Attachment 25 –
Attachment 16 of Pamela Sihvola and LA Wood Letter June 7, 2005

ATTACHMENT 16.

Nathan Schumacher
Public Participation Specialist
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

April 24, 2005

Re: DTSC's Proposed Draft Fact Sheet of LBNL's RCRA Clean Up

Dear Mr. Schumacher,

Per your request, we are providing you with the following corrections and comments for the DTSC's Proposed Draft Fact Sheet on LBNL'S RCRA Clean Up Remedies and ask that you incorporate them into the fact sheet before mailing.

PAGE 1

• **Please change the title of the fact sheet to read**: DTSC IS CONDUCTING A PUBLIC WORKSHOP AND HEARING ON THE PROPOSED SOIL AND GROUNDWATER CLEAN UP AT LAWRENCE BERKELEY NATIONAL LABORATORY ON THURSDAY, MAY 26, 2005 AT 6:30 PM AT THE NORTH BERKELEY SENIOR CENTER.

• **Paragraph 2, last sentence should read:** The site is bordered on the north and south by single-family residences and on the west by multi-family dwellings, student dormitories and other campus buildings.

PAGE 2

• **Please add a bolded title immediately above the text that starts** " As a separate action United States Department of Energy has...." **that reads**: U S DEPARTMENT OF ENERGY (DOE) HAS JURSIDICTION OVER RADIOACTIVE CONTAMINATION AT LBNL.

• **Add the following paragraph immediately under new heading above:** The review of the tritium groundwater (*) and soil contamination was part of the RCRA Quarterly Review process throughout the 1990s. The tritium plume contains mixed, collocated contaminants that have been discovered in numerous wells. The yield of the groundwater is also sufficient to identify it as a potential beneficial water source, in need of protection.

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• **Upgrade the Map to show:** (1.) the outline of the tritium plume with reference to the paragraph above with the (*). **and** (2.) the outlines of both the freon and diesel plumes with an explanation that they are not considered RCRA chemicals.

Without these corrections and additions, the fact sheet will give a distorted and misleading impression to the Berkeley community who has followed the tritium and other environmental restoration issues at LBNL for the past decade.

