Appendix A

Approved Groundwater Monitoring Schedule

The attached figures and tables listing the groundwater monitoring schedule and showing the locations of wells required for monitoring were revised from the *Proposal for Revised Groundwater Monitoring Schedule* (Berkeley Lab, 2005b) submitted to the Water Board in May 2005. The Water Board approved the schedule proposed in that document in August 2005 (Water Board, 2005).

MW25-95-5	Groundwater monitoring well
MW90-6	Properly destroyed monitoring well
T SB76-97-3	Temporary groundwater sampling point
EW or EW	Groundwater extraction well
IW	Groundwater injection well
DP	Dual phase extraction well
SSW-31.63	Slope stability well
SI-3.63	Slope indicator well
71-95-10 or VZM-OT-1	Vadose zone monitoring well
	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)
	Surface creek
	Berkeley Lab site boundary
17	Surface structure (e.g. buildings, etc.)

NOTES:
All other symbols used are explained on the figures.

Symbols.ai
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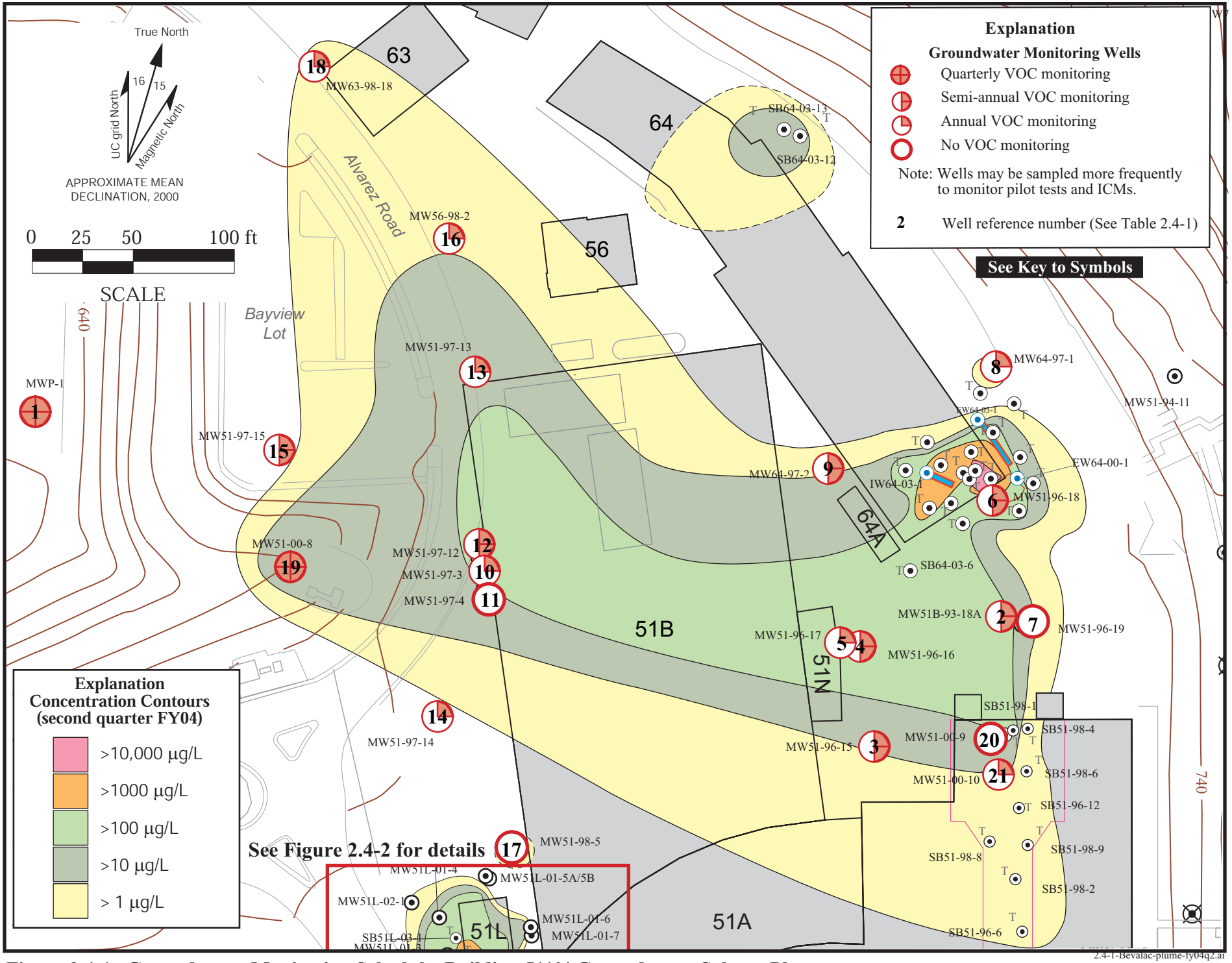
Key to Symbols Used on Figures.



2.4-1-Bevalac-plume-fy04q2.ai
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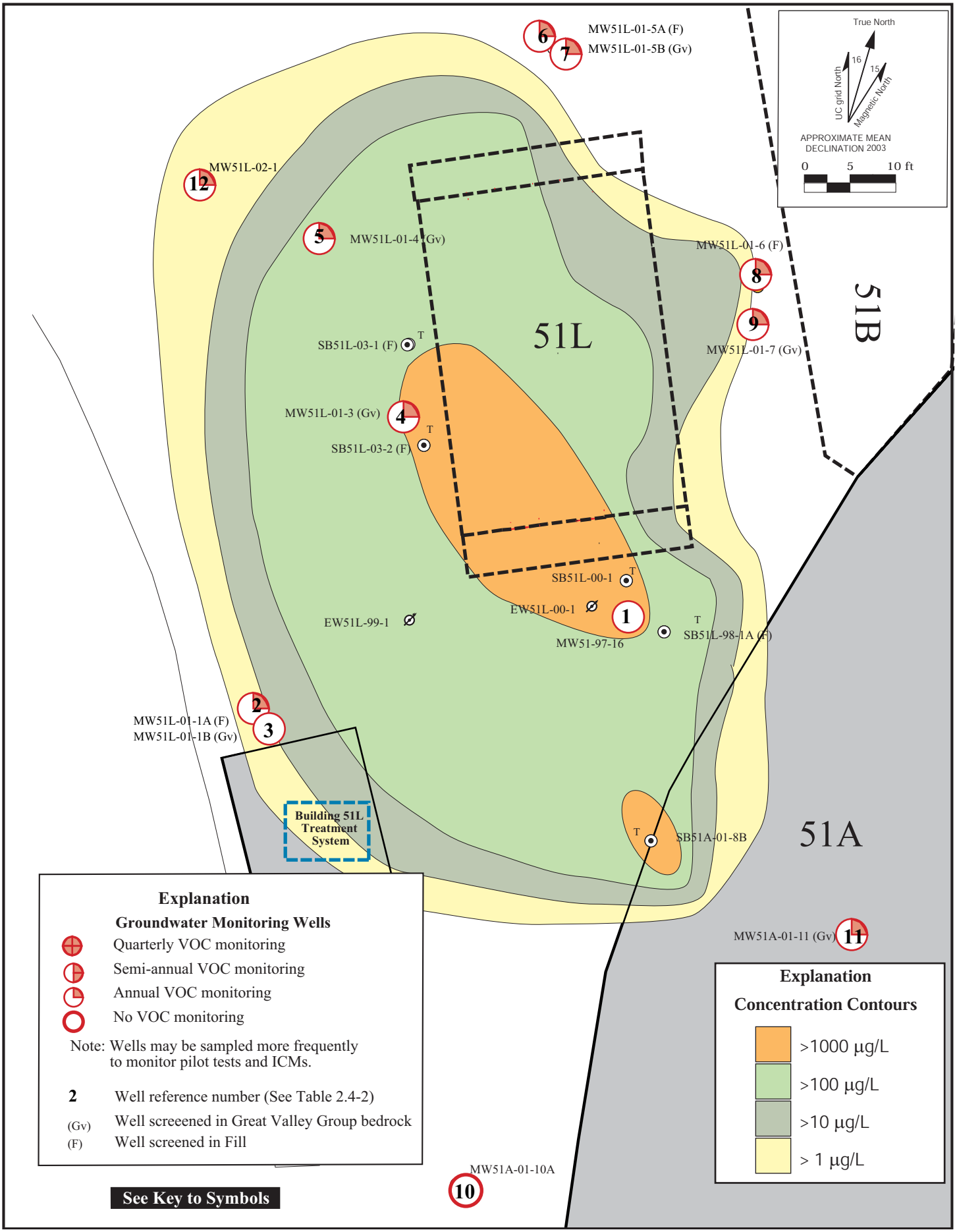
Figure 2.4-1. Groundwater Monitoring Schedule, Building 51/64 Groundwater Solvent Plume.



2.4-2-b51lltotlavocsfy
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Figure 2.4-2. Groundwater Monitoring Schedule, Building 51L Groundwater Solvent Plume.

