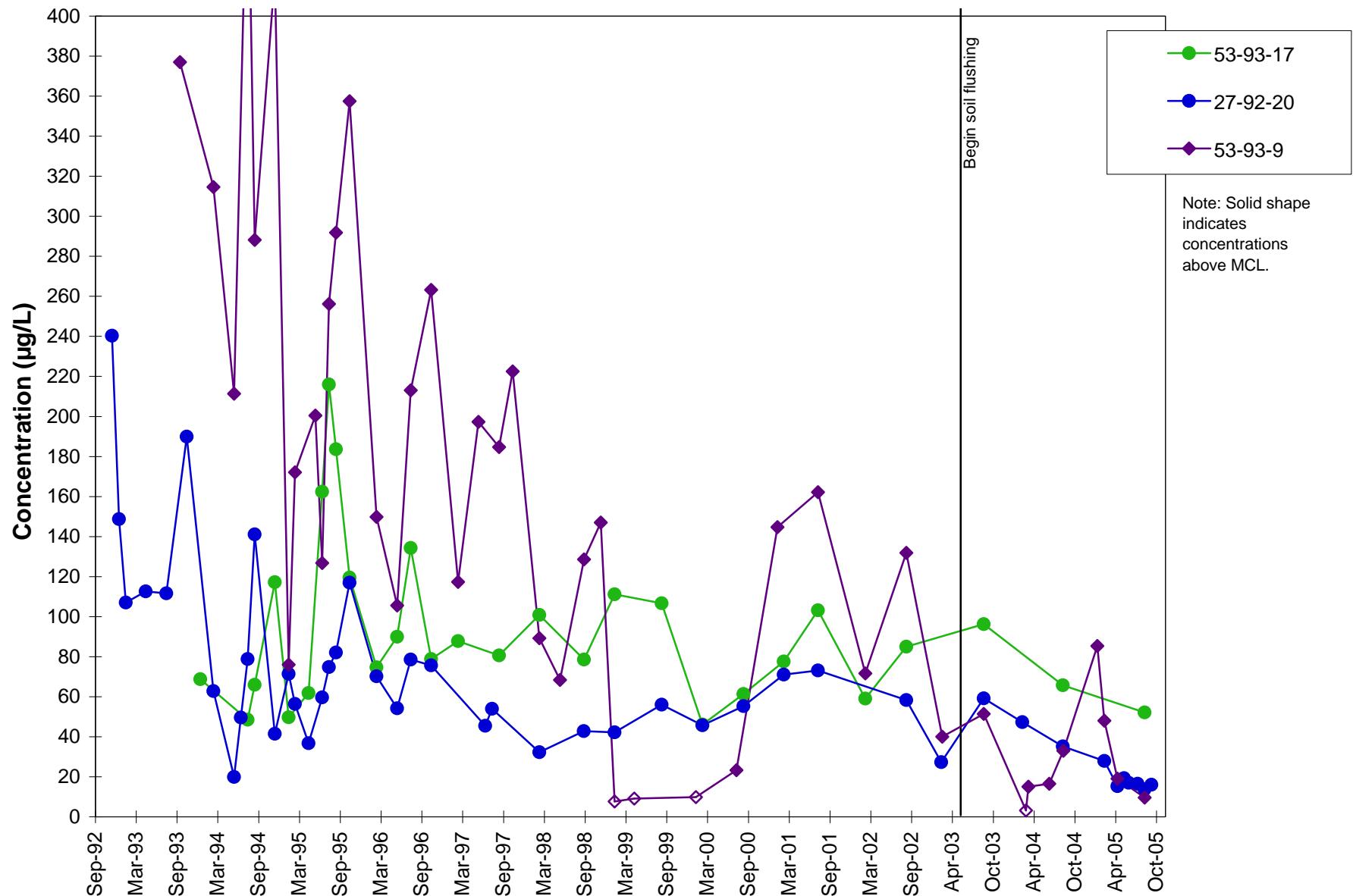


Figure 22e. Concentration Trends for Total Halogenated VOCs in the Downgradient Area of the Old Town Groundwater Solvent Plume (Building 7 Lobe).



**Figure 22f. Concentration Trends for Total Halogenated VOCs in Well 7B-95-21 Located Near the Source of the Old Town Groundwater Solvent Plume (Building 7 Lobe)**





**Figure 23b. Concentration Trends of Total Halogenated VOCs in the Downgradient Area of the Old Town Groundwater Solvent Plume (Building 52 Lobe).**

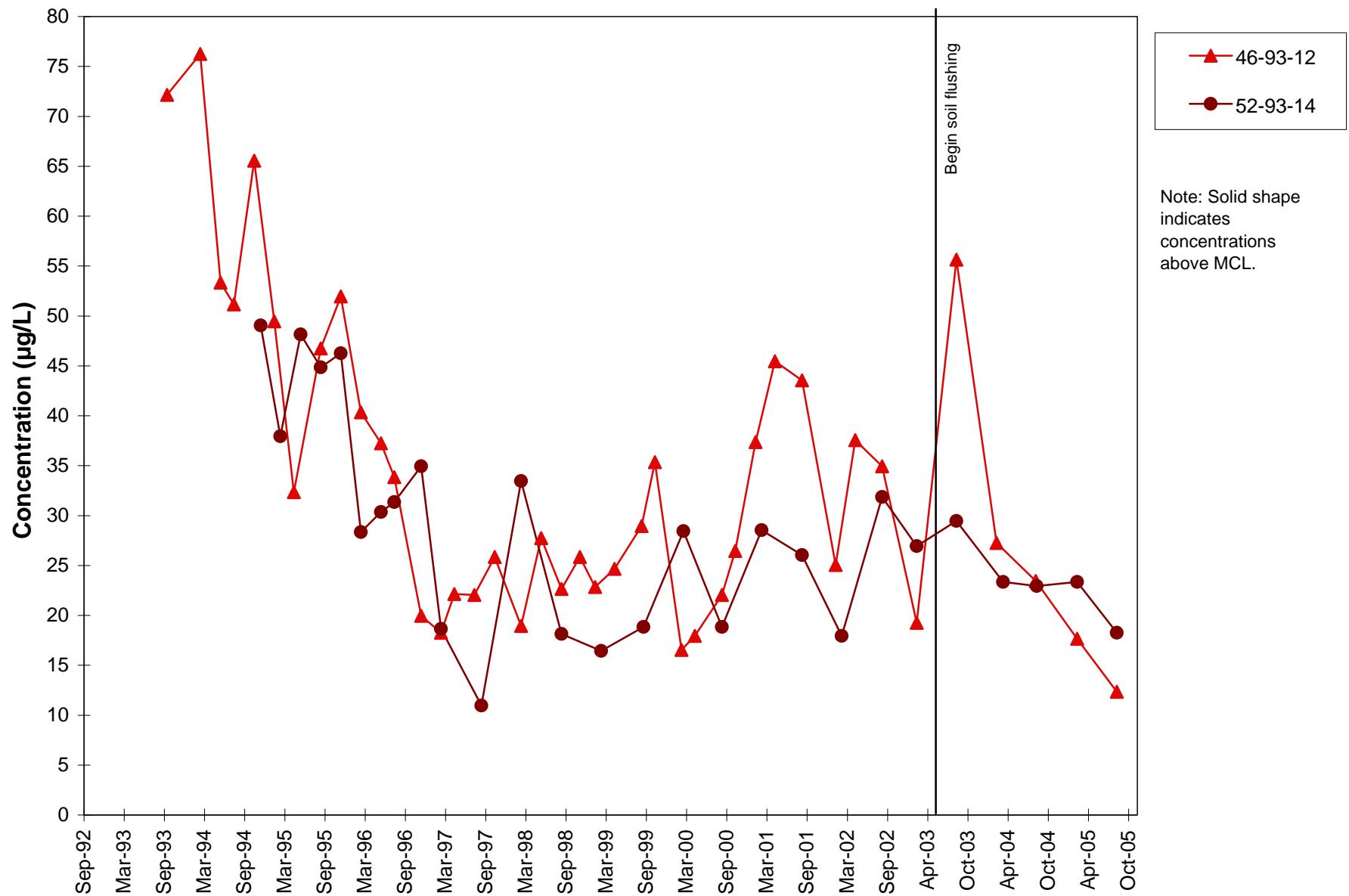
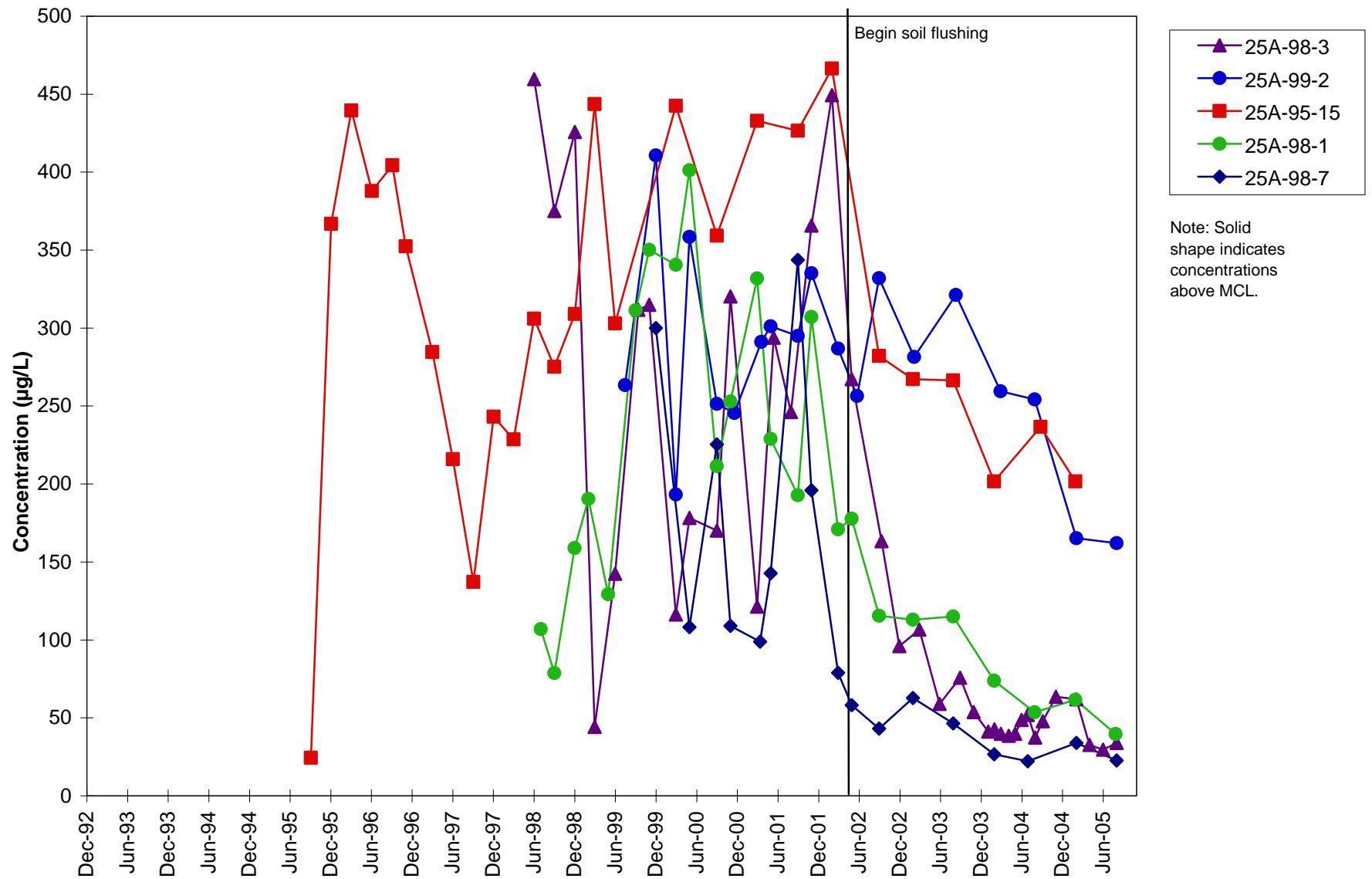
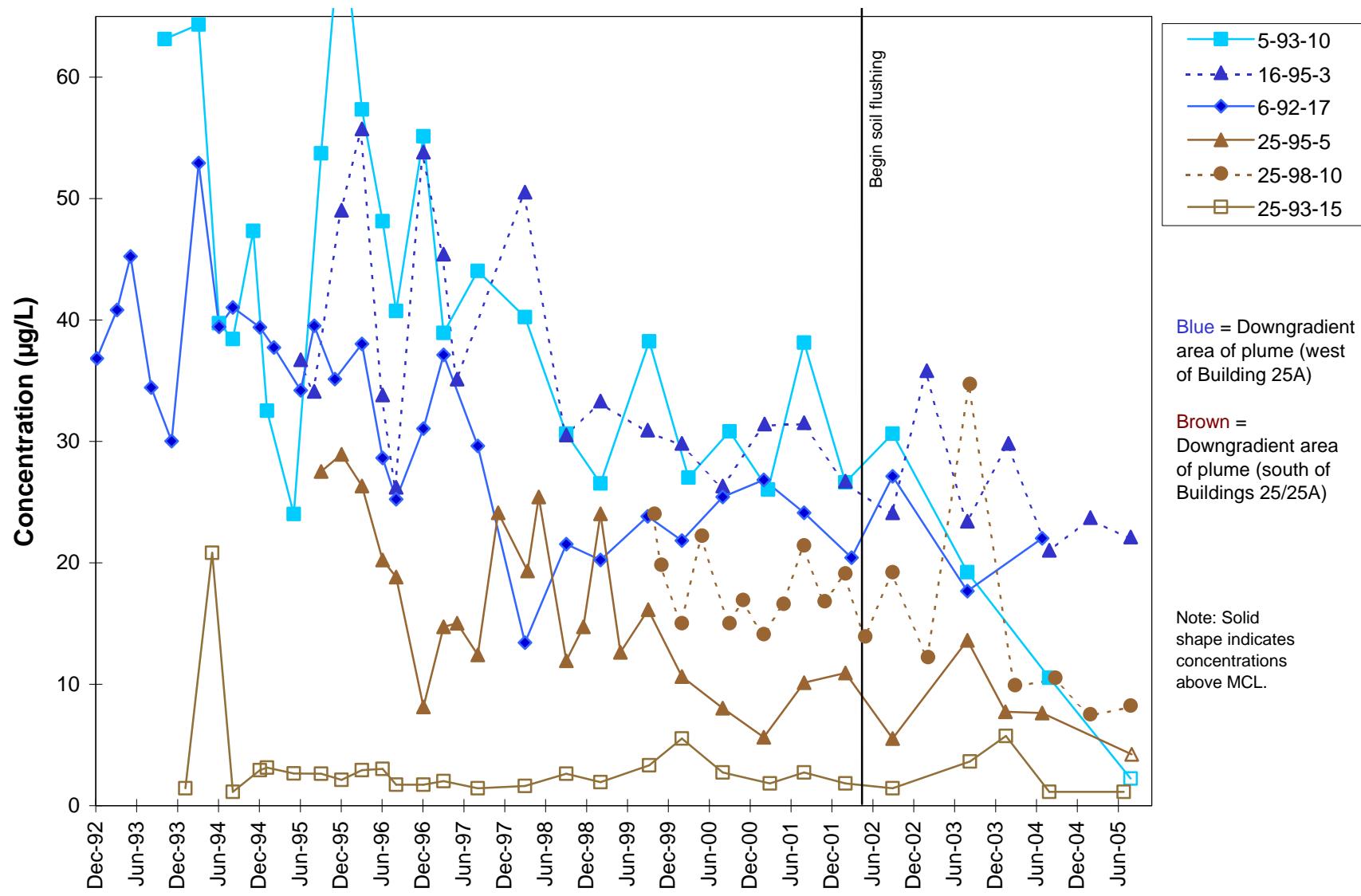