Sincerely,

L A Wood
Berkeley Environmental Commission
1803 Bonita Avenue
Berkeley, CA 94709

Pamela Sihvola
Committee to Minimize Toxic Waste
P O BOX 9646
Berkeley, CA 94709

PS. Please note that NEPA is the National Environmental Policy Act

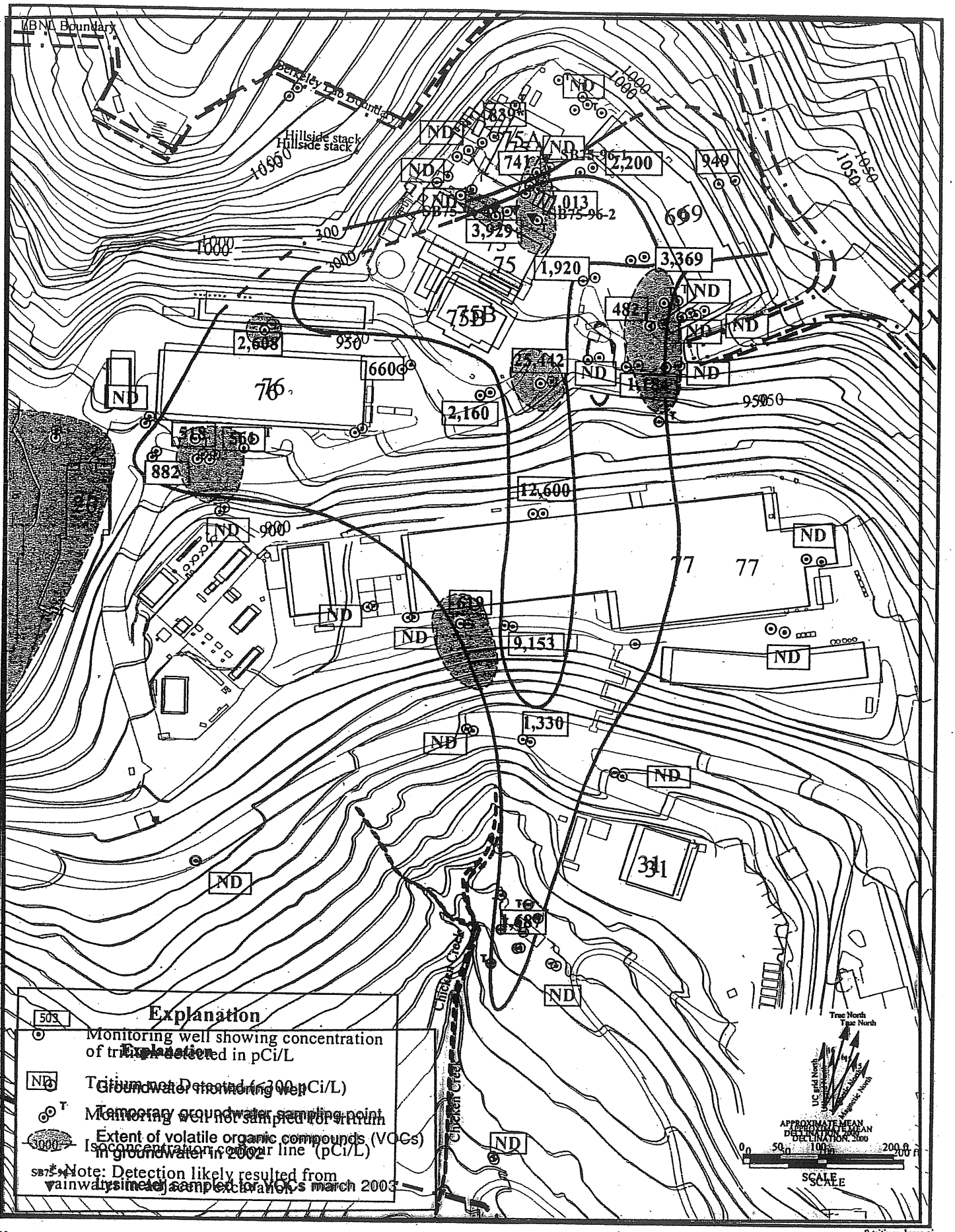


Figure 16. Tritium Concentrations Sampled for VOCs, March 2003

Figure 9: Locations of Lysimeters Sampled for VOCs, March 2003 Corporation Yard Area, Second Quarter, FY2002