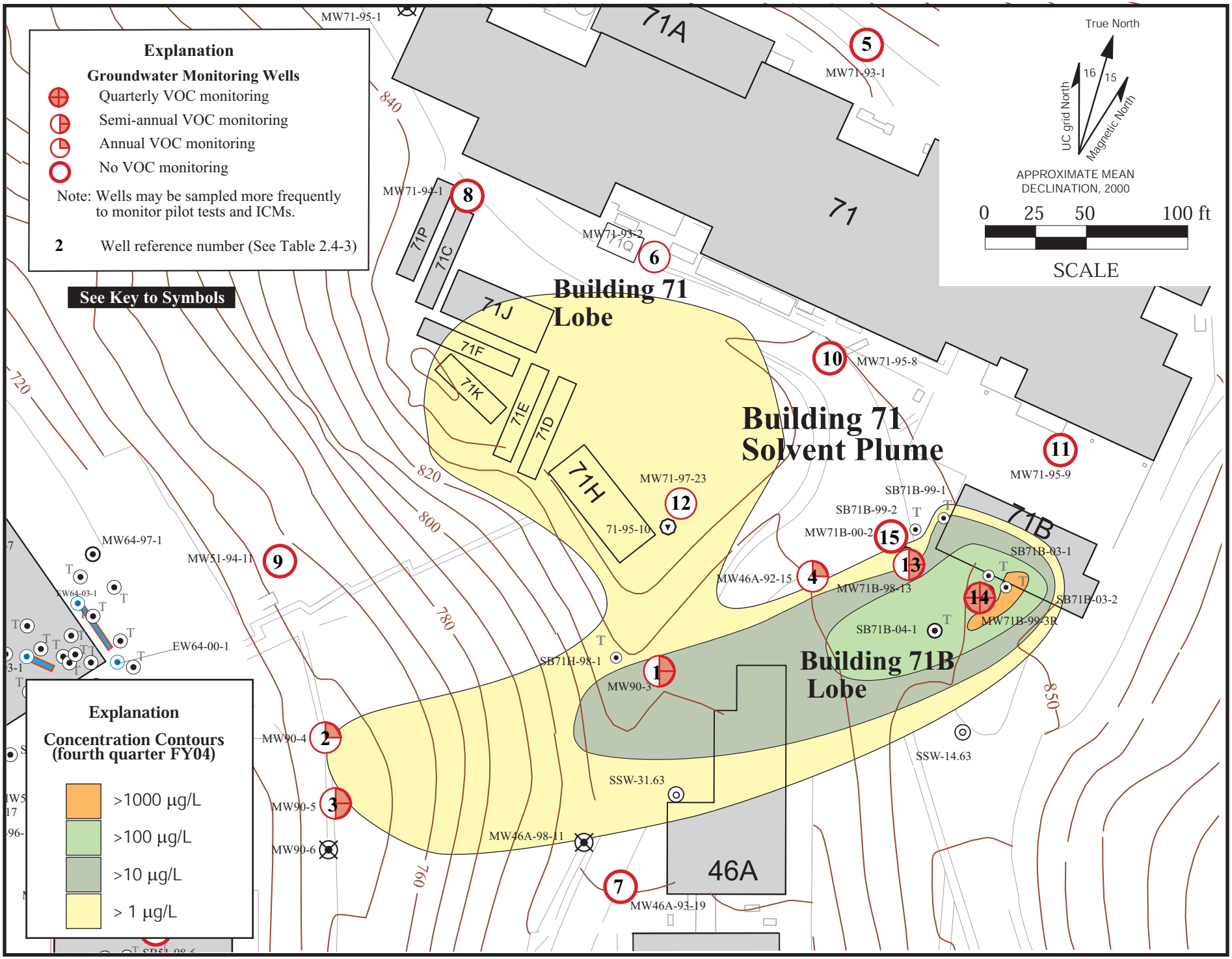

Figure 2.4-3. Groundwater Monitoring Schedule, Building 71 Groundwater Solvent Plume.

2.4-3-B71B-plume-fy04q2.ai
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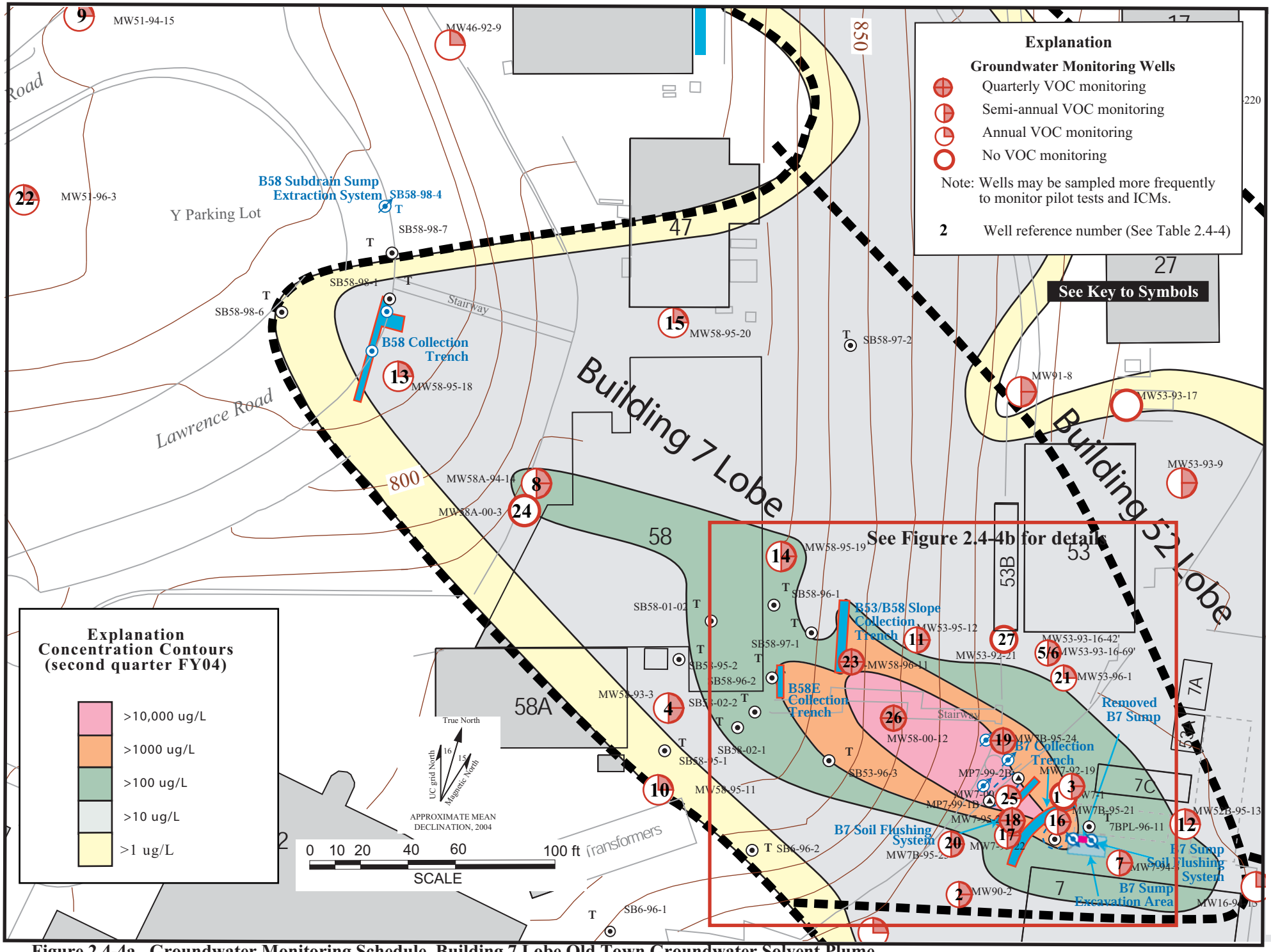

Figure 2.4-4a Groundwater Monitoring Schedule, Building 7 Lobe Old Town Groundwater Solvent Plume.

2.4-4a-b7lobe.ai
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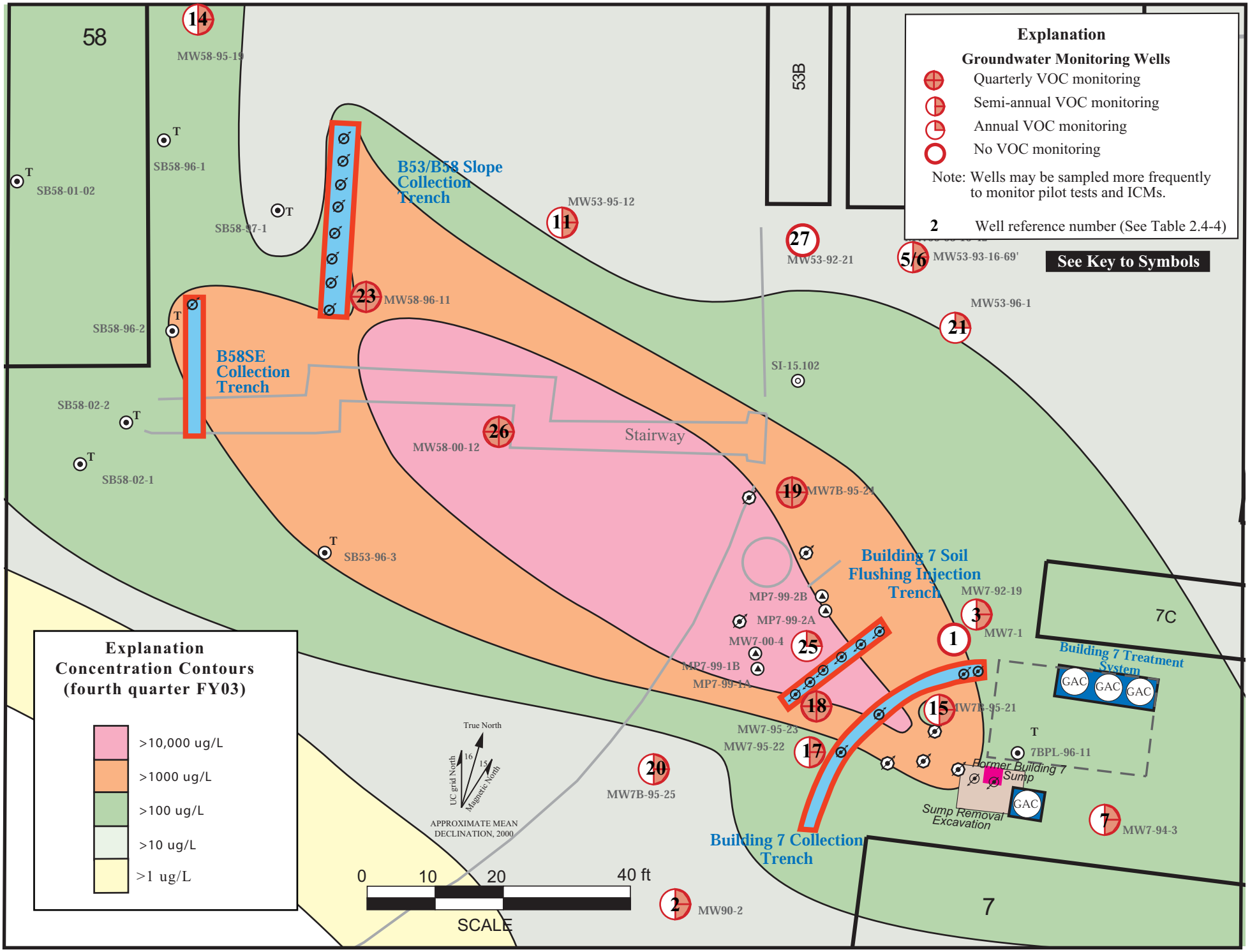

Figure 2.4-4b. Groundwater Monitoring Schedule, Building 7 Lobe Old Town Groundwater Solvent Plume Source Area.