Figure 23c. Concentration Trends for Total Halogenated VOCs in the Downgradient Area of the Old Town Groundwater Solvent Plume (Building 52 Lobe).



**Figure 24a. Concentration Trends for Total Halogenated VOCs in the Source Area of the Old Town Groundwater Solvent Plume (Building 25A Lobe).**



**Figure 24b. Concentration Trends for Total Halogenated VOCs in the Downgradient Areas of the Old Town Groundwater Solvent Plume (Building 25A Lobe).**

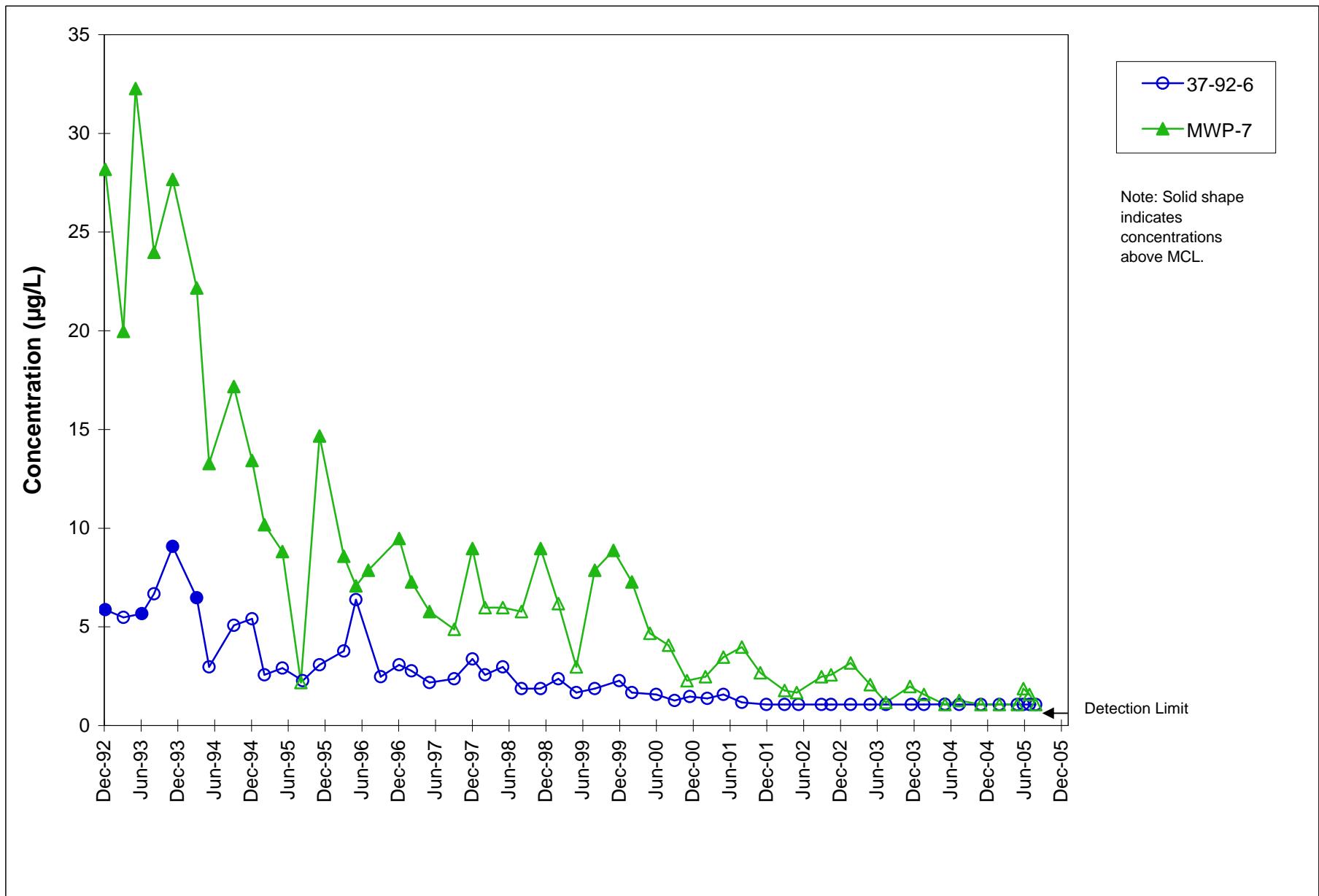
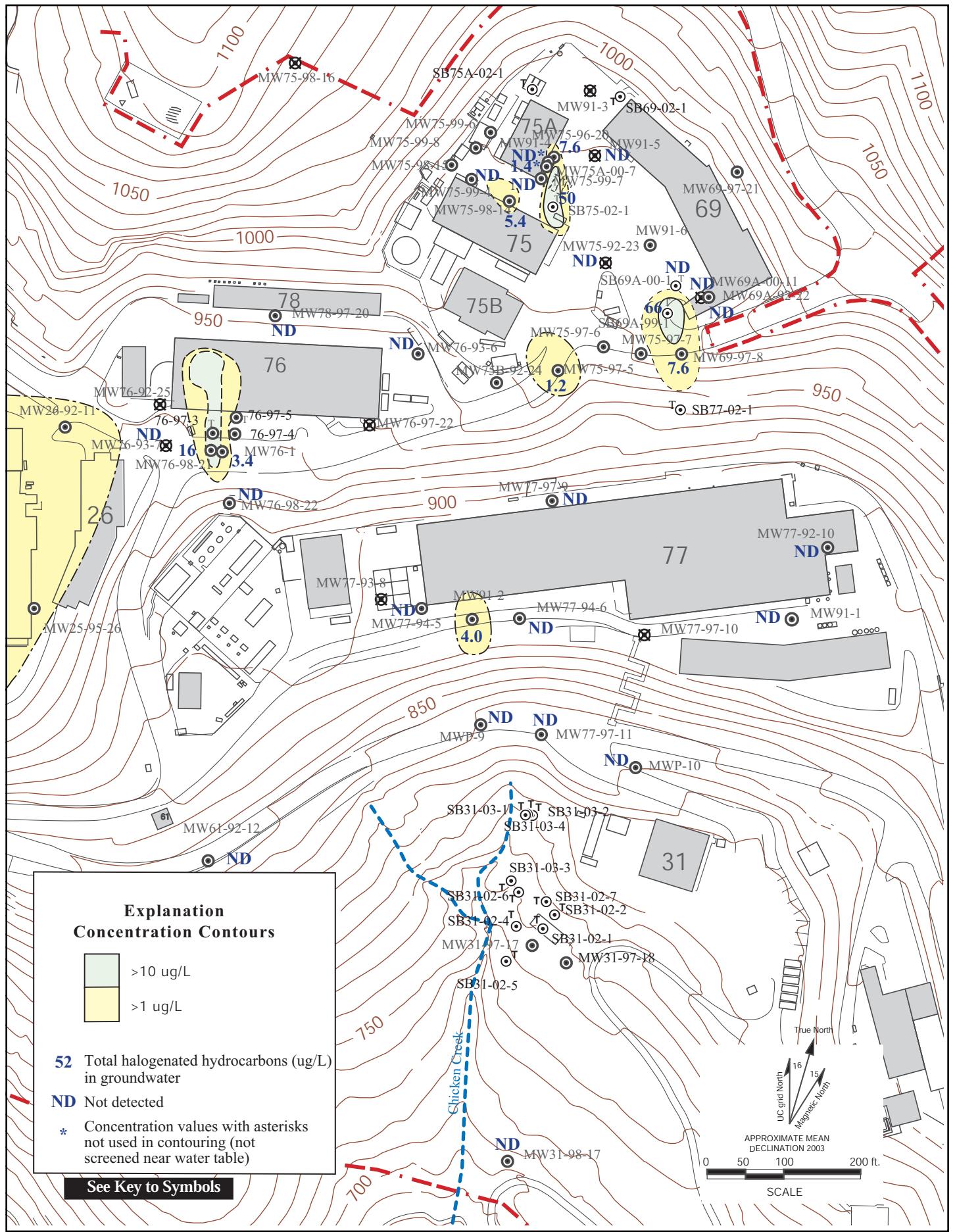


Figure 25. Concentration Trends for Total Halogenated VOCs in the Building 37 Groundwater Solvent Plume.