9-tritiumplume.ai
16-tritcorpgw 1qfy02.m 9/03
6/02

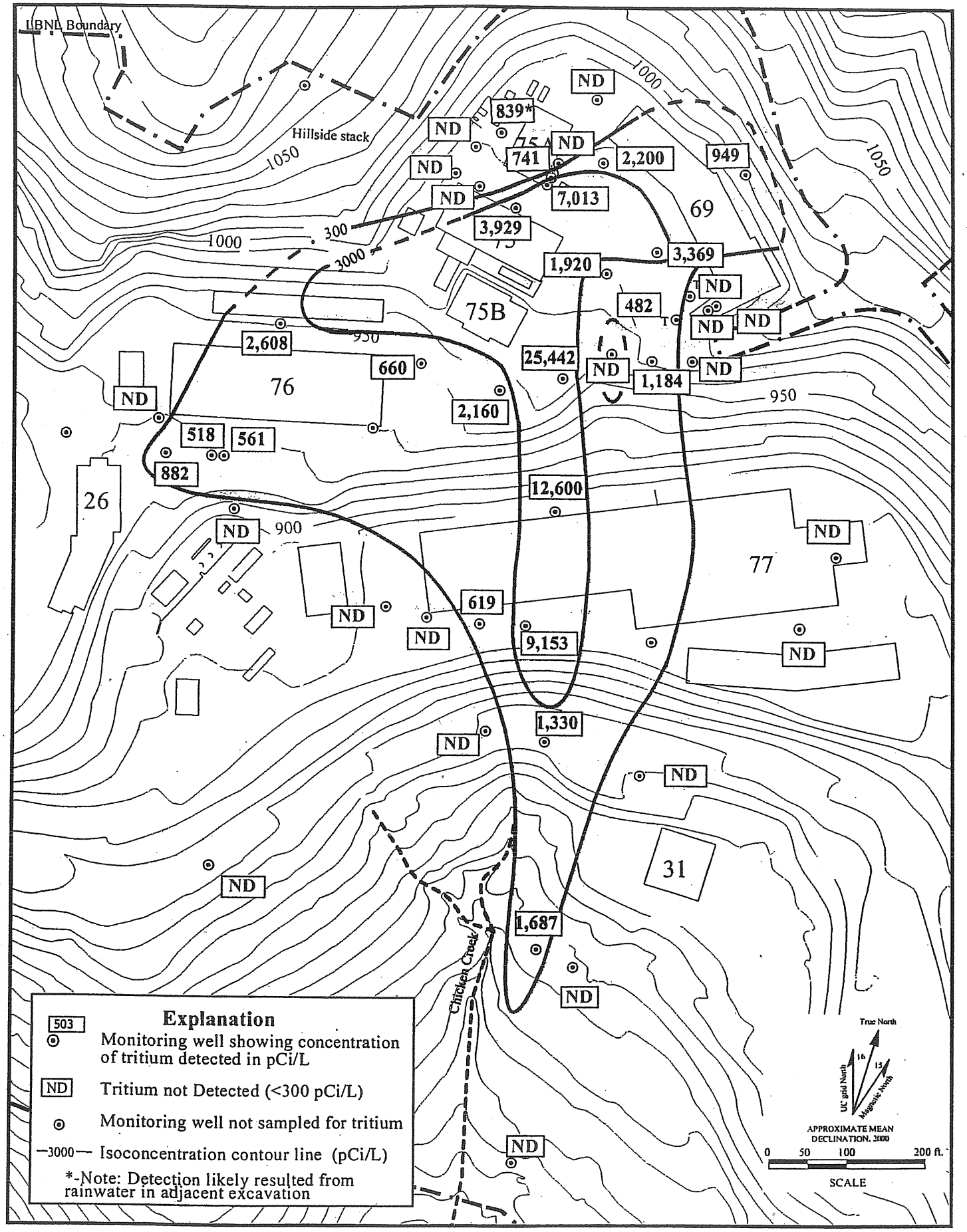
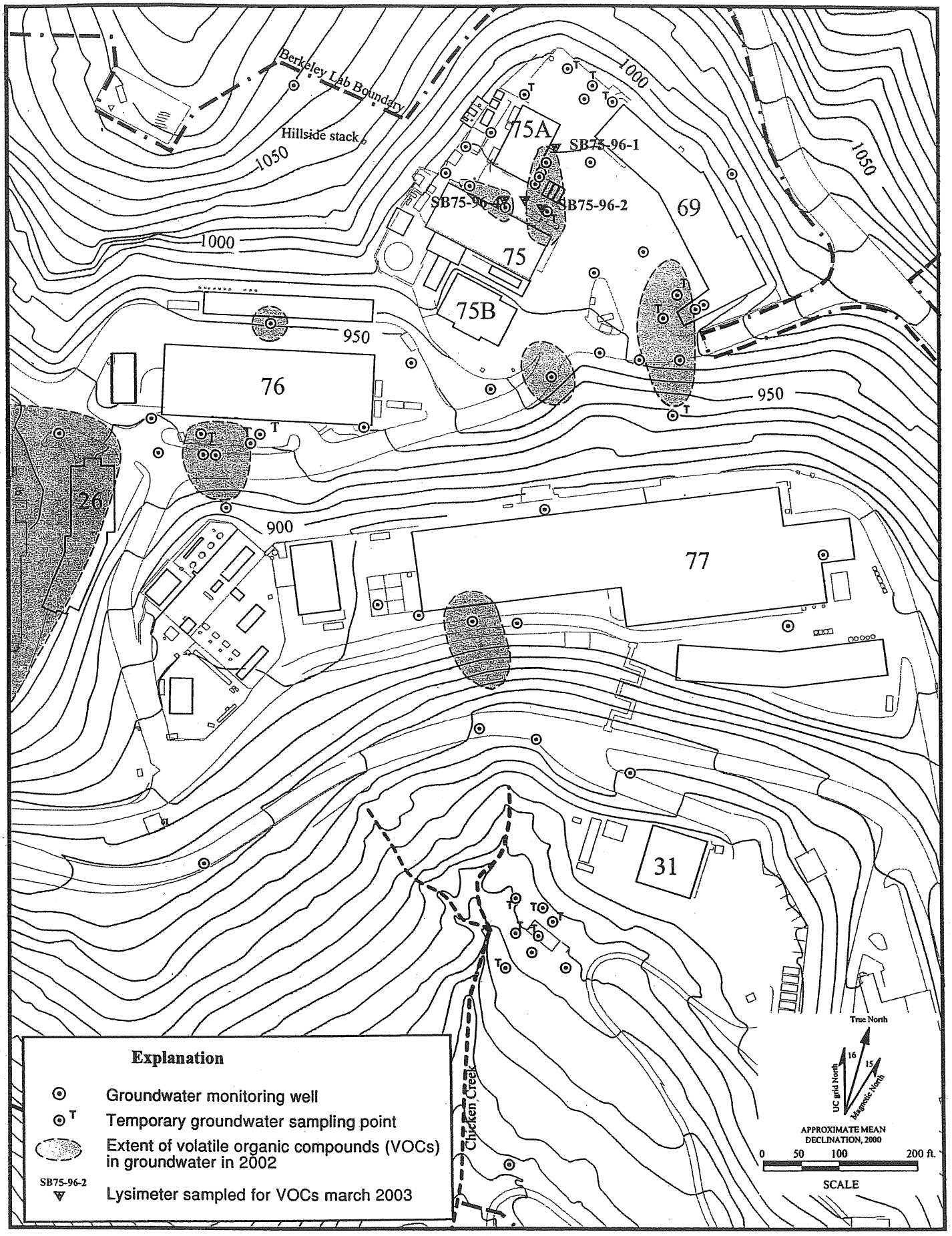