2.4-4b-OTsumpareaV
4/05

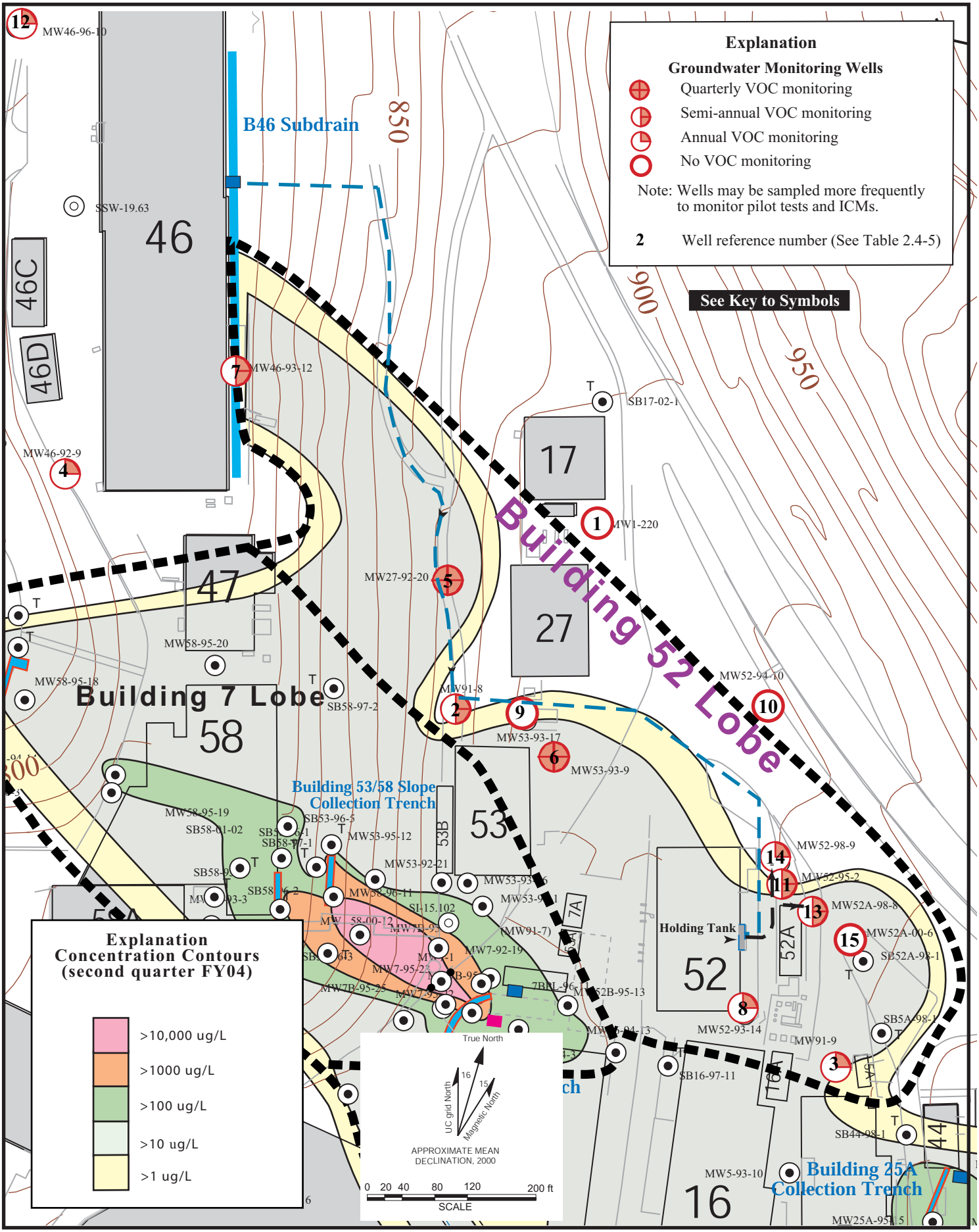

Figure 2.4-5. Groundwater Monitoring Schedule, Building 52 Lobe Old Town Groundwater Solvent Plume.

2.4-5-b52lobe
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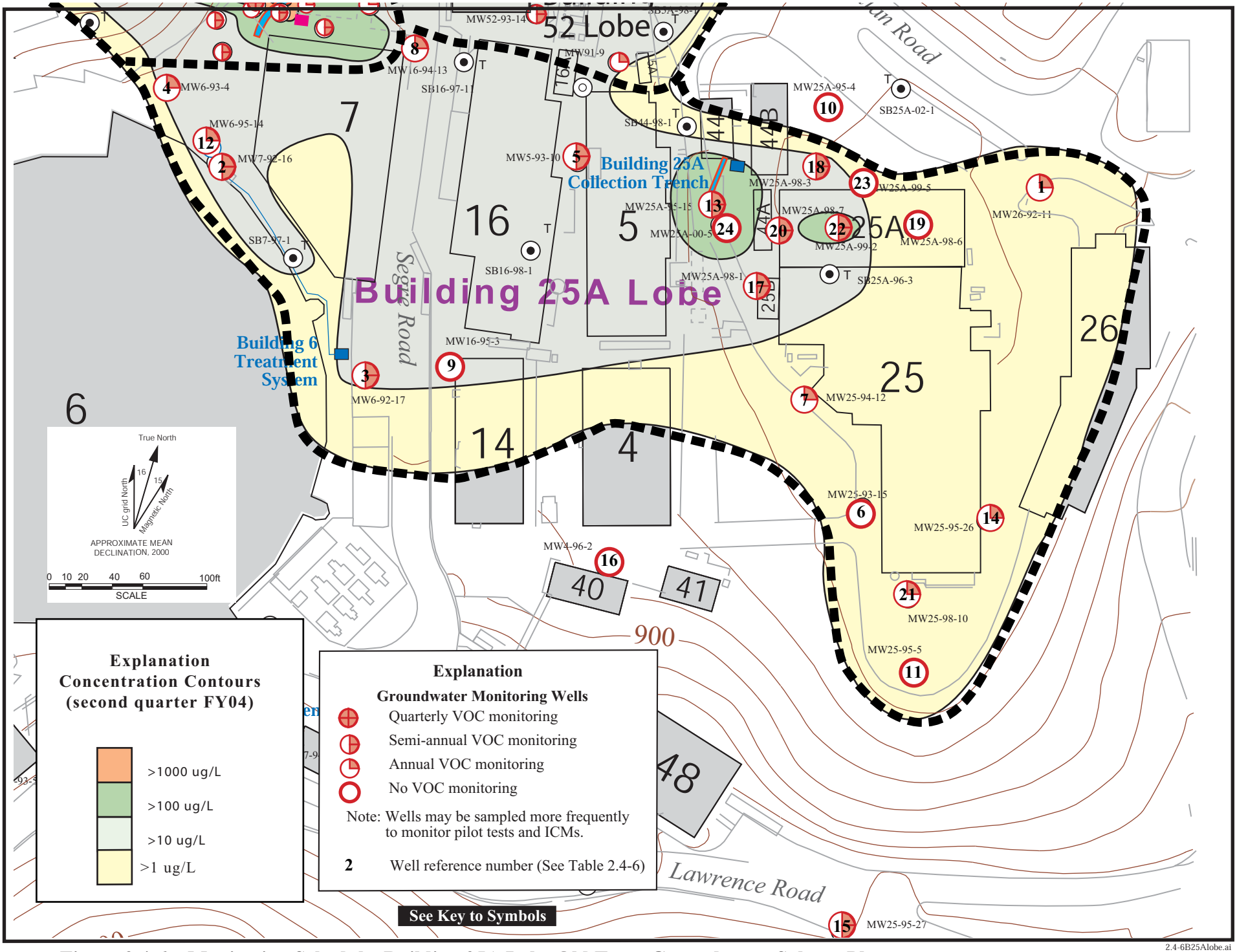

Figure 2.4-6. Monitoring Schedule, Building 25A Lobe Old Town Groundwater Solvent Plume.