**Figure 26. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Support Services Area, Fourth Quarter FY2005.**

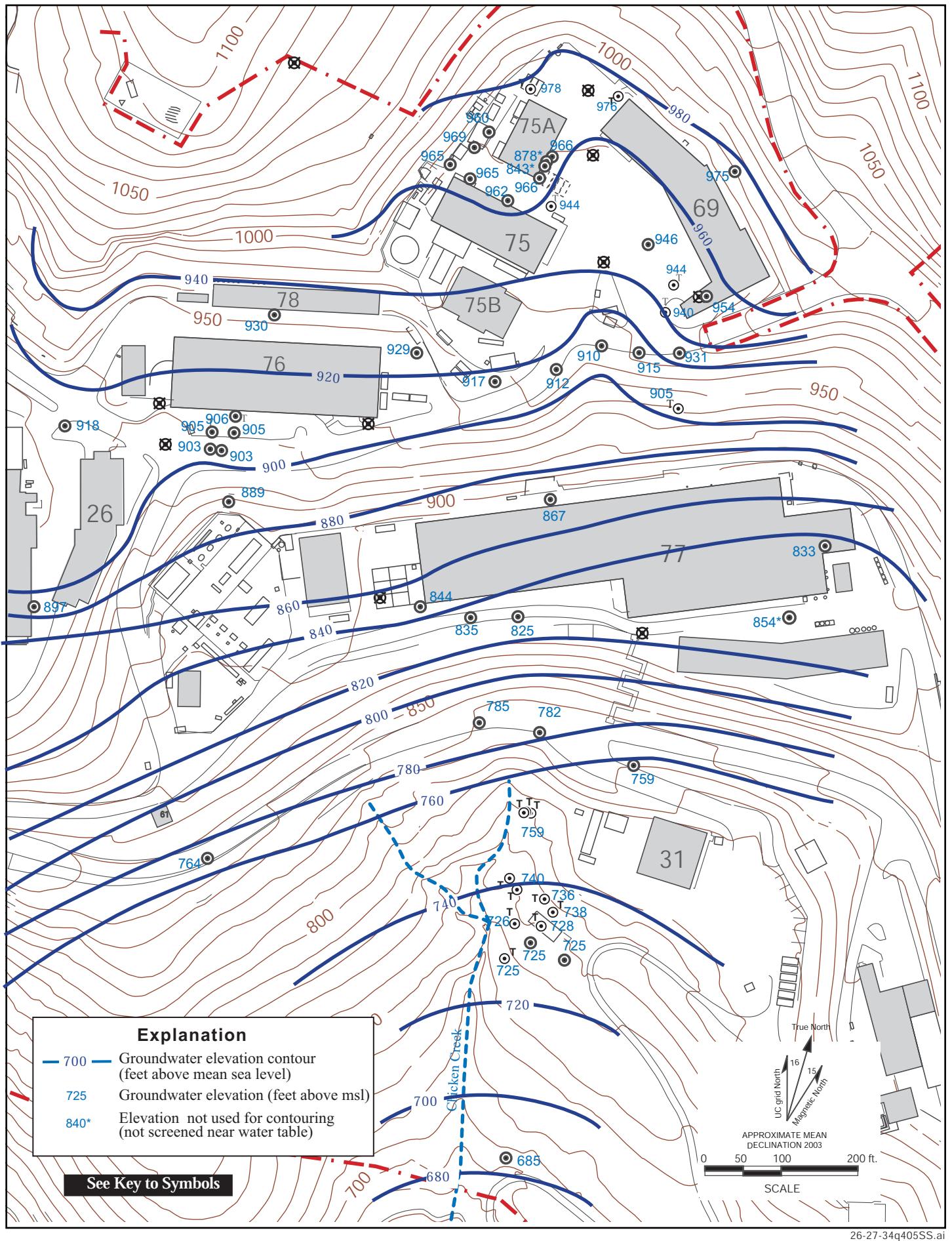
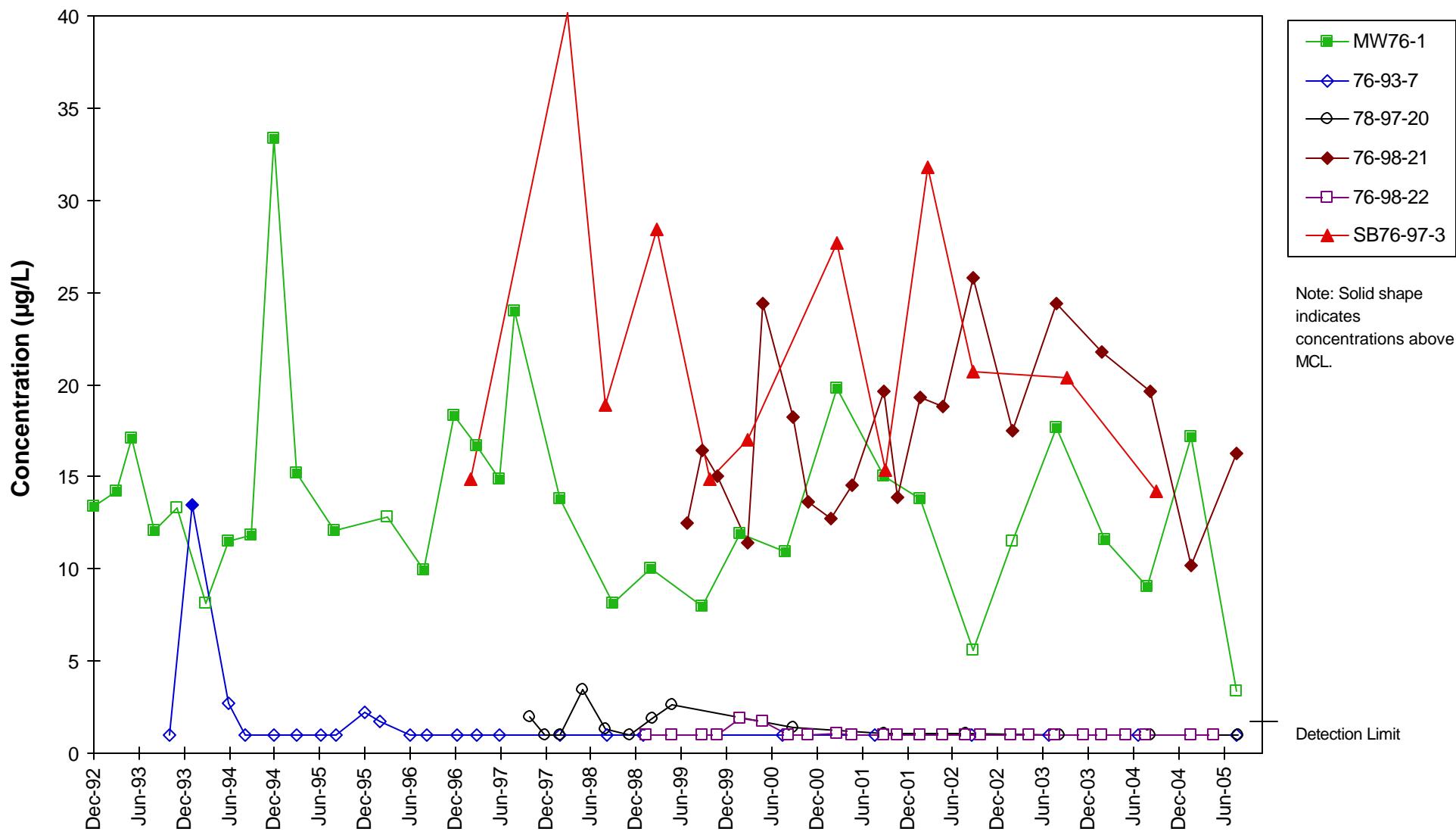
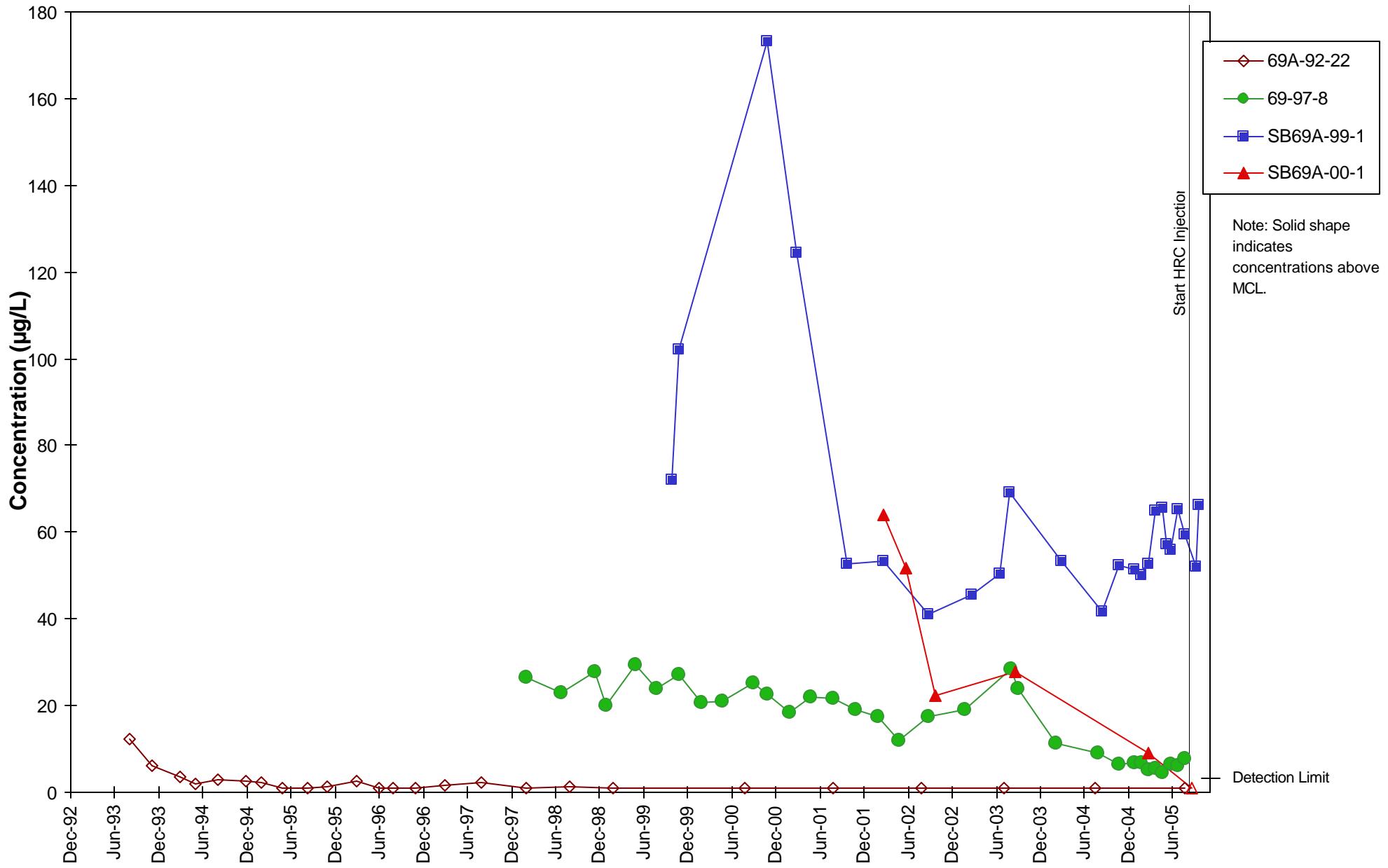