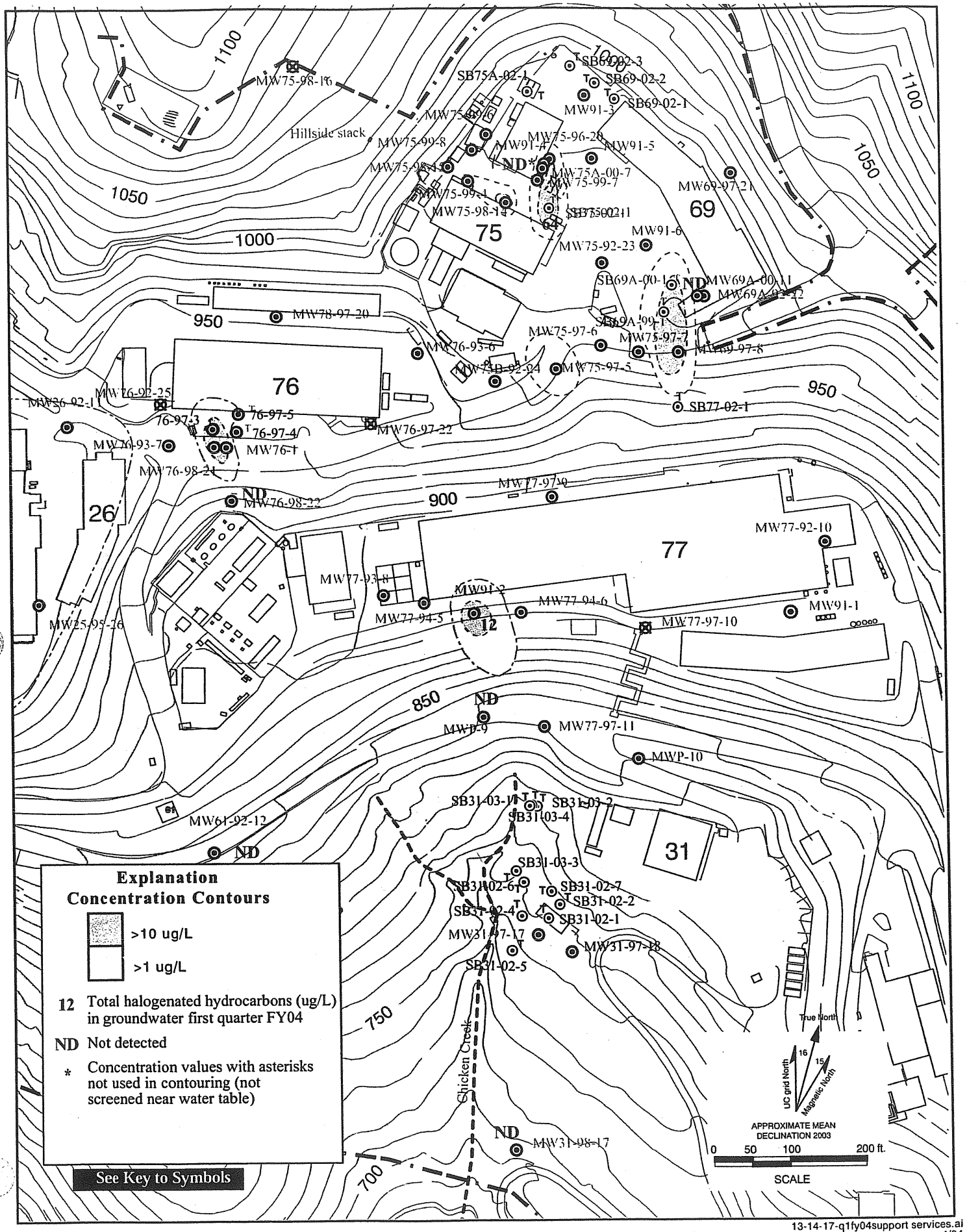
Figure 16. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area, Second Quarter, FY2002