2.4-6B25Alobe.ai
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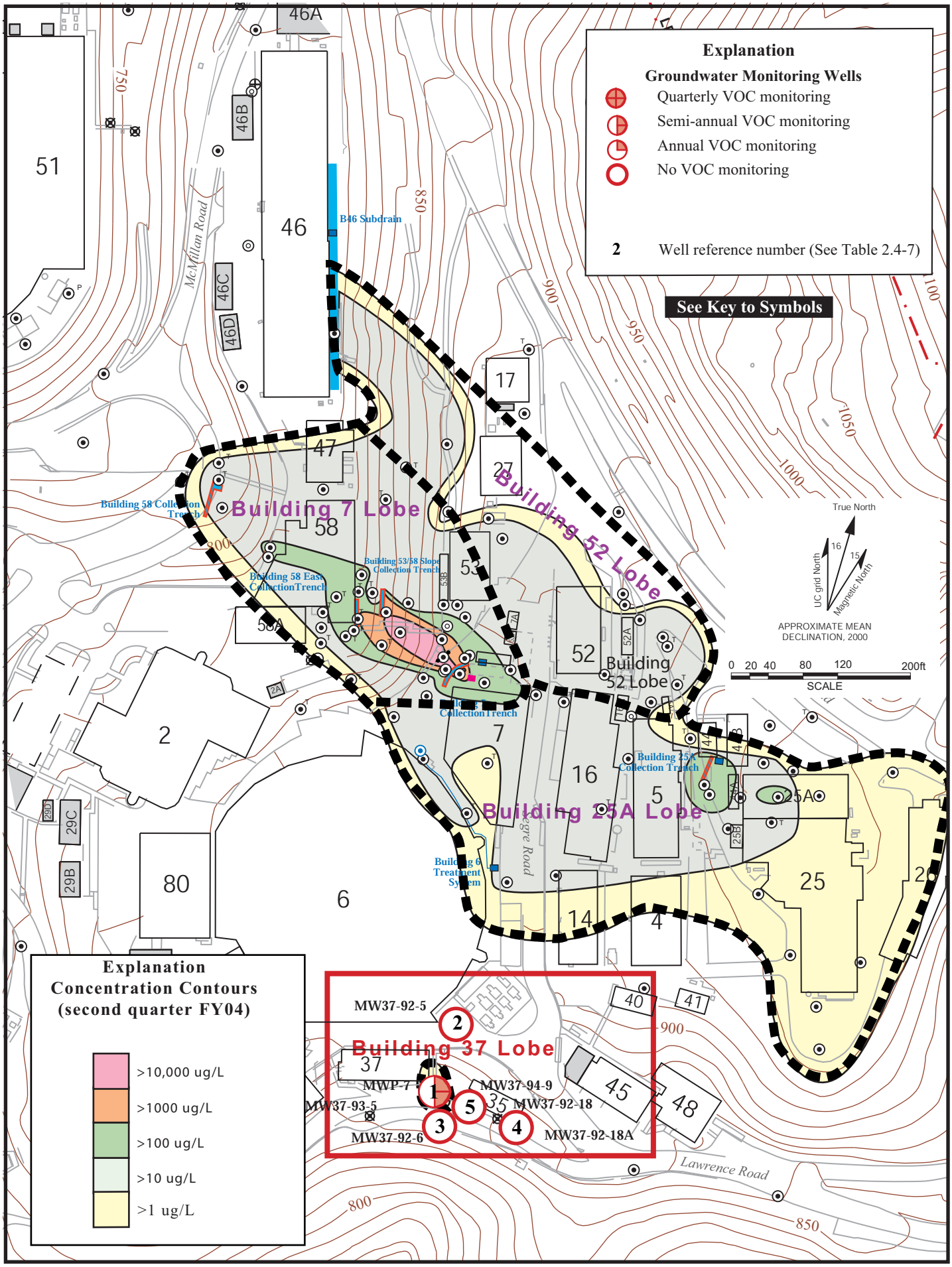

Figure 2.4-7. Groundwater Monitoring Schedule, Building 37 Lobe Old Town Groundwater Solvent Plume.

2.4-7-b37.ai.ai
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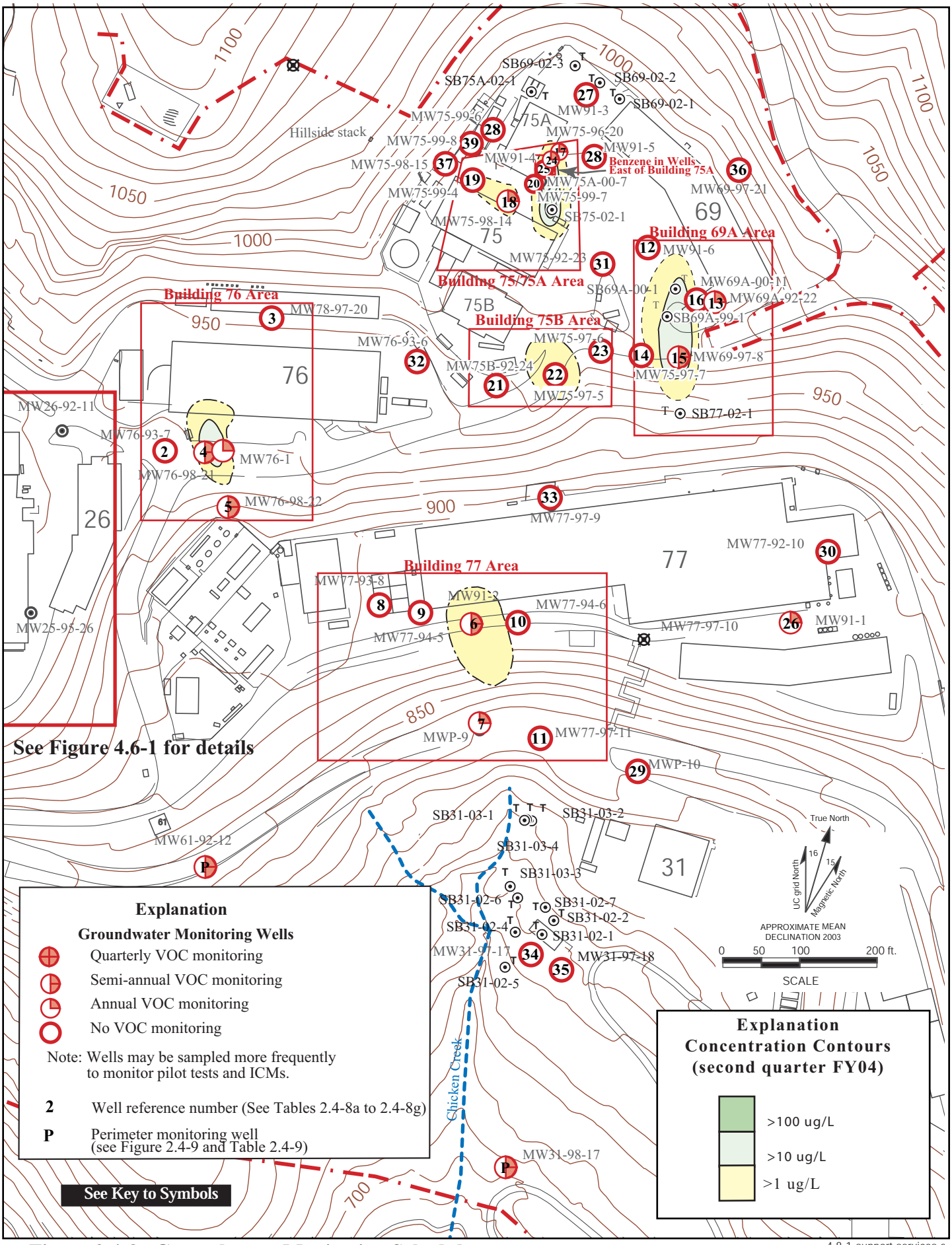

Figure 2.4-8. Groundwater Monitoring Schedule, Support Services Area.

4.8-1-support services.a
8/0

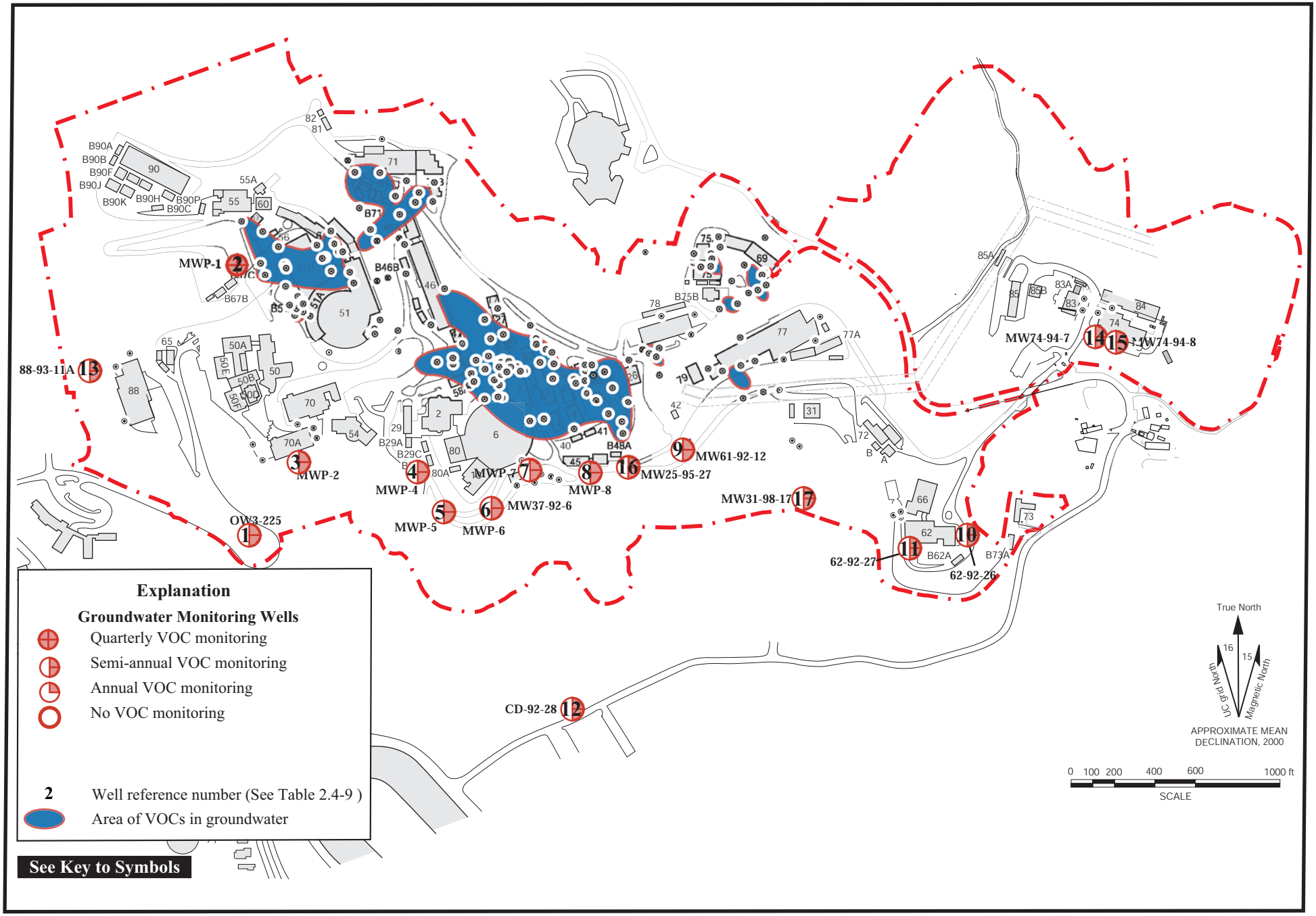

Figure 2.4-9. Groundwater Monitoring Schedule, Perimeter and Offsite Wells.