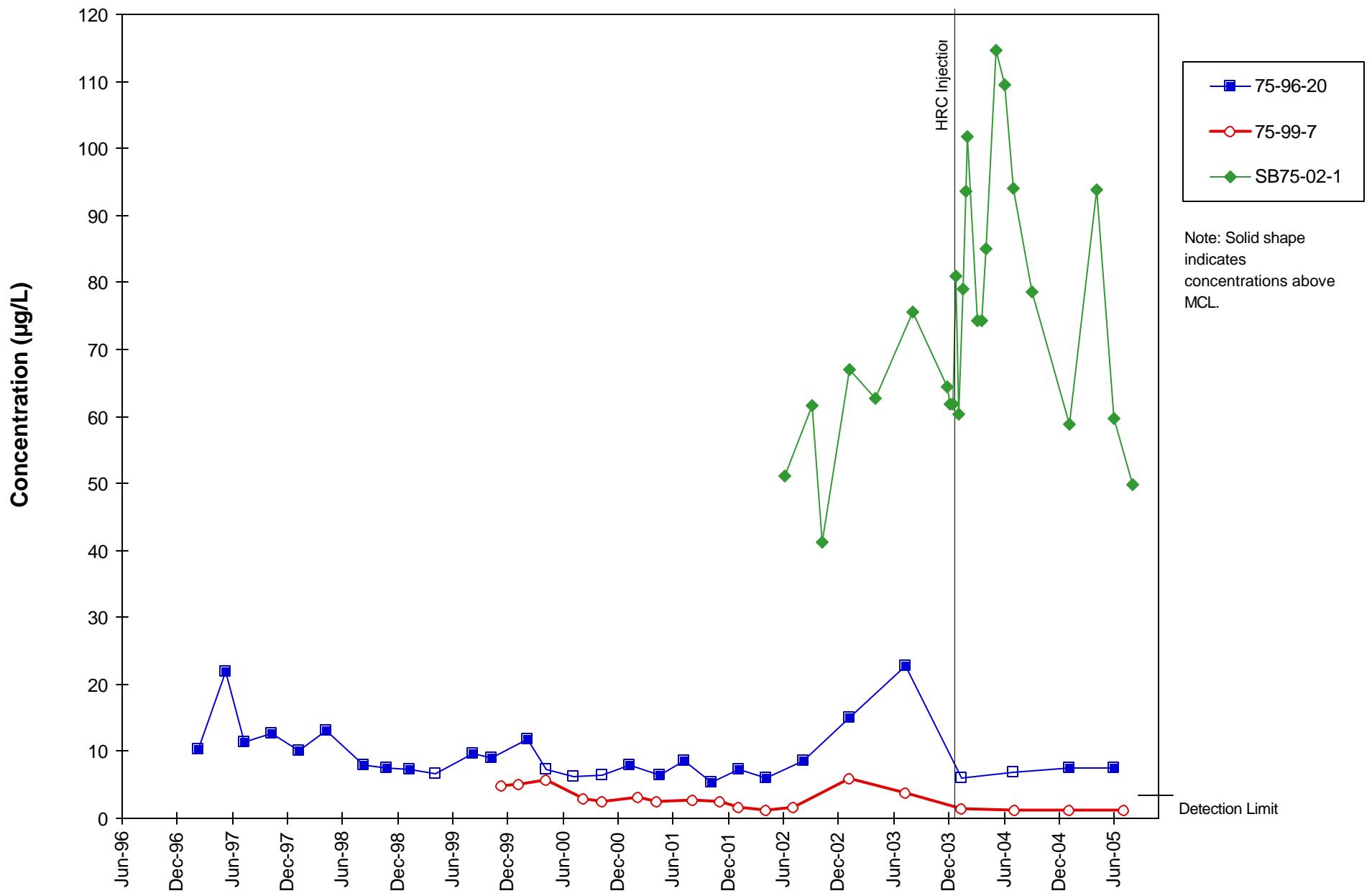
Figure 27. Water Level Elevation Map of the Support Services Area, Fourth Quarter FY2005.



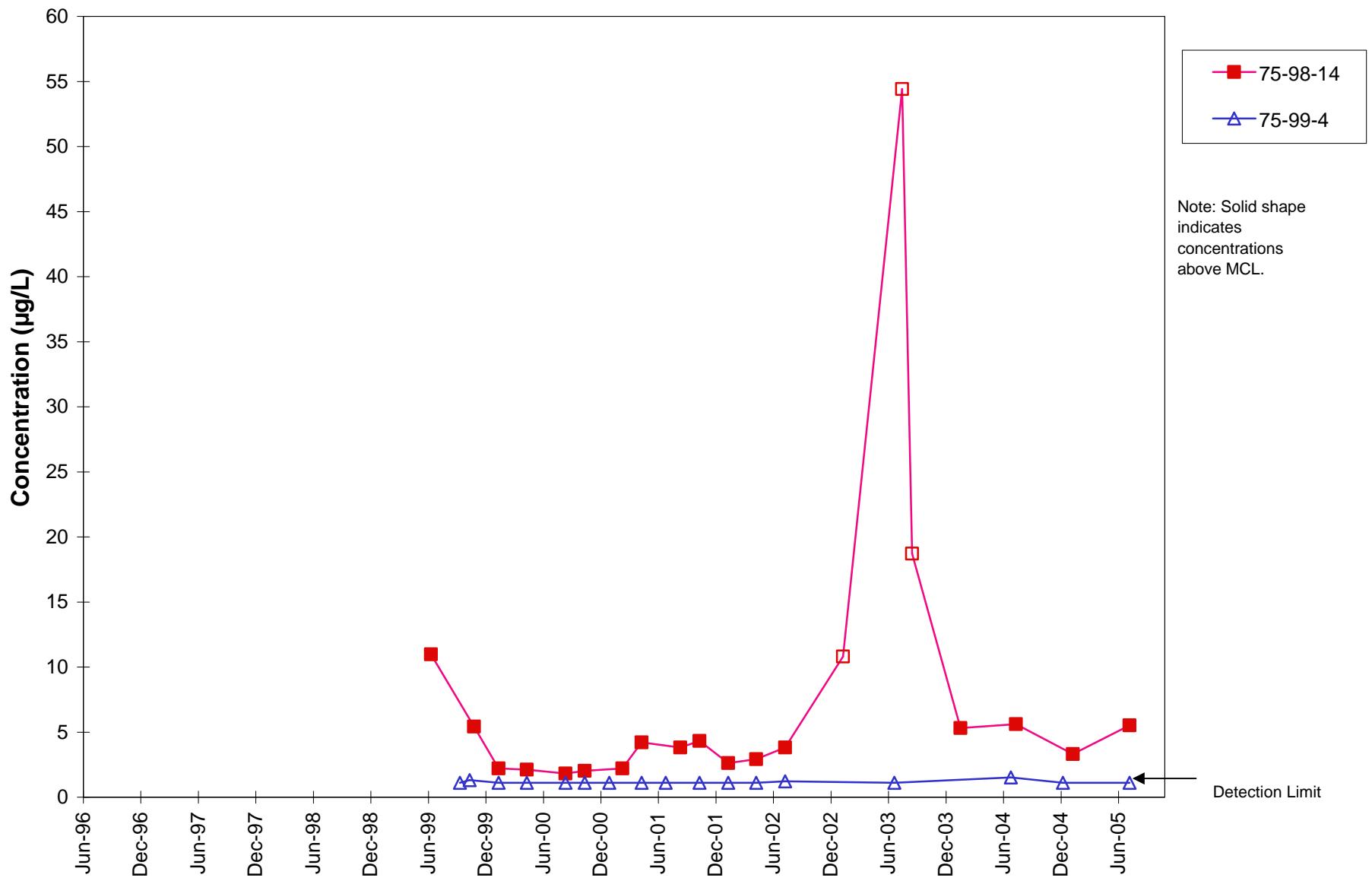
**Figure 28. Concentration Trends for Total Halogenated VOCs in the Building 76 Groundwater Solvent Plume.**



**Figure 29a. Concentration Trends for Total Halogenated VOCs in the Building 69A Groundwater Solvent Plume.**



**Figure 29b. Concentration Trends for Total Halogenated VOCs in the Building 75/75A Area of Groundwater Contamination (Building 75A Area).**



**Figure 29c. Concentration Trends for Total Halogenated VOCs in the Building 75/75A Area of Groundwater Contamination (Building 75 Area).**

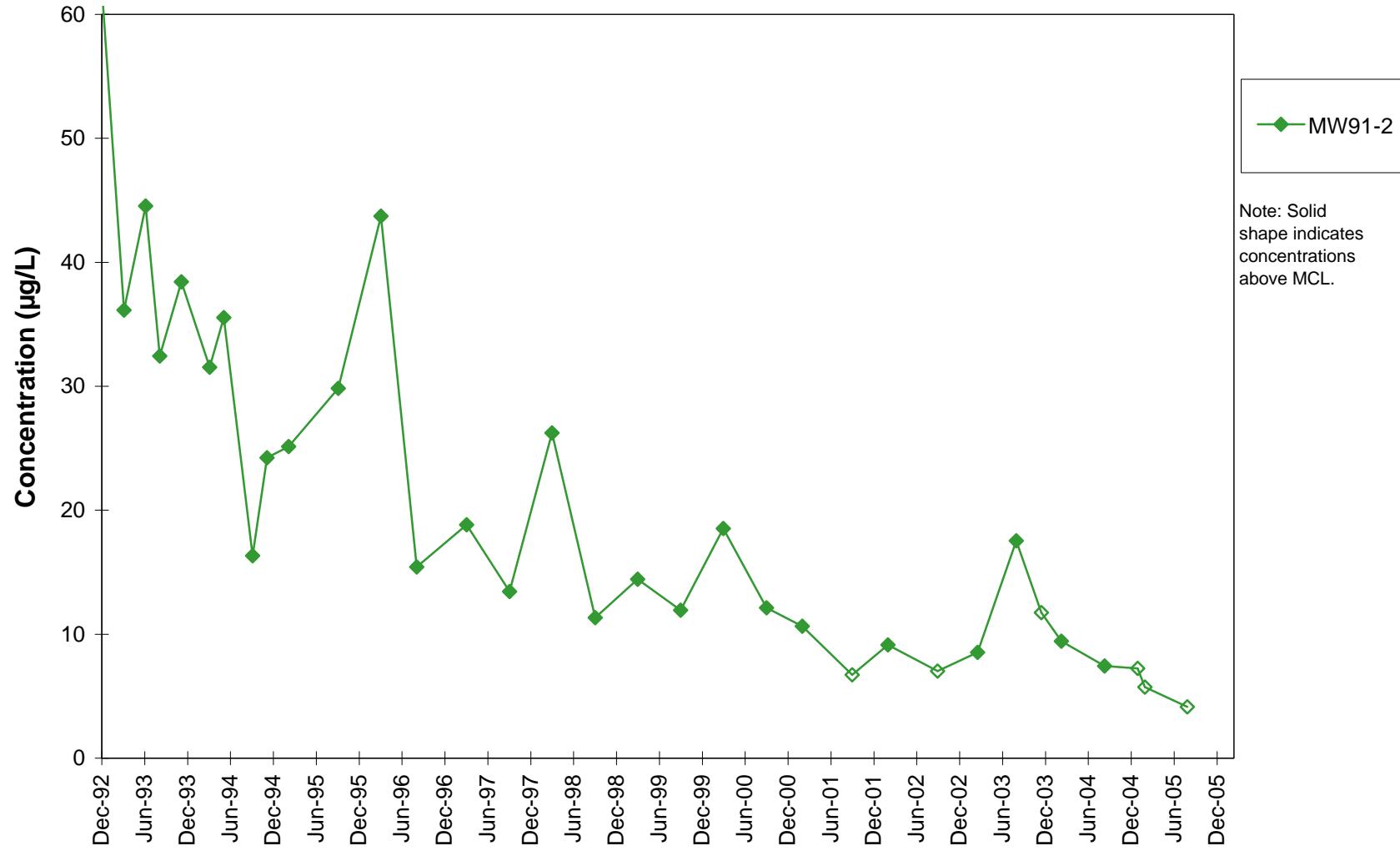


Figure 29d. Concentration Trends for Total Halogenated VOCs in the Building 77 Area of Groundwater Contamination.