16-tritcorpgw lqfy02.ai 6/02



9-tritiumplume.ai
3/03

Figure 9. Locations of Lysimeters Sampled for VOCs, March 2003.



13-14-17-q1fy04support services.ai
4/04

Figure 13. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Support Services Area, First Quarter FY2004.

Table 17

Concentrations of Tritium Detected in Soil-Water Samples from Lysimeters in the Vicinity of the NTLF

(Concentrations in pCi/L)

Lysimeter Number	Distance From Tritium Stack (feet)	Dec-94	Feb-95	Mar/ Apr-95	May-95	Jan-96	Feb-96	Mar-96	May-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96	Dec-96 (D)	Jan-97 (D)	Apr-97	Jan-98	Mar-98
VL-1	157	24,726	22,873	17,453	14,772	10,768	8,188	5,104	7,085-7,274*						6,299 6,449†	5,415 6,300		6,945	818-1824*	3898
VL-2	226		9,040-10,230*	10,466	9,000	6,667	6,054	3,560							4,257 5,470					1781
VL-3	319	5,616	6,942	8,677	8,186	5,985	4,569	5,388							2,318 3,220	2,234 3,220				2307
VL-4	402	7,155	6,422	4,784	5,122	<400	2,496	6,239							1,811 2,180	1,023 1,810				1840
VL-5	500	3,232	2,246	713	893	929														488
VL-6	449	2,121		811		830		782											452-510*	
VL-7	94	32,081	13,063	8,263	6,874	3,109		1,900-5,739*									1,591 1,520		1410-1455*	3149
VL-8	55		50,760-55,700*	72,704	58,064	36,677	34,462	37,340							9,213 10,830			13,474	12,599-13,668*	17364
VL-9	69		25,200	8,195	10,325	6,040		9,920							5,518 6,080	5,277 6,470			3,633	7211
VL-10	124		24,788	32,099		13,057	12,595								3,622 6,190			6,147	6,494	9893
VL-11	340					5,002-5,909*	5,060	5,692									3,933 760**			
VL-12	330					789		2,143	1,224						497		574 4,770**		554	471
VL-13	150					770-3,650*		1,775							973 850	876 740			483-620*	648
VL-14								3,982											531	488
VL-15	145					1,964		1,256-2,336*							586 1,260					
VL-16	155					9,505		6,345							3,253 4,060					4474
VL-17	340					1,879-2,513*	2,306	3,019	2,242-2,322*						2,123 2,770			3,676		1268
VL-18	500								968-2,498*								3,496 3,620	3,289	1,444	2143
VL-19	850								488-1,656*						<400 324	<400 418			<300	
VL-20	1100								<400-1,030*						<400 189			<400	<300	
75-96-1-7'																				571
75-96-1-14'	220									17,652	10,903	11,440	9,014		10,134					11,392
75-96-2-14'	230										48,183	55,500	44,106	46,720	44,778					46,176
75-96-2-20'	230											4,360								
75-96-3-10'																				6,299
75-96-3-20'																				14,161
75-96-4-7.5'	160										18,002	43,900	41,999							44,049
75-96-4-15'	160										69,973	85,500	66,225	70,068	68,832					75,551