2.4-9-perimeterwells.ai
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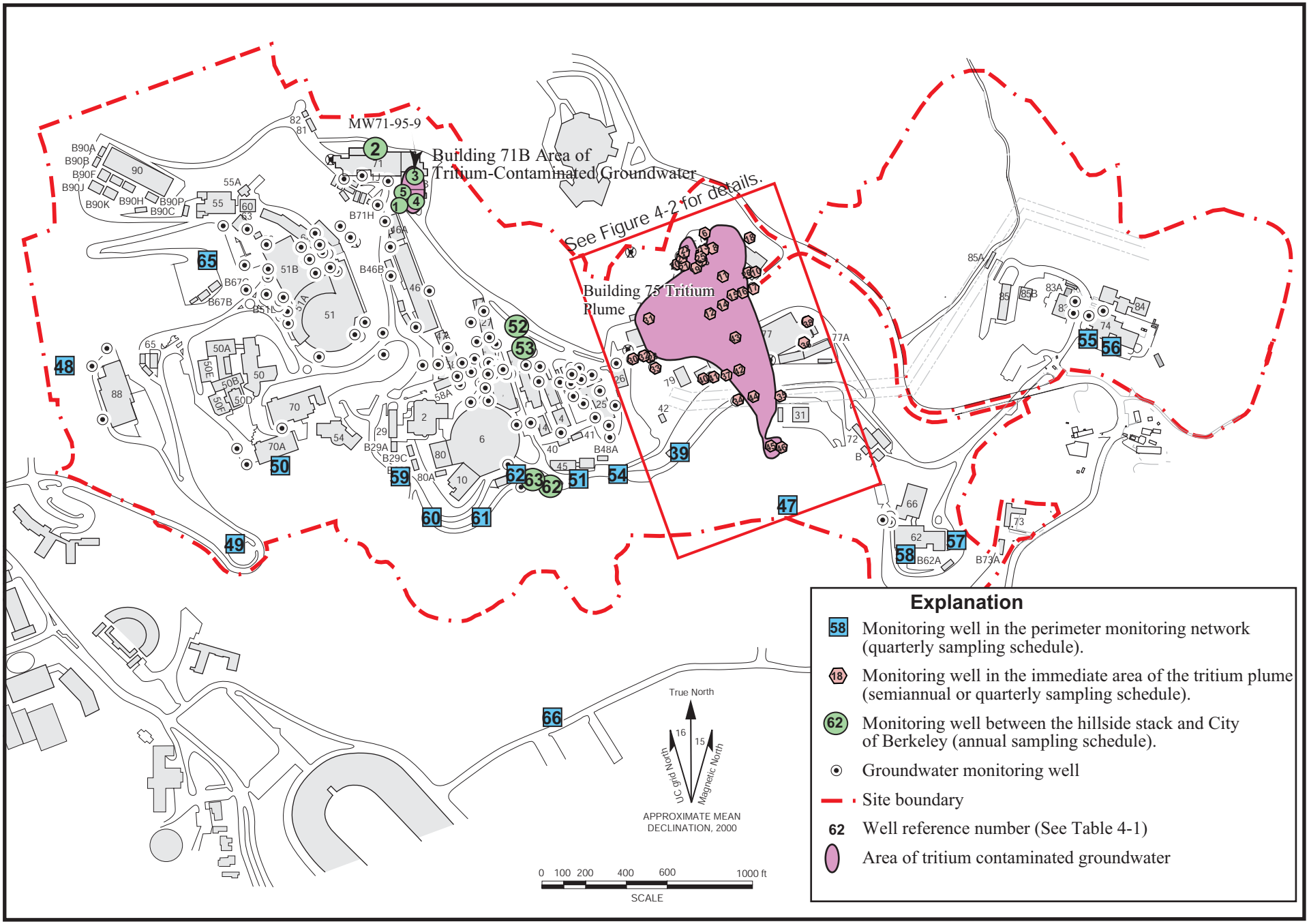

Figure 4-1. Locations of Monitoring Wells Sampled for Tritium.

4-1-tritiumwellssite.ai
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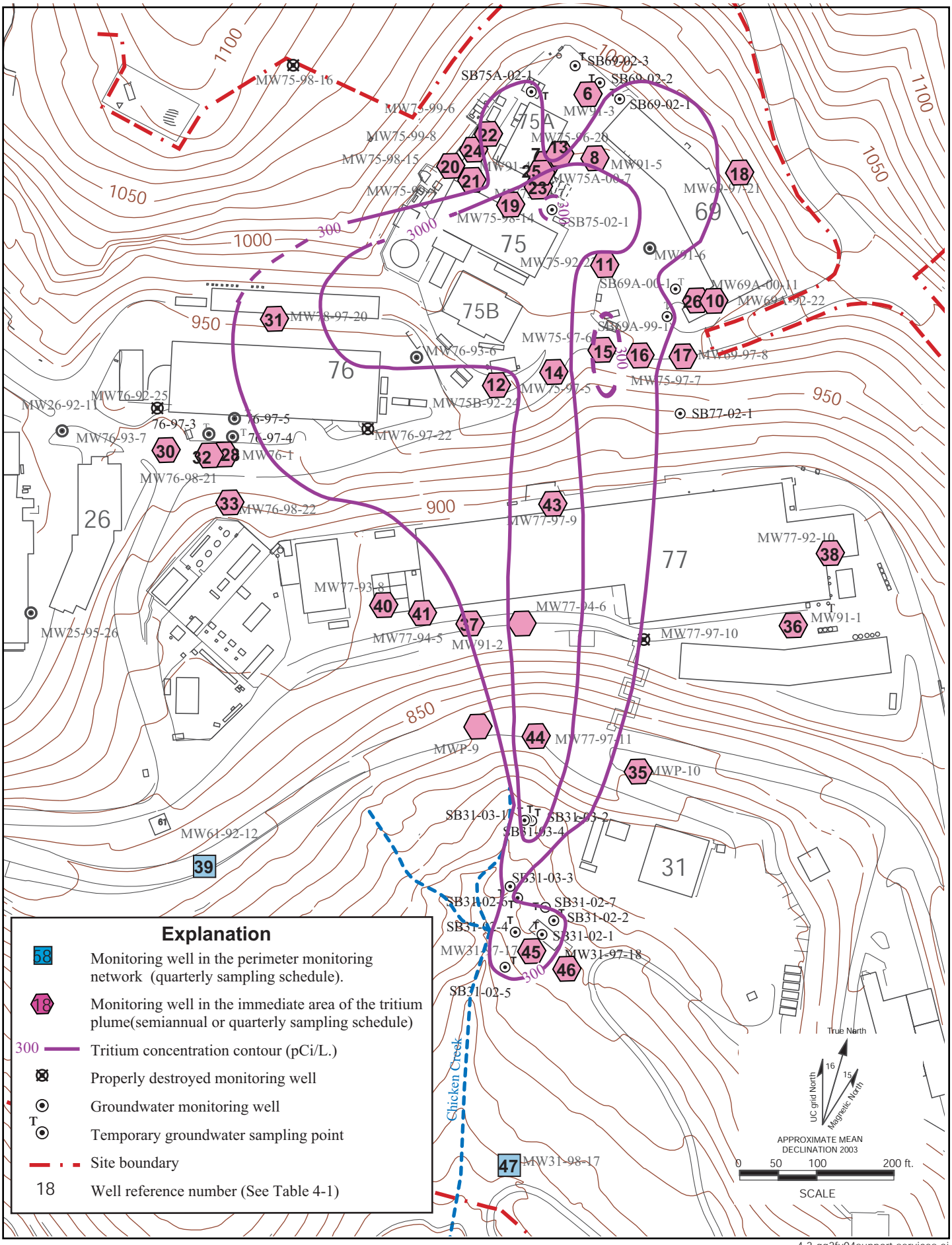