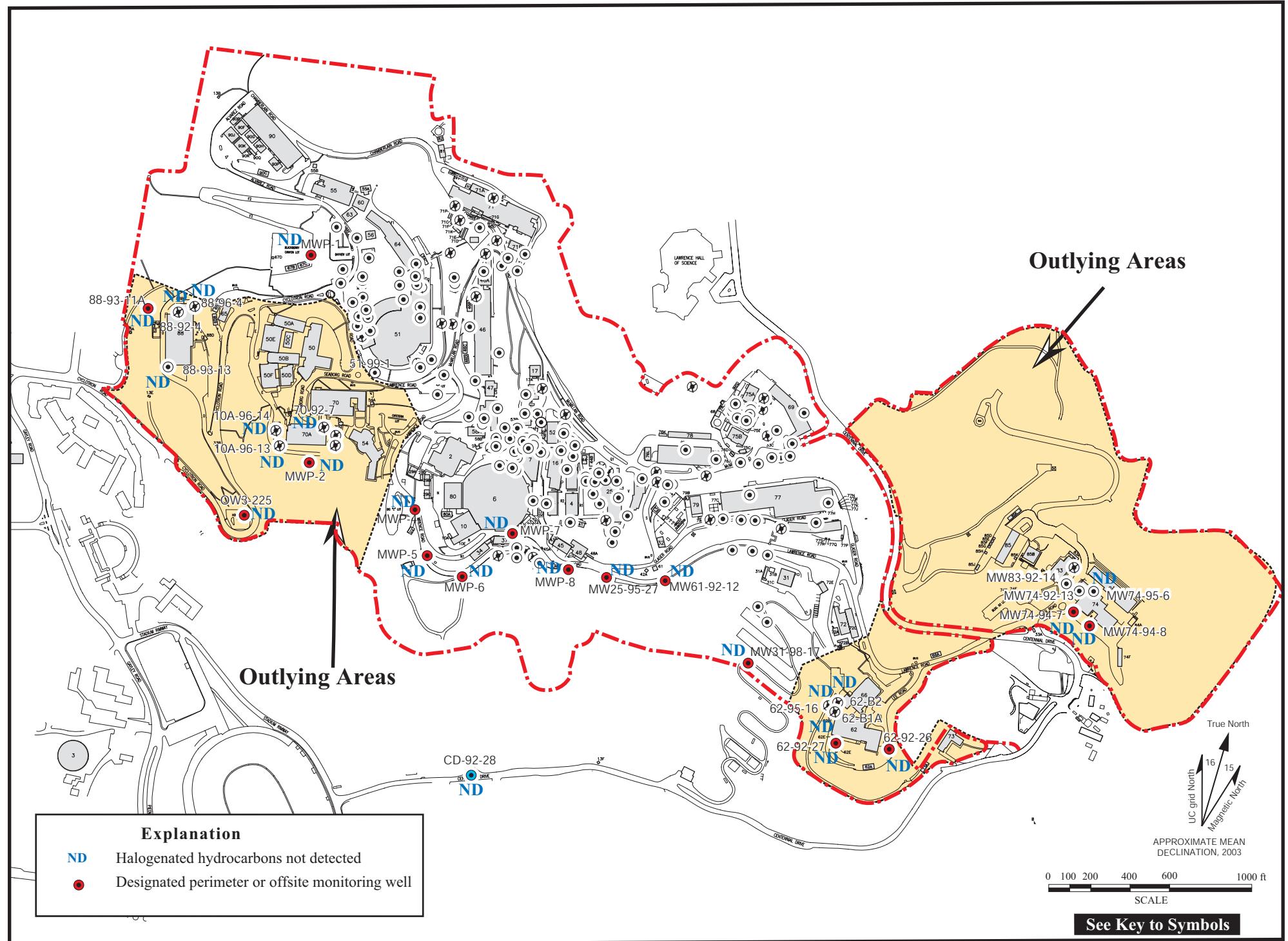
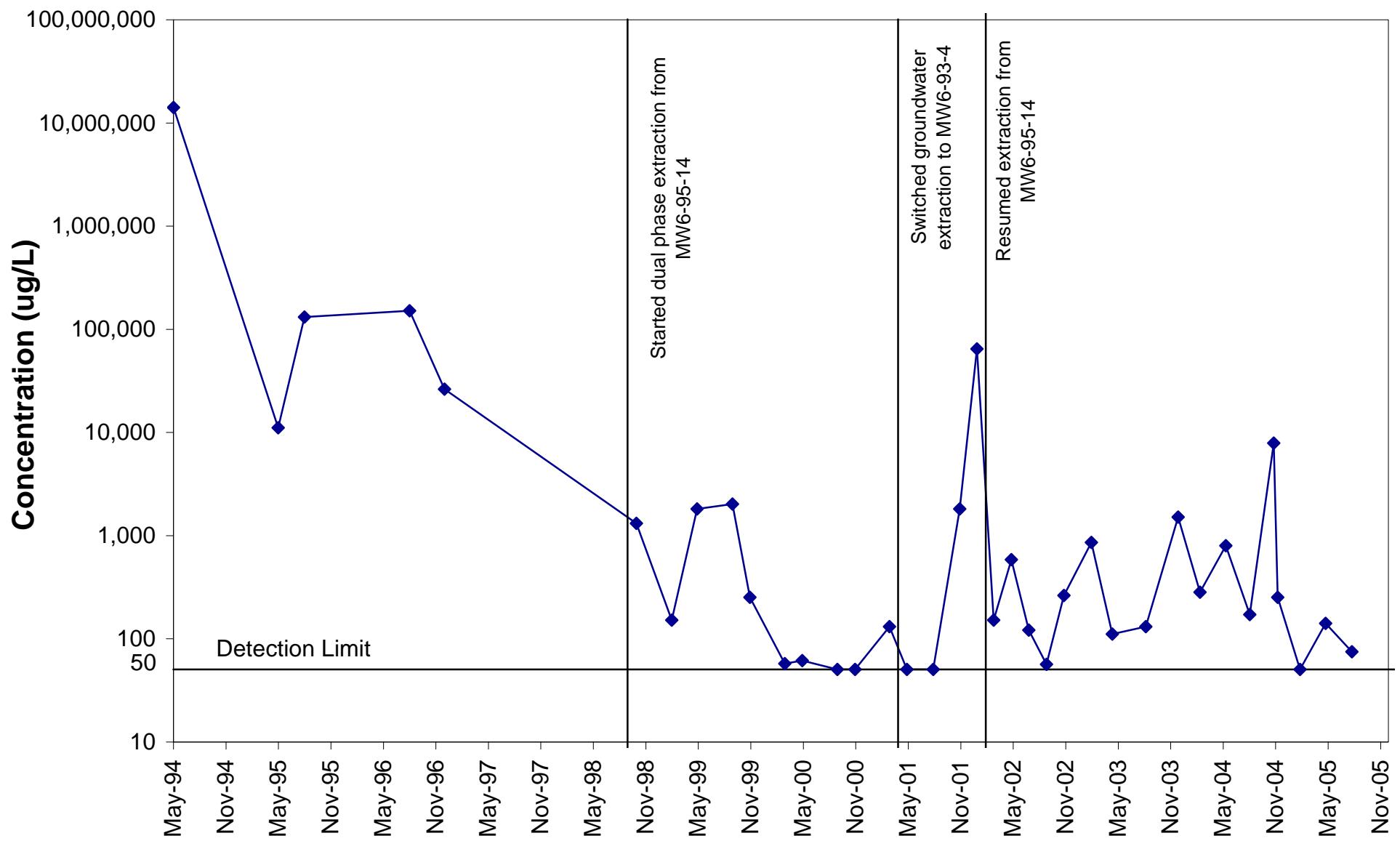
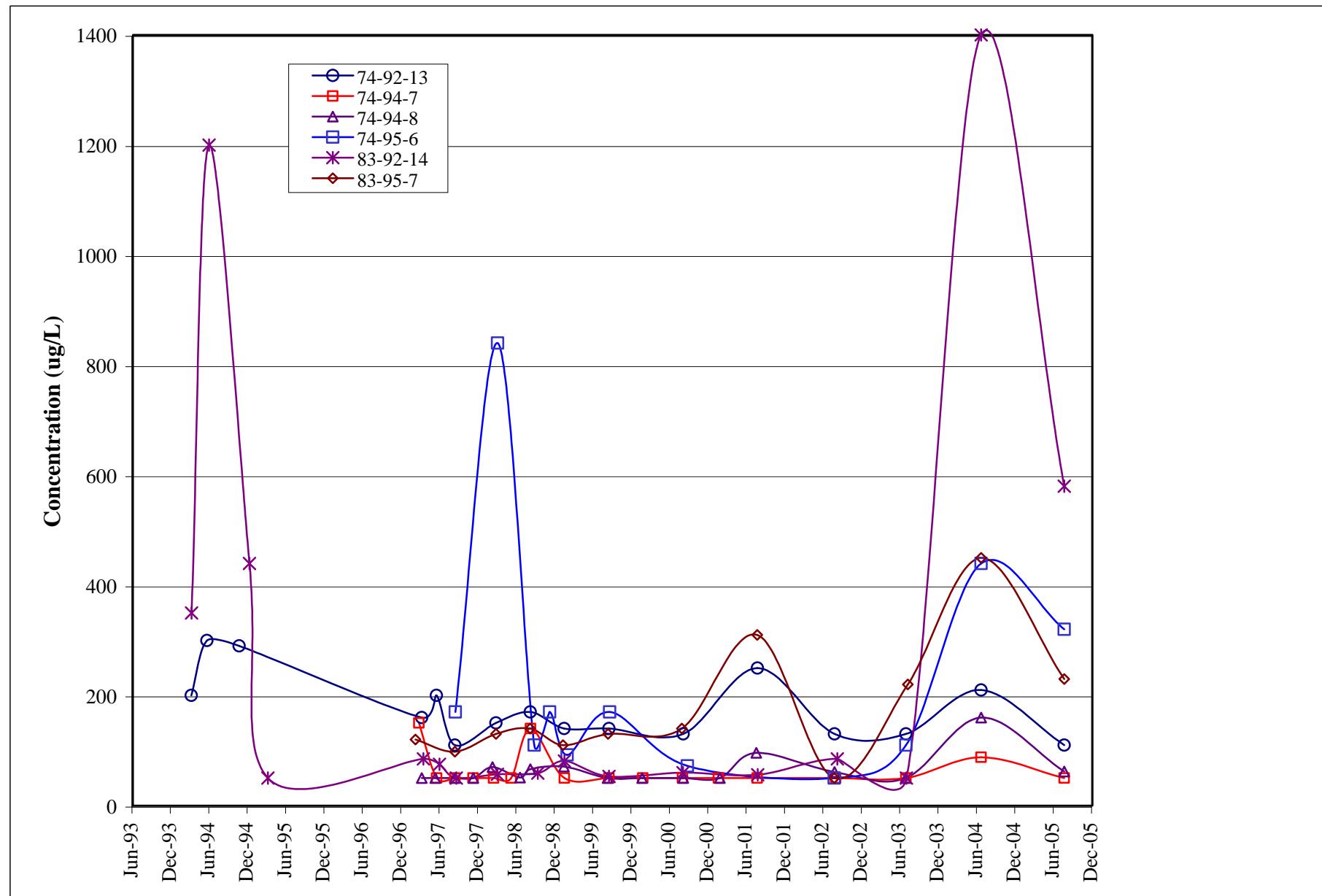


Figure 30 Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Outlying Areas and Perimeter Monitoring Wells, Fourth Quarter FY2005.