All analyses by LBNL Radiological Measurement Laboratory, unless otherwise noted

* = Range of concentrations in multiple samples

† = Duplicate sample analyzed by LBNL

** = These two samples appear to have been switched

(D) = Duplicate sample, analyzed by Lockheed Analytical Services

<400 = Not Detected

Groundwater Historical Maximum Concentrations *vs.* Current Concentrations for same locations

(µg/L)

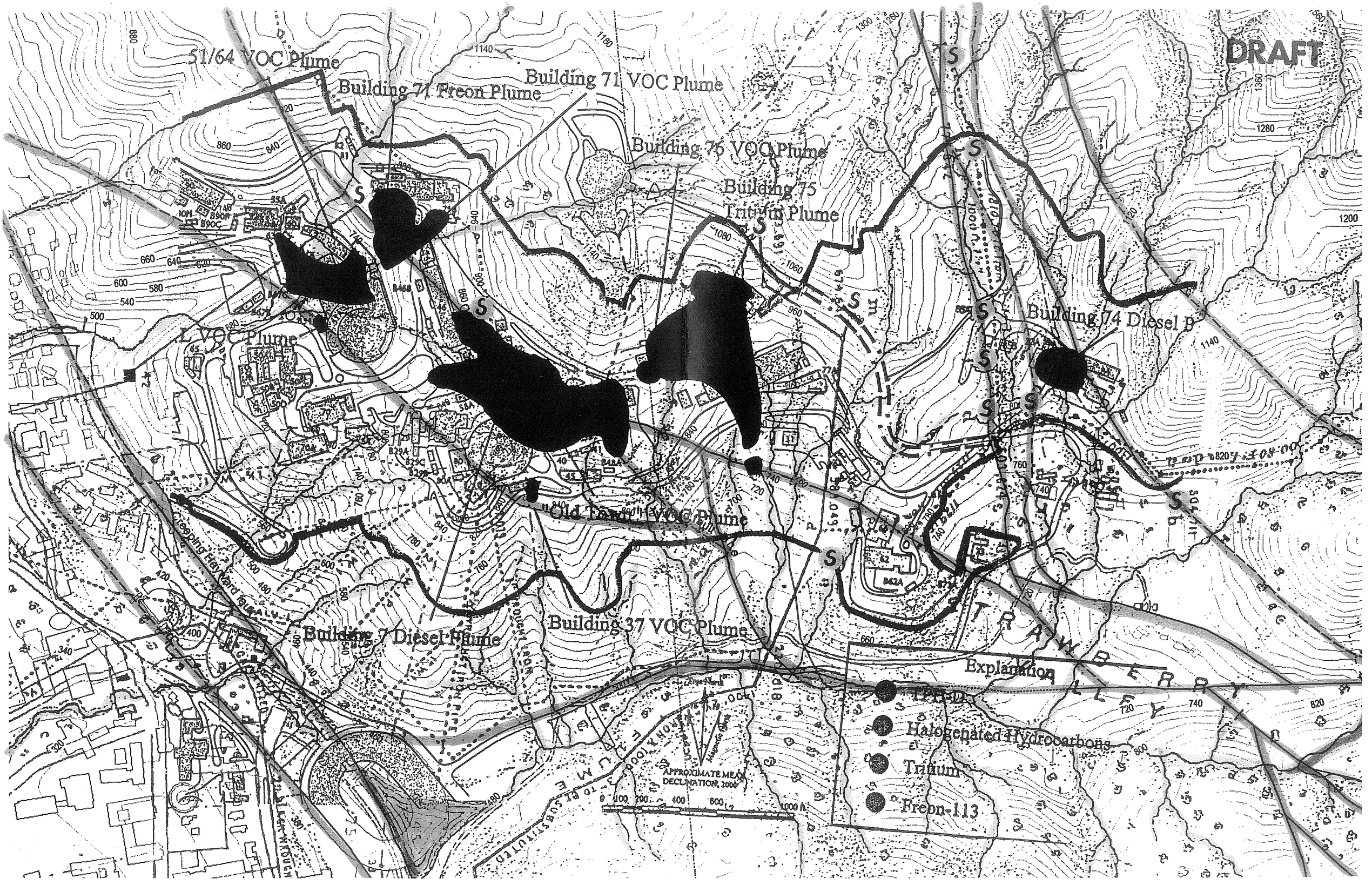
Constituent	MCL	Date	Maximum	Current	Location
PCE	5	9/29/1995	190,000	317	7B-95-21
TCE	5	9/29/1995	100,000	111	7B-95-21
CarbonTet	0.5	10/1/1999	14,700	560	MP7-99-2B
1,1-DCE	6	6/29/1998	41,500	834	SB64-98-7, SB64-98-8
cis1,2-DCE	6	6/26/1997	4400	8.4	7-95-22
1,1,1-TCA	200	12/14/1998	762,000	113	SB64-98-7, SB64-98-8
1,1-DCA	5	10/10/2000	24,062	4,350	SB64-98-8
Benzene	1	6/28/1996	98.3	11.2	MW91-4
PCBs	0.5	4/9/1996	93	<0.3	SB51-96-8