4.2-qq2fy04support services.ai
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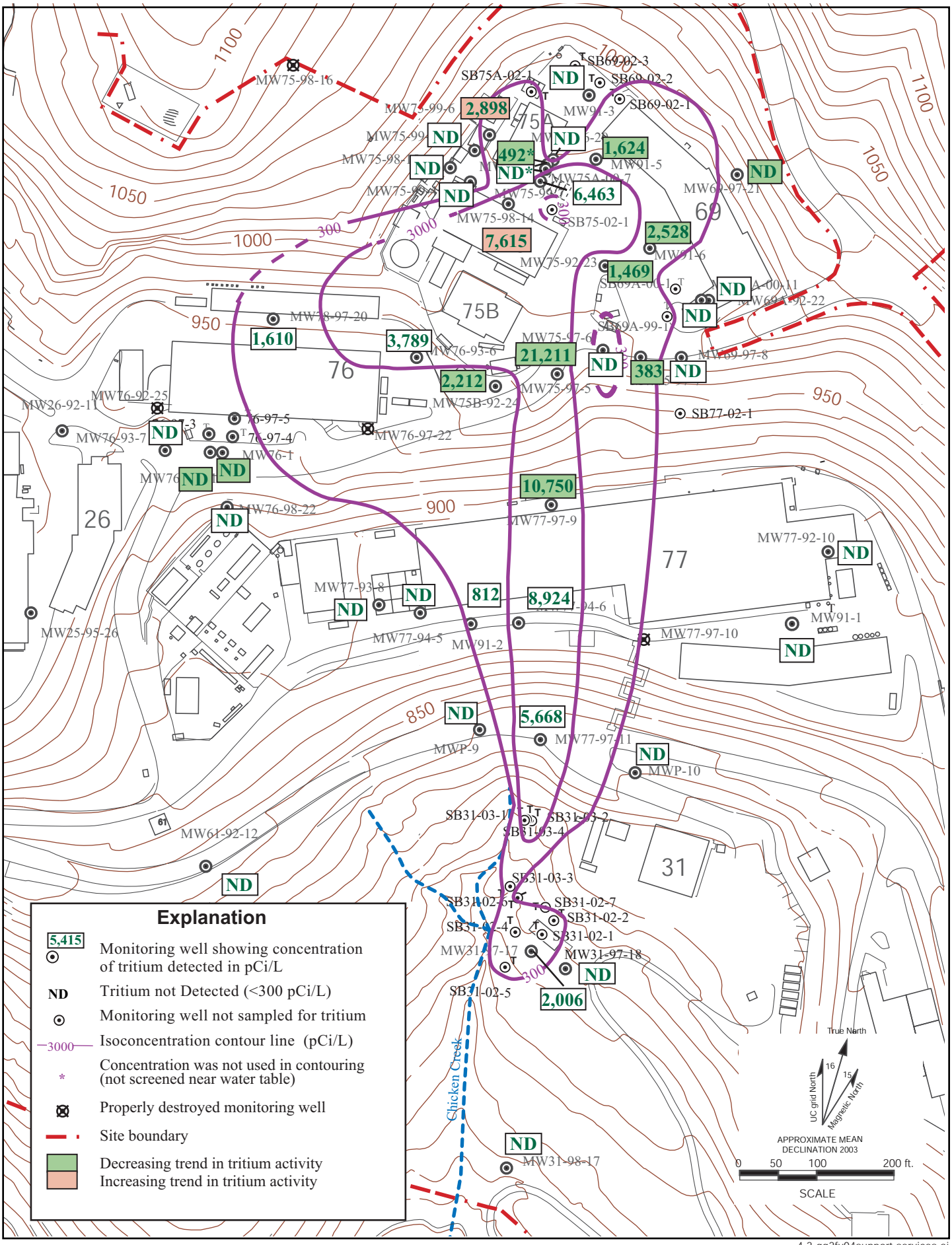
Figure 4-2. Locations of Monitoring Wells Sampled for Tritium in the Building 75 Tritium Plume Area.



4.2-qq2fy04support services.ai
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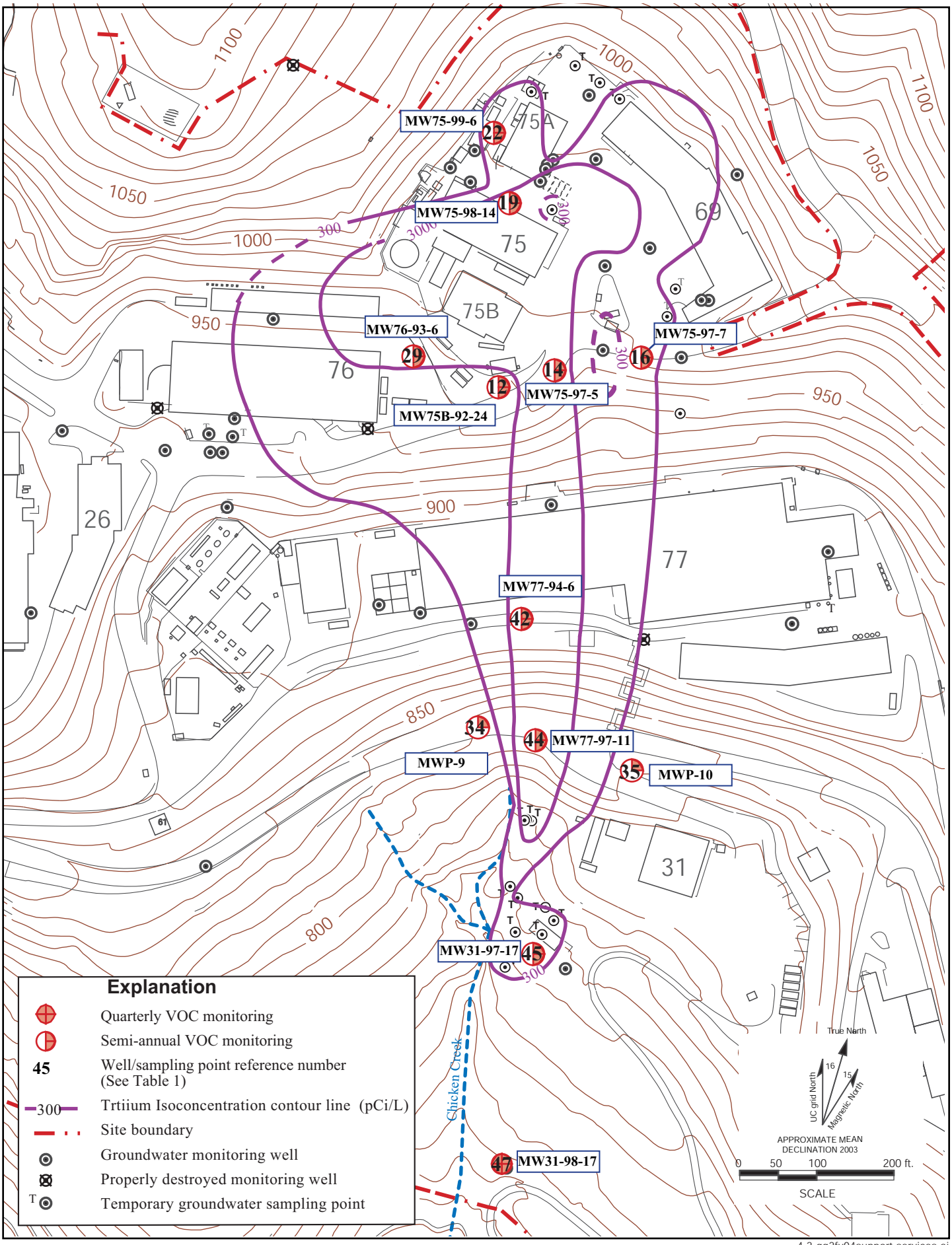
Figure 4-3. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area, Third Quarter FY2004.



4.2-qq2fy04support services.ai
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Figure 4-6. Groundwater Monitoring Schedule.

Table 2.4-1
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 51/64 Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MWP-1	◆				12	P	49	LT	LT	no	ND	
2	MW51B-93-18A		◆			11		27	51	142	yes	increasing	Adjacent to MW51-96-19. Screened at greater depth (in Orinda Formation). Higher concentrations detected in this well than MW51-96-19.
3	MW51-96-15		◆			8		20	8.2	11	yes	stable	Concentration of total VOCs approximately 10 ug/L or less.
4	MW51-96-16		◆			8		20	521	751	yes	decreasing	Screened in fill. Same location as MW51-96-17.
5	MW51-96-17			◆		8		18	121	255	yes	variable	Same location as MW51-96-16. Screened at greater depth mainly in Orinda Formation. Lower concentrations detected.
6	MW51-96-18		◆			8		22	1410	1672	yes	decreasing	
7	MW51-96-19				◆	8		18	15	19	yes	stable	Adjacent to MW51B-93-18A Screened at shallower depth (in fill). Lower concentrations detected in this well than MW51B-93-18A. TCE slightly above MCL.
8	MW64-97-1			◆		8		16	3.9	4.4	no	stable	Concentrations of VOCs below MCLs since May 1998. TCE only VOC detected since July 1997.
9	MW64-97-2		◆			8		18	8.7	13	yes	stable	Concentrations of VOCs below MCLs most quarters.
10	MW51-97-3			◆		7		16	40	103	yes	variable	Same location as MW51-97-4 and MW51-97-12. This well is screened in same material (fill) below MW51-97-12. MW51-97-4 is screened at deepest level of the three wells in the Orinda Formation. Concentrations of VOCs are generally lower than in MW51-97-12.
11	MW51-97-4				◆	7		16	LT	LT	no	generally ND	Same location as MW51-97-3 and MW51-97-12 (both screened in fill). Screened deeper in the Orinda Formation. No VOCs detected since March 1998.
12	MW51-97-12		◆			7		17	64	112	yes	variable	Same location as MW51-97-3 and MW51-97-4. This well is screened in fill at shallowest depth of the three wells. Concentrations of VOCs are generally higher than in MW51-97-12 (also screened in fill).
13	MW51-97-13			◆		7		17	33	40	yes	stable	
14	MW51-97-14			◆		7		10	LT	LT	no	ND	No VOCs detected. Outside of plume area.
15	MW51-97-15			◆		7	D	30	LT	3.9	no	generally ND	No VOCs detected except for one quarter. Outside of plume area.
16	MW56-98-2			◆		6		21	11	18	yes	decreasing	Vinyl chloride slightly above MCL. Concentrations of vinyl chloride are decreasing.
17	MW51-98-5				◆	5		16	2.4	8.6	no	stable	Concentrations of VOCs below MCLs
18	MW63-98-18			◆		6		19	1.8	4.8	yes	stable	Consistent detections of only vinyl chloride since November 1999. Concentrations slightly above MCL.
19	MW51-00-8	◆				3		11	15	27	yes	stable	Concentrations slightly above MCLs.
20	MW51-00-9				◆	4		15	15	20	yes	stable	Adjacent to and similar results to MW51-00-10.
21	MW51-00-10			◆		4		15	10	24	yes	stable	Concentrations slightly above MCLs. Adjacent to and similar results to MW51-00-9.

LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume
P=Perimeter monitoring well
(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.
ND=not detected

Table 2.4-2
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 51L Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MW51-97-16				◆	6		16	18	19	yes	stable	Screened in both fill and bedrock. Adjacent to SB51L-98-1A. TCE slightly above MCL. Destroy since potential migration pathway to bedrock.
2	MW51L-01-1A			◆		2		6	7	13	yes	variable	Screened in fill. Concentrations approximately 10 ug/L or less.
3	MW51L-01-1B				◆	3		14	LT	LT	no	ND	Screened in bedrock.
4	MW51L-01-3			◆		3		12	LT	LT	no	ND	Screened in bedrock.
5	MW51L-01-4			◆		3		12	LT	2	no	generally ND	Screened in bedrock. VOCs sporadically detected approximately 1 ug/L or less.
6	MW51L-01-5A			◆		3		13	LT	LT	no	ND	Screened in fill.
7	MW51L-01-5B			◆		3		14	LT	LT	no	ND	Screened in bedrock.
8	MW51L-01-6			◆		3		13	LT	LT	no	generally ND	Screened in fill. No halogenated VOCs detected
9	MW51L-01-7			◆		3		10	LT	LT	no	ND	Screened in bedrock.
10	MW51A-01-10A				◆	3		13	LT	LT	no	ND	Screened in bedrock.
11	MW51A-01-11			◆		3		13	LT	LT	no	ND	Screened in bedrock. Well used for soil flushing.
12	MW51L-02-1			◆		3		9	1.1	6.7	yes	variable	Screened in fill. All detected concentrations below MCLS, except one detection of PCE..

LT = Less than the quantitation limit.
(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.
ND=not detected

Note: The Building 51L Groundwater Solvent Plume source area including the area of MW51L-01-3 and possibly MW51L-01-4 will be excavated as a corrective measure.

Table 2.4-3
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 71 Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MW90-3		◆			12		34	56	56	yes	decreasing	
2	MW90-4			◆		12		32	1.8	6.6	no	decreasing	No VOCs above MCLs. No VOCs detected since August 2001. Located adjacent to MW90-5.
3	MW90-5		◆			12	D	35	1	2.2	no	stable	VOCs have been below MCLs since November 1995. Well is at downgradient edge of Building 71B lobe and upgradient from higher concentration Building 51/64 plume.
4	MW46A-92-15			◆		12		37	9.9	1.4	no	decreasing	VOCs have been below MCLs since February 1999.
5	MW71-93-1				◆	12		27	4.9	3	no	decreasing	VOCs have been below MCLs since December 1995.
6	MW71-93-2				◆	12		33	11*	27*	no	decreasing	VOCs have been below MCLs since January 2003.
7	MW46A-93-19				◆	11		21	L T	LT	no	generally ND	No VOCs detected since December 1996. Except for a few anomalous detections, no VOCs have been detected.
8	MW71-94-1				◆	11		29	2.2	4.8	no	stable	VOCs have been below MCLs since August 1994.
9	MW51-94-11				◆	11		23	LT	LT	no	generally ND	No VOCs detected since February 2002. No VOCs above MCLs. Only trace concentrations (<2ug/L) of Freon-123A since Feb. 1996.
10	MW71-95-8				◆	10		23	LT	LT	no	generally ND	No VOCs detected since May 1998. VOCs <1 ug/L since March 1997.
11	MW71-95-9				◆	10		18	LT	LT	no	generally ND	No VOCs detected since May 1998. VOCs <1 ug/L since may 1996.
12	MW71-97-23				◆	7		17	12	20	yes	stable	TCE below or slightly above MCL. All other VOCs below MCLs.
13	MW71B-98-13		◆			6		22	270	358	yes	decreasing	Building 71B lobe source area. Concentrations decreased in 2003 as a result of HRC pilot test.
14	MW71B-99-3R	◆				4		11	581	1,580	yes	variable	Building 71B lobe source area.
15	MW71B-00-2				◆	5		20	LT	40	no	generally ND	Well installed in source area to assess vertical extent of contamination. No VOCs detected since November 2000 except for 1.1 ug/L TCE in February 2004.

* = Excluding Freon and chloroform
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume
(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.
ND=not detected

Table 2.4-4
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 7 Lobe Old Town Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	**MW7-1**				◆	11		22	97	58	yes	decreasing	Well is screened across a perched zone.
2	**MW90-2**		◆			12		45	201	201	yes	decreasing	Monitors the effectiveness of the B7 groundwater collection trench.
3	**MW7-92-19**		◆			12		45	1,354	1,933	yes	decreasing	Monitors the effectiveness of the B7 groundwater collection trench.
4	**MW58-93-3**		◆			10		33	87	135	yes	stable	
5	**MW53-93-16-42'**			◆		11		22	42	16	yes	decreasing	Well is screened across a perched zone at the same location as 53-93-16-69'. PCE is only VOC detected since August 2001.
6	**MW53-93-16-69'**		◆			11		34	664	854	yes	decreasing	Same location as well above. Screened across water table.
7	**MW7-94-3**		◆			11		36	186	332	yes	variable	Upgradient from plume source area.
8	**MW58A-94-14**		◆			10		29	142	158	yes	decreasing	
9	**MW51-94-15**			◆		10	D	41	LT	LT	no	ND	
10	**MW58-95-11**			◆		9		19	8	8	no	decreasing	Concentrations below MCLs since February 2000.
11	**MW53-95-12**		◆			9		26	2,988	2,812	yes	decreasing	
12	**MW52B-95-13**			◆		9		23	199	231	yes	decreasing	
13	**MW58-95-18**			◆		9		26	57	62	yes	decreasing	
14	**MW58-95-19**		◆			9		30	97	379	yes	increasing	Downgradient from the B53/B58 slope groundwater collection trench.
15	**MW58-95-20**			◆		9		33	14	56	yes	stable	
16	**MW7B-95-21**		◆			9		40	5,779	60,400	yes	decreasing	Monitors the effectiveness of the B7 groundwater collection trench.
17	**MW7-95-22**		◆			9		40	4,466	4,832	yes	decreasing	Monitors the effectiveness of the B7 soil flushing system.
18	**MW7-95-23**	◆				9		34	38,392	48,017	yes	decreasing	Monitors the effectiveness of the B7 soil flushing system. Adjacent to MW7-95-22 but screened in deeper zone.
19	**MW7B-95-24**	◆				9		36	26,936	44,180	yes	decreasing	Monitors the effectiveness of the B7 soil flushing system.
20	**MW7B-95-25**		◆			9		36	379	3,142	yes	decreasing	Monitors the effectiveness of the B7 groundwater collection trench and the Old Town soil flushing system. Concentrations only slightly above MCL in March 2004. .
21	**MW53-96-1**			◆		9		17	308	355	yes	decreasing	Near MW53-93-16. Lower concentrations of the same VOCs detected. Screened at slightly greater depth.
22	**MW51-96-3**			◆		9	D	34	LT	LT	no	ND	
23	**MW58-96-11**	◆				8		32	15,546	30,622	yes	decreasing	Monitors the effectiveness of the B53/58 slope groundwater collection trench and Old Town soil flushing system.
24	**MW58A-00-3**				◆	5		19	LT	LT	no	generally ND	Deep well installed to monitor vertical migration. No halogenated VOCs detected. Benzene (less than 2 ug/L) detected in 2001.
25	**MW7-00-4**			◆		5		19	LT	7	yes	generally ND	Deep well installed to monitor vertical migration in source area. A single detection of PCE in 2002 is the only halogenated VOC detected. Benzene sporadically detected.
26	**MW58-00-12**	◆				4		14	86,981	108,286	yes	decreasing	
27	**MW53-92-21**				◆	12		15	1.3	1		------	Deep multi-level well. Only benzene above MCL.

LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume
(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.
ND=not detected

Table 2.4-5
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 52 Lobe Old Town Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MW1-220				◆	12		23	LT	LT	no	generally ND	Sporadic detections of VOCs No VOCs detected since 1997.
2	MW91-8		◆			12		38	97	234	yes	decreasing	No VOCs detected in March 2004 as a result of soil flushing pilot test.
3	MW91-9			◆		12		27	11	14	yes	stable	
4	MW46-92-9			◆		11		22	LT	3.4	no	generally ND	Only halogenated VOC detected was PCE during one quarter .
5	MW27-92-20	◆				12		34	58	72	yes	stable	Monitor soil flushing pilot test.
6	MW53-93-9	◆				11		34	145	161	yes	decreasing	Concentrations below MCLs in February 2004 and slightly above MCLS in March 2004 as a result of soil flushing pilot test
7	MW46-93-12		◆			11		41	31	56	yes	stable	Located adjacent to Building 46 groundwater collection trench.
8	MW52-93-14			◆		10		25	28	32	yes	stable	Decreasing TCE and chloroform.
9	MW53-93-17				◆	10		25	80	102	yes	variable	Near MW53-93-9. Similar concentrations of the same VOCs detected. Similar screened interval.
10	MW52-94-10				◆	10		21	1.1	LT	no	decreasing	No VOCs detected since 1999.
11	MW52-95-2A			◆				2			not sampled	----------	Same location as MW52-95-2B. Screened at shallower depth
11	MW52-95-2B		◆			9		25	198	224	yes	decreasing	Concentrations less than 1 ug/l in February 2004 as a result of soil flushing pilot test.
12	MW46-96-10			◆		8	D	32	LT	LT	no	ND	A single detection of chloroform only VOC detected.
13	MW52A-98-8A			◆				2	-	12	not sampled	----------	Same location as MW52-98-8B. Generally dry. Much lower concentrations.
13	MW52A-98-8B		◆			5		18	219	704	yes	variable	Used for soil flushing.
14	MW52-98-9			◆		5		16	181	494	yes	stable	Same suite of contaminants, generally at similar concentrations as adjacent well MW52-95-2B. Screened intervals overlap. Maintain well for soil flushing pilot test.
15	MW52A-00-6				◆	5		19	LT	LT	no	ND	Well installed to assess vertical extent of contamination.

LT = Less than the quantitation limit.

D=Well monitoring area downgradient from plume

(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.