**Figure 31. Concentration Trends for TPH-K in Well MW7-92-16, Building 7E Kerosene/Diesel Plume.**



**Figure 32. Concentration Trends for TPH-D in Wells Monitoring the Building 74 Diesel Plume.**

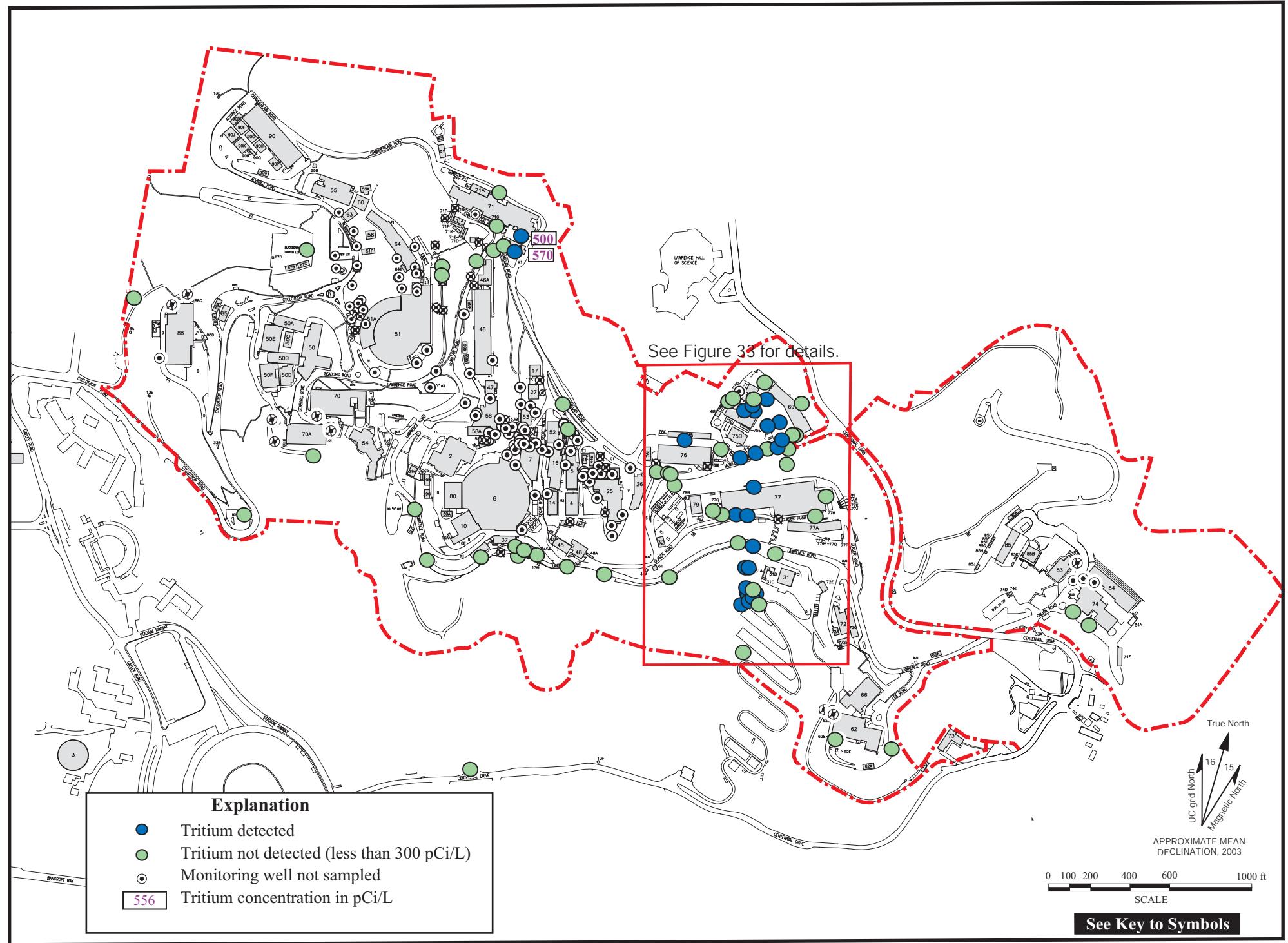
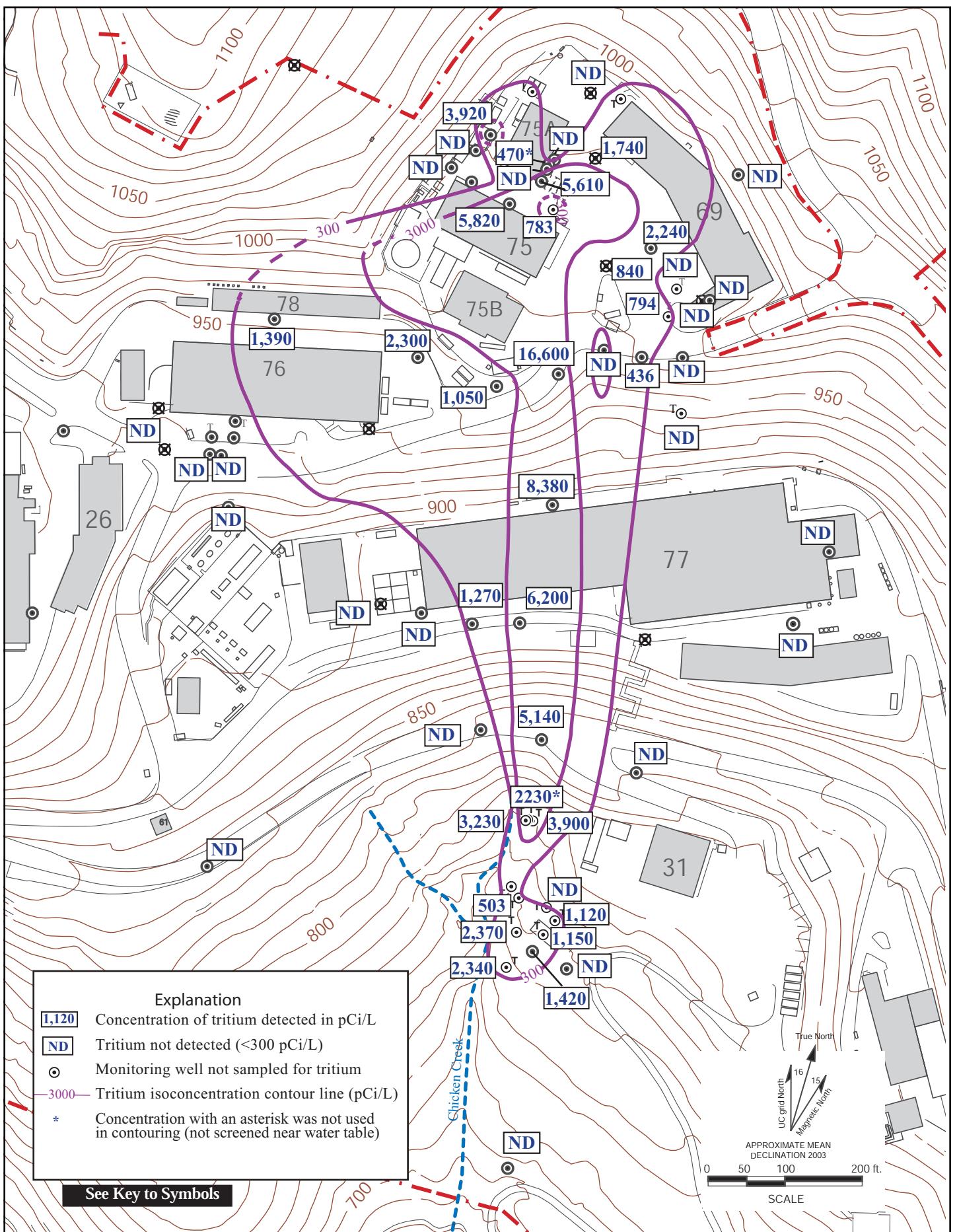
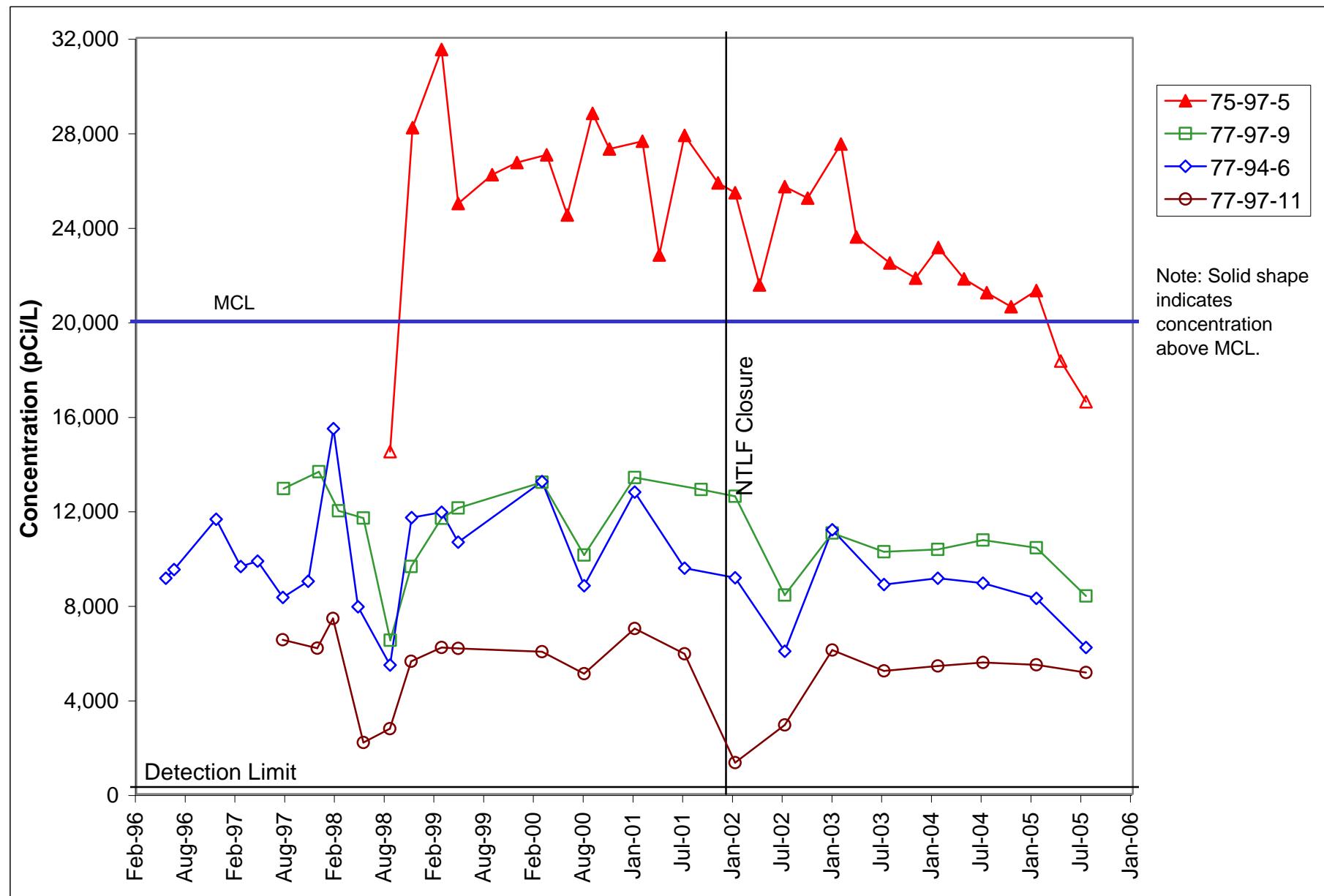


Figure 33. Concentrations of Tritium (pCi/L) Detected in Groundwater, Fourth Quarter FY2005.



**Figure 34. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area,  
Fourth Quarter FY2005.**

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**Figure 35a. Concentration Trends for Tritium in the Core Area of the Building 75 Tritium Plume.**

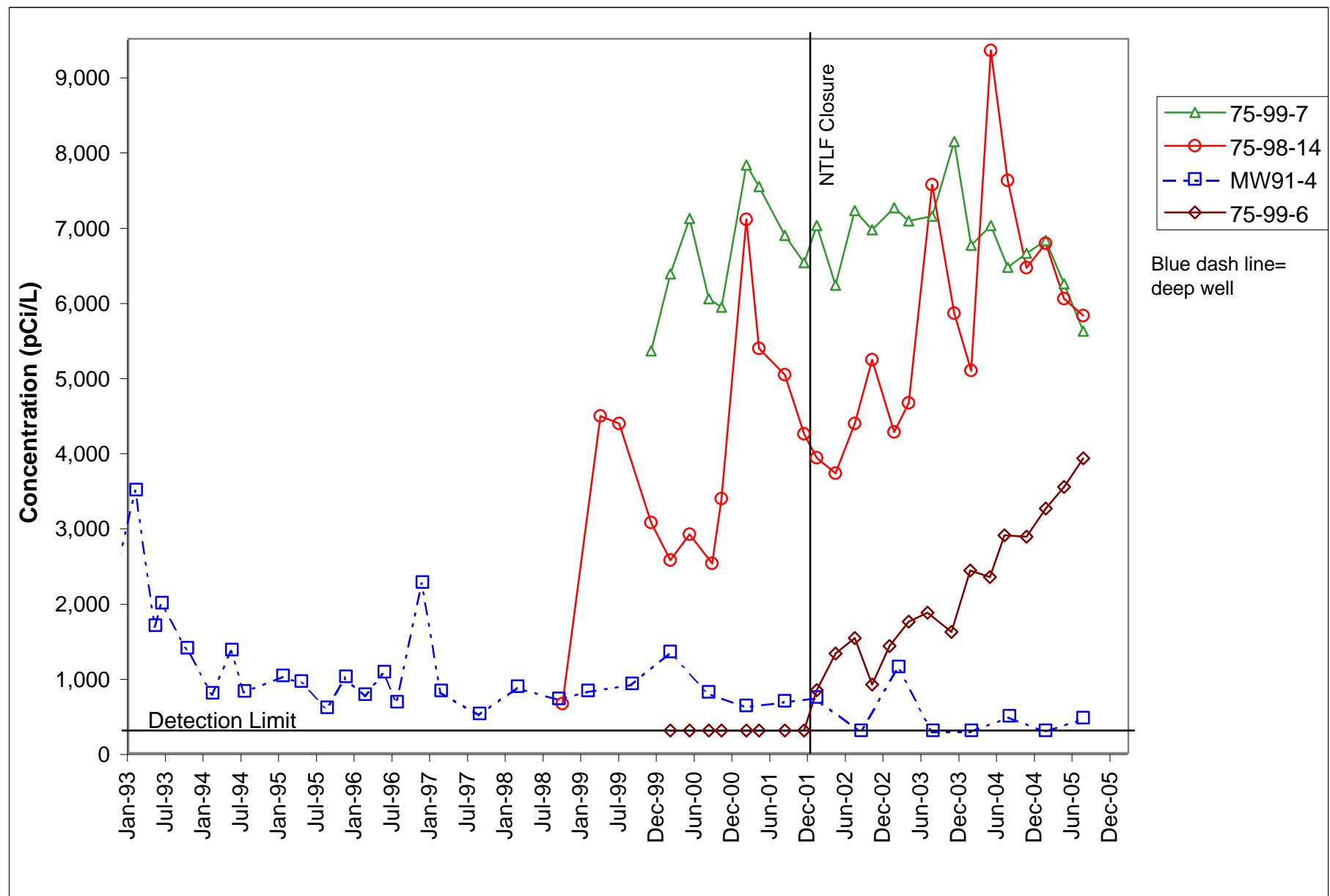


Figure 35b. Concentration Trends for Tritium in the Source Area of the Building 75 Tritium Plume.