EXCAVATED Soil Historical Maximum Concentrations (mg/kg)

Constituent	Maximum	Location	Date
PCE	14000	B7B	6/6/1995
TCE	170	SB7PI-96-8	9/19/1996
CarbonTet	7.2	B7-Sump	10/19/1992
1,1-DCE	4.6	SB64-98-7	5/1/1998
cis-1,2-DCE	4.2	SB7PI-96-7	9/19/1996
1,1,1-TCA	2800	SB64-98-7	5/1/1998
1,1-DCA	5	SB64-98-7	5/1/1998
Benzene	2.4	SB7PI-96-7	9/19/1996
Toluene	0.71	SB64-98-7	5/1/1998
Ethylbenzene	0.52	SS7BPL-UP	8/1/1998
Xylenes (total)	3	SS7BPL-UP	8/1/1998
PCBs			
Aroclor 1016	38	SS75A Exc-PitBSW1-03	2/12/2003
Aroclor 1232	1.1	SB75A-99-19	8/24/1999
Aroclor 1242	11000	B88	2/22/1995
Aroclor 1248	48	B75 Yard	8/4/1997
Aroclor 1254	840	B88	6/14/1994
Aroclor 1260	1	SS-51MRPit-96-3	3/18/1996

Non-excavated Soil Historical Maximum Concentrations (mg/kg)

Constituent	Maximum	Location	Date
PCE	3000	HI7-00-1	11/17/2000
TCE	60	HI7-00-1	11/17/2000
CarbonTet	10	HI7-00-1	11/17/2000
1,1-DCE	0.17	SB51L-01-3	5/17/2001
cis-1,2-DCE	3.1	51L-01-3	12/20/2001
1,1,1-TCA	11	HI7-00-1	11/17/2000
1,1-DCA	0.8	SB51L-01-12	5/10/2001
Benzene	1.28	B76	9/1/1991
Toluene	3.23	B76	9/1/1991
Ethylbenzene	1.8	6-93-G2	11/24/1993
m&p Xylenes	1.8	B76	9/1/1991
o-Xylene	0.72	B76	9/1/1991
Xylenes (total)	13	6-93-G2	11/24/1993


DRAFT
51/64 VOC Plume
Building 71 Freon Plume
Building 71 VOC Plume
Building 76 VOC Plume
Building 75
Tritium Plume
Building 74 Diesel P
L VOC Plume
"Old Town" VOC Plume
Building 7 Diesel Plume
Building 37 VOC Plume
Creeping Hayward fault
Explanation
TPH-D
Halogenated Hydrocarbons
Tritium
Freon-113
APPROXIMATE MEAN DECLINATION, 2000
0 100 200 400 600 1000 ft