ND=not detected

Table 2.4-6
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 25A Lobe Old Town Groundwater Solvent Plume

		VOC Monitoring Schedule [a]											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MW26-92-11			◆		12		31	11	11	yes	stable	Monitored since 1992. PCE only VOC detected since 1996.
2	MW7-92-16		◆			12		40	21	72	yes	stable	Monitors the effectiveness of the B6 (former UST) dual phase extraction system.
3	MW6-92-17		◆			12		31	30	27	yes	decreasing	Close to MW16-95-3. Similar concentrations of the same VOCs (chloroform and TCE) detected.
4	MW6-93-4			◆		11		28	25	123	yes	decreasing	Extraction well downgradient of Building 6 former UST site. Sec-butylbenzene only detected aromatic since December 1994.
5	MW5-93-10		◆			11		27	38	38	yes	decreasing	
6	MW25-93-15				◆	10		27	2.5	5.6	no		VOCs all below MCLs.
7	MW25-94-12			◆		10		24	6.1	8	no		VOCs generally below MCLs.
8	MW16-94-13			◆		10		31	133	123	yes	decreasing	
9	MW16-95-3				◆	9		23	31	36	yes	decreasing	Close to MW6-92-17. Similar concentrations of the same VOCs (chloroform and TCE) detected.
10	MW25A-95-4				◆	10		16	LT	LT	no	ND	Only one VOC detected in a single sample (trace of PCE one quarter).
11	MW25-95-5				◆	9		28	14	14	yes	decreasing	Same suite of contaminants, generally at lower concentrations than adjacent well MW25-98-10. Both wells located south of Building 25.
12	MW6-95-14			◆		9		34	26	36	yes	stable	Extraction well at Building 6 former UST site.
13	MW25A-95-15		◆			9		26	304	465	yes	variable	
14	MW25-95-26			◆		8		21	5.9	21	yes	stable	
15	MW25-95-27		◆			9	P	35	LT	LT	no	generally ND	ND since February 1999.
16	MW4-96-2				◆	8		27	LT	LT	no	ND	A trace concentration (0.54 ug/L) of cis-1,2-DCE has been the only VOC detected
17	MW25A-98-1		◆			6		21	189	400	yes	decreasing	Decreasing concentrations are the result of the soil flushing pilot test.
18	MW25A-98-3		◆			6		27	162	448	yes	decreasing	Decreasing concentrations may be the result of the soil flushing pilot test.
19	MW25A-98-6				◆	2		4	9.5	13	not sampled	stable	Well inside eastern end of Building 25A.
20	MW25A-98-7		◆			5		15	98	343	yes	decreasing	Decreasing concentrations may be the result of the soil flushing pilot test.
21	MW25-98-10			◆		6		16	17	35	yes	stable	Same suite of contaminants, generally at higher concentrations than adjacent well MW25-95-5. Both wells located south of Building 25.
22	MW25A-99-2		◆			6		17	286	357	yes	stable	Well inside Building 25A.
23	MW25A-99-5				◆	5		15	1.1	7	no	stable	All concentrations below MCLs since 1999.
24	MW25A-00-5				◆	5		19	LT	LT	no	ND	Well installed to assess vertical extent of contamination.

LT = Less than the quantitation limit.

P=Perimeter monitoring well.

(a): Wells monitoring pilot tests or ICMs may be sampled more frequently than indicated on schedule.

ND=not detected

Table 2.4-7
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Building 37 Lobe Old Town Groundwater Solvent Plume

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MWP-7		◆			12	P	48	5.9	7.2	no	decreasing	Concentrations of VOCs below MCLs since February 2000. Area of groundwater contamination approved for no remedial action.
2	MW37-92-5				◆						not sampled	--------	Area of groundwater contamination approved for no remedial action.
3	MW37-92-6				◆	12		49	2.1	1.6	no	decreasing	Concentrations of VOCs below MCLs since September 1994. No VOCs detected since August 2001. Located approximately 40 feet downgradient from and duplicates function of MWP-7. Area of groundwater contamination approved for no remedial action.
4	MW37-92-18A				◆						not sampled	--------	Area of groundwater contamination approved for no remedial action.
5	MW37-94-9				◆						not sampled	--------	Area of groundwater contamination approved for no remedial action.

LT = Less than the quantitation limit.
P=Perimeter monitoring well

Table 2.4-8a
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Building 76 Area of Groundwater Contamination (Solvents in Groundwater South of Building 76)

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Location	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	MW76-1			◆		12		33	13	20	yes	stable	Consistent results for 12 years. Fourteen feet from MW76-98-21.
2	MW76-93-7				◆	11		23	LT	LT	no	generally ND	No VOCs detected since February 1996.
3	MW78-97-20				◆	7		12	1.1	1.4	no	stable	All VOCs below MCLs. TCE about 2 ug/l or less. Other VOCs less than 1 ug/L.
4	MW76-98-21		◆			6		17	18	26	yes	stable	TCE consistently detected above MCL Fourteen feet from MW76-1.
5	MW76-98-22		◆			6	D	24	LT	1.9	no	generally ND	VOCs detected below MCLs.

ND=Not detected.
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume.

Table 2.4-8b
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Building 77 Area of Groundwater Contamination

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled		Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
6	MW91-2		◆			12		31	17	18	yes	decreasing	VOCs have decreased to levels below or only slightly above MCLs.
7	MWP-9			◆		12	D	47	LT	1.1	no	generally ND	Only a single of detection of TCE (1.1 ug/L) since 1997.
8	MW77-93-8				◆						not sampled	--------	
9	MW77-94-5				◆	11		26	LT	LT	no	generally ND	No VOCs detected since July 1996.
10	MW77-94-6				◆	11		21	LT	LT	no	generally ND	No VOCs detected since February 1995. All concentrations below MCLs.
11	MW77-97-11				◆	8		12	LT	2.2	no	generally ND	Only three anomalous detections. No VOC detected more than one time. All concentrations below MCLs

ND=Not detected.
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume.

Table 2.4-8c
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Building 69A Area of Groundwater Contamination

		VOC Monitoring Schedule											
Location Reference Number	**Well Number**	**Quarterly**	**Semi- annually**	**Annually**	**No VOC Sampling**	**Years Sampled**		**Quarters Sampled (Through December 2004)**	**Median Concentration of Total Halogenated VOCs Detected (ug/L)**	**Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)**	**Were any Halogenated VOCs Above MCLs from January 2003 through December 2004**	**Trends in Concentration of Total Halogenated VOCs**	**Comments**
12	MW91-6				◆						not sampled	--------	
13	MW69A-92-22			◆		12		24	0.9	LT	no	decreasing to ND	No VOCs detected since August 1998. No VOCs above MCLs.
14	MW75-97-7				◆						not sampled	--------	
15	MW69-97-8		◆			7		24	21	28	yes	decreasing	Consistent detections of cis-1,2-DCE above the MCL.
16	MW69A-00-11				◆	4		17	LT	1.8	no	generally ND	Adjacent to MW69A-92-22. Screened at shallower depth. Only trace concentrations (<1 ug/L) of VOCs detected.

ND=Not detected.
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume.

Table 2.4-8d
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Building 75/75A Area of Groundwater Contamination

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled		Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
17	MW75-96-20			◆		8		27	8	23	yes	stable	Concentration of TCE below or slightly above MCL.
18	MW75-98-14			◆		5		17	3.7	54	yes	stable	Concentrations of VOCs generally below MCLs. Anomalous detections of PCE in 2003
19	MW75-99-4				◆	5		14	LT	1.4	no	generally ND	All concentrations below MCLs.
20	MW75-99-7				◆	5		16	2.5	5.8	no	stable	All concentrations below MCLs.

ND=Not detected.
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume.

Table 2.4-8e
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Building 75B Area of Groundwater Contamination

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled		Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
21	MW75B-92-24				◆	12		23	LT	LT	no	ND	No VOCs detected since June 1993. Area of groundwater contamination approved for no remedial action.
22	MW75-97-5				◆	6		21	5.1	7.1	no	stable	All concentrations below MCLs. Consistent results for five years. Area of groundwater contamination approved for no remedial action.
23	MW75-97-6				◆						not sampled	--------	Area of groundwater contamination approved for no remedial action.

LT = Less than the quantitation limit.
ND=Not detected.

Table 2.4-8f
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Benzene Detected in Groundwater East of Building 75A

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled		Quarters Sampled (Through December 2004)	Median Concentration of Benzene Detected (ug/L)	Maximum Concentration of Benzene Detected (ug/L) (past 5 years)	Was benzene Above MCLs from January 2003 through December 2004	Trends in Concentration of Benzene	Comments
24	MW91-4				◆	11		35	24	43	yes	variable	Adjacent to MW75A-00-7 , similar concentrations of benzene.
25	MW75A-00-7			◆		4		7	43	67	yes	variable	Adjacent to MW91-4 , similar concentrations of benzene.

LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume

Table 2.4-8g
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Support Services Area: Other Locations

		VOC Monitoring Schedule											
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled		Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
26	MW91-1			◆		12		19	LT	LT	no	ND	
27	MW91-3				◆						not sampled	--------	
28	MW91-5				◆	12		23	LT	LT	no	decreasing to ND	No VOCs detected since July 1996.
29	MWP-10				◆	12		34	LT	LT	no	ND	
30	MW77-92-10				◆	12		23	LT	LT	no	decreasing to ND	No VOCs detected since July 1996. All concentrations below MCLs since 1992.
31	MW75-92-23				◆	12		21	LT	2.4	no	ND	Only two anomalous detections of VOCs, both well below MCLs.
32	MW76-93-6				◆	11		22	0.4	1.1	no	decreasing to ND	Trace of 1,1-DCA (1.1 ug/L) only VOC detected since June 1996. All concentrations below MCLs.
33	MW77-97-9				◆	7		13	LT	LT	no	ND	Trace 1,1-DCA (<1 ug/L) only VOC detected.
34	MW31-97-17				◆	7		11	LT	LT	no	ND	Trace MTBE (<1 ug/L) only VOC detected.
35	MW31-97-18				◆						not sampled	--------	
36	MW69-97-21				◆						not sampled	--------	
37	MW75-98-15				◆						not sampled	--------	
38	MW75-99-6				◆						not sampled	--------	
39	MW75-99-8				◆						not sampled	--------	

ND=Not detected.
LT = Less than the quantitation limit.
D=Well monitoring area downgradient from plume.

Table 2.4-9
Groundwater Monitoring Schedule For VOCs (EPA Method 8260)
Perimeter and Offsite Groundwater Monitoring Wells

		VOC Monitoring Schedule										
Location Reference Number	Well Number	Quarterly	Semi- annually	Annually	No VOC Sampling	Years Sampled	Quarters Sampled (Through December 2004)	Median Concentration of Total Halogenated VOCs Detected (