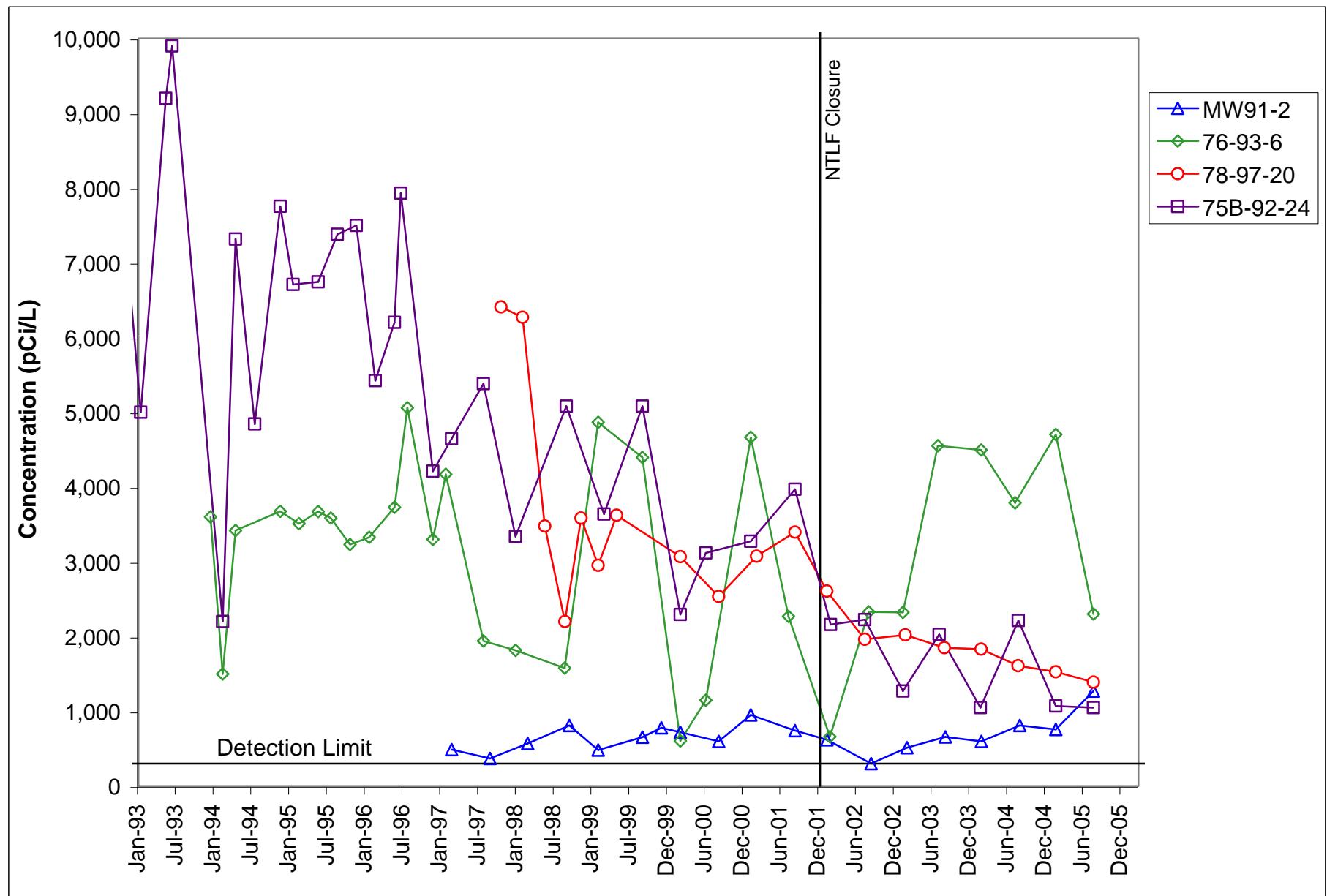


Figure 35c. Concentration Trends for Tritium in the Western Transgradient Area of the Building 75 Tritium Plume.

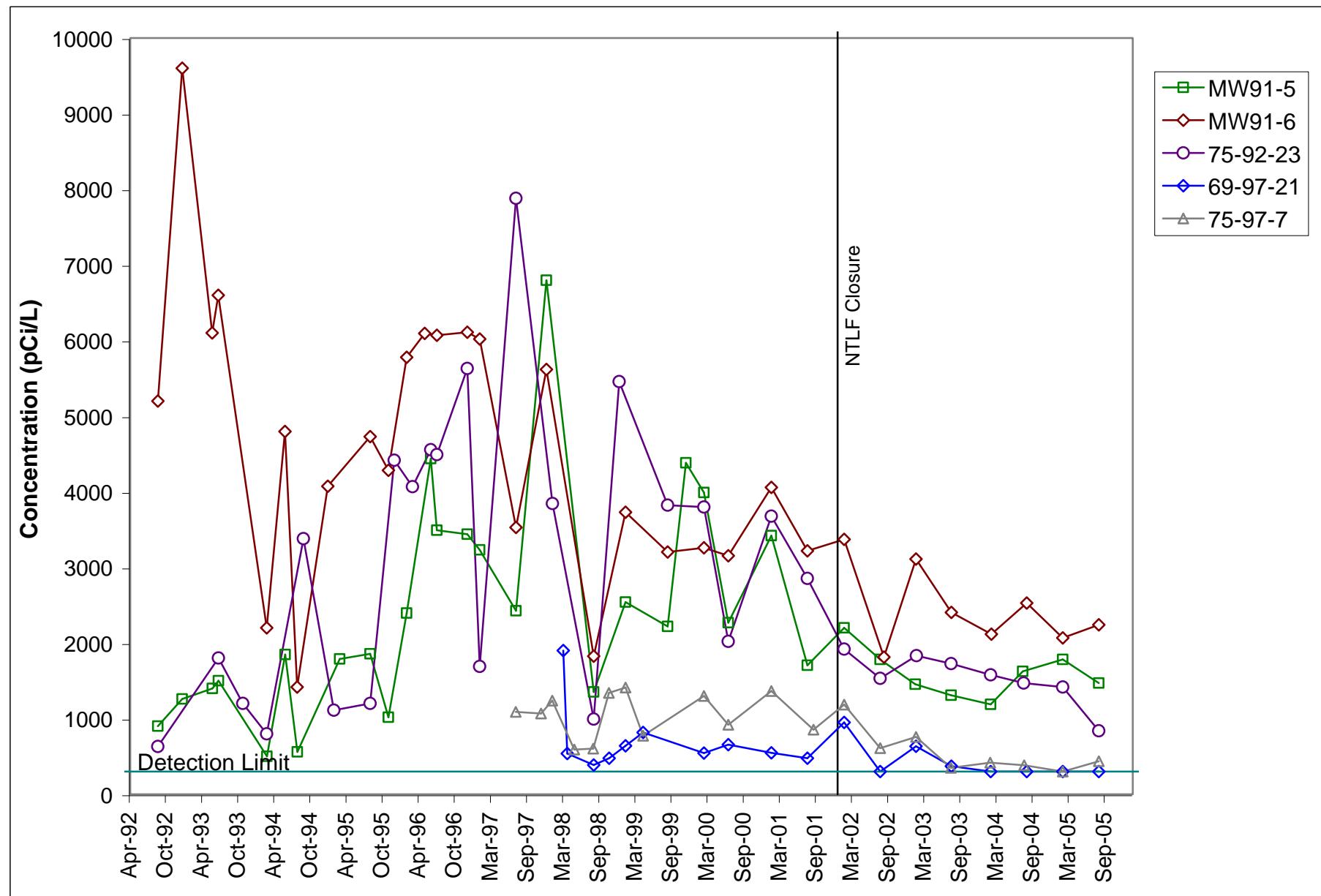


Figure 35d. Concentration Trends for Tritium in the Eastern Transgradient Area of the Building 75 Tritium Plume.

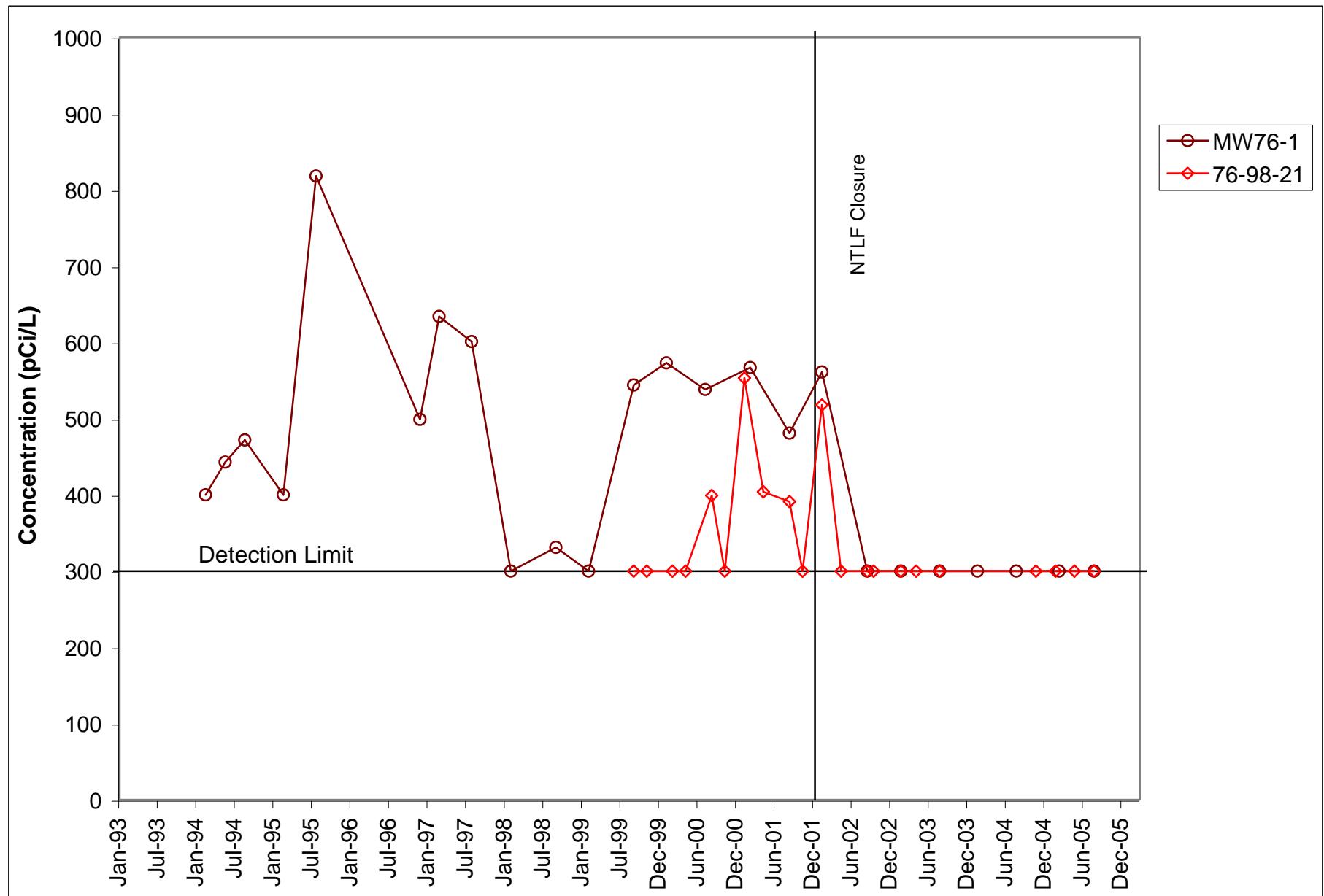
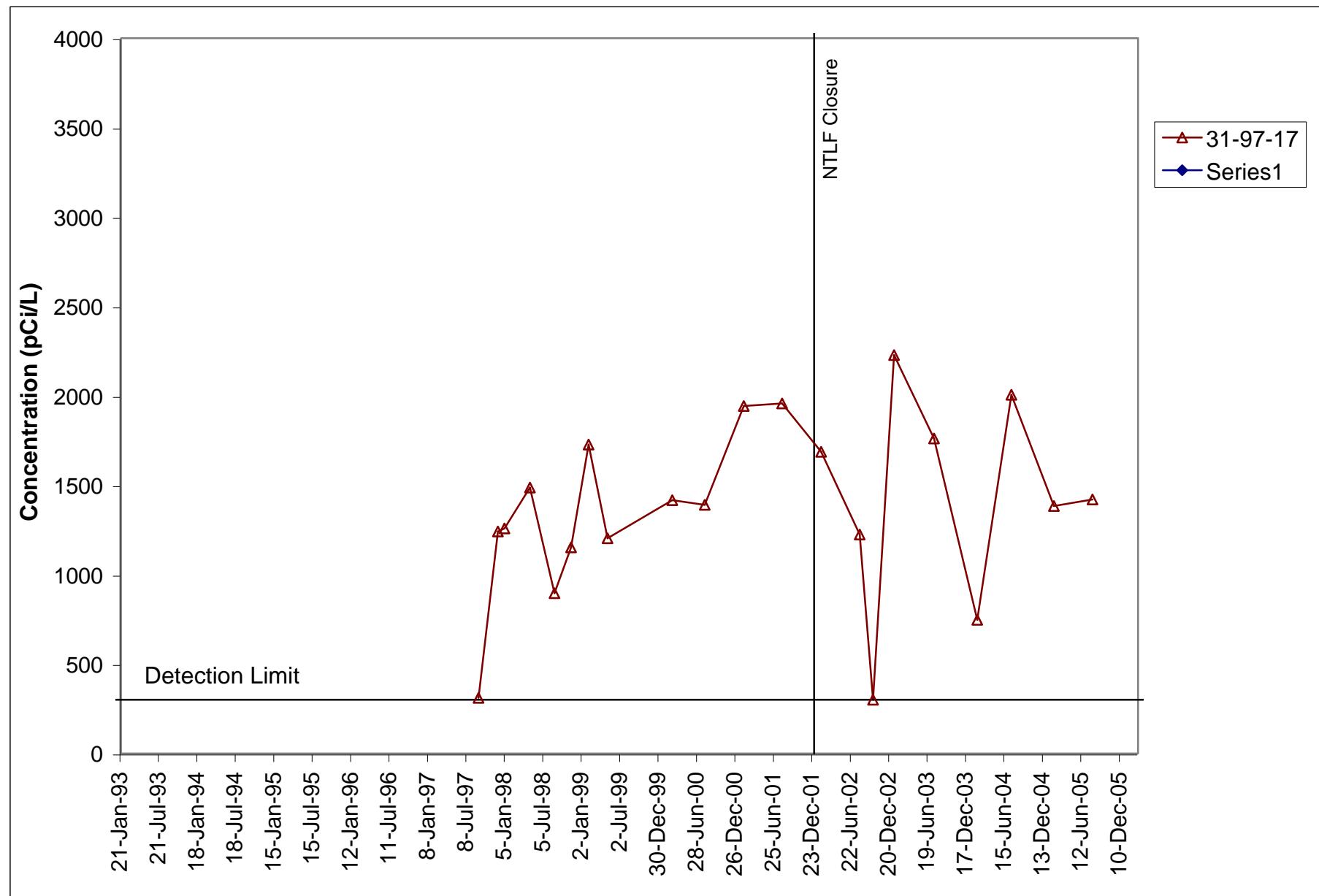


Figure 35e. Concentration Trends for Tritium in the Far Western Transgradient Area of the Building 75 Tritium Plume.



**Figure 35f. Concentration Trends for Tritium in the Downgradient Area of the Building 75 Tritium Plume.**

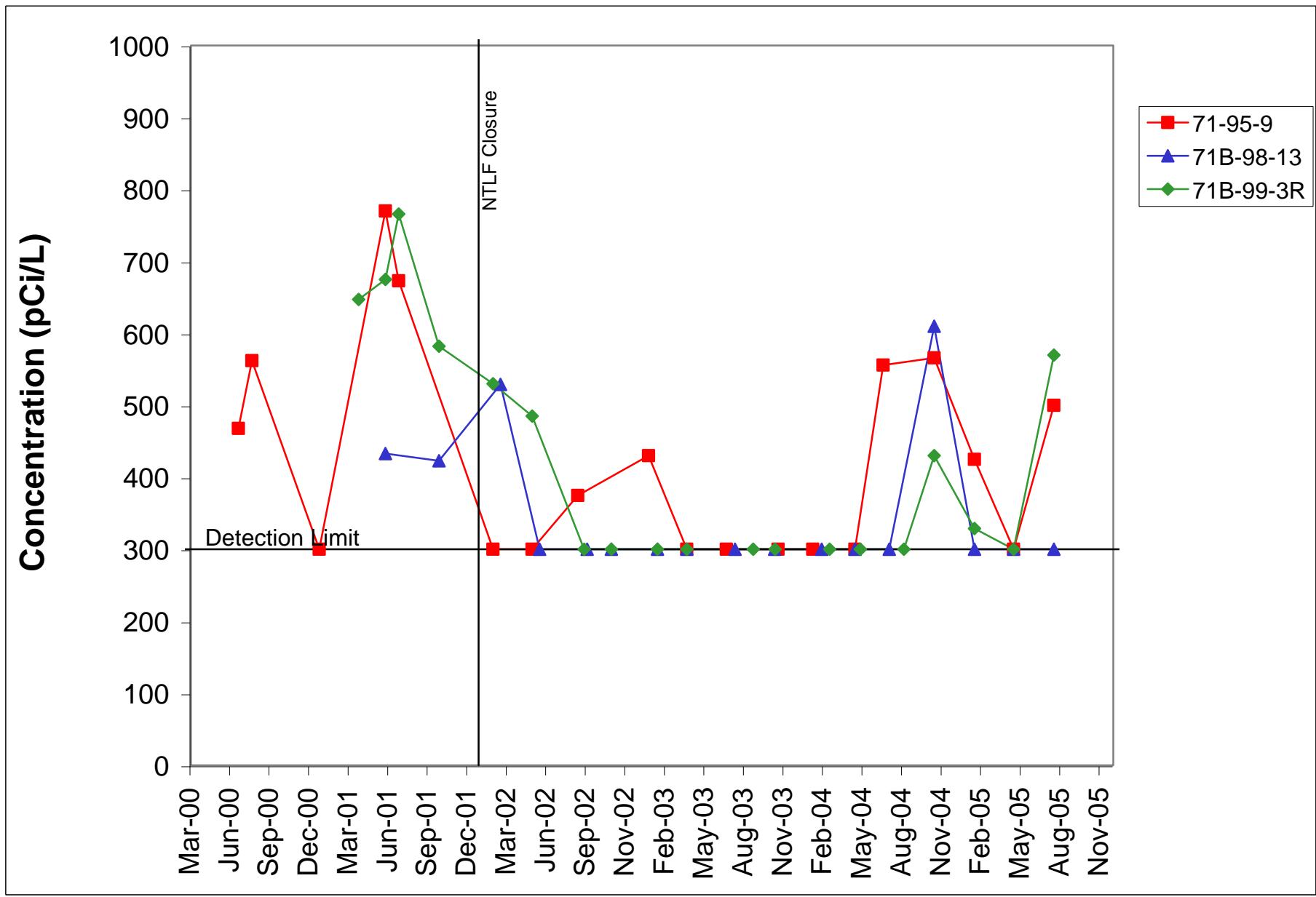
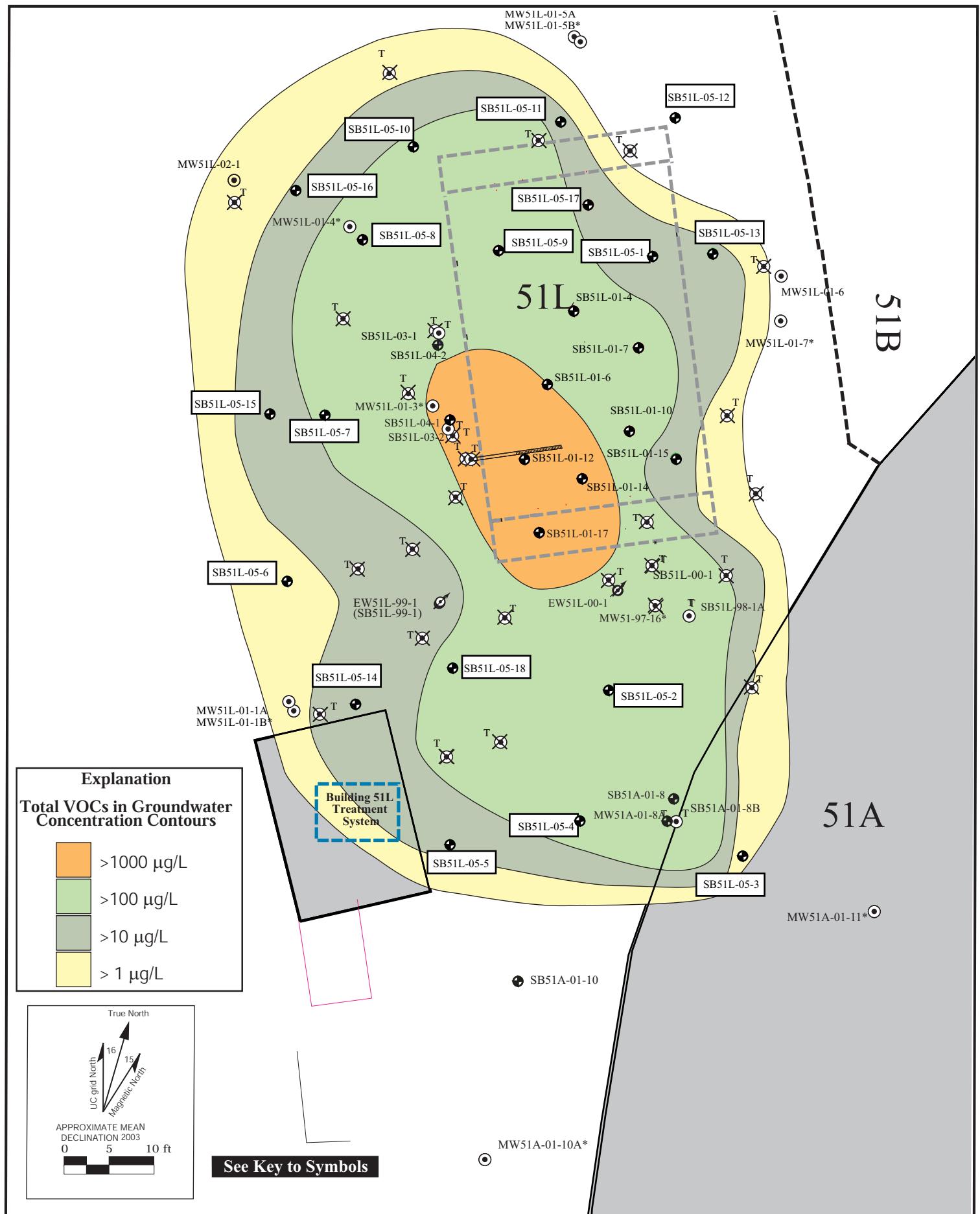


Figure 36. Concentration Trends for Tritium in the Building 71 Area.



**Figure 37. Soil Boring Locations Third and Fourth Quarters FY05,  
Building 51L Groundwater Solvent Plume Source Area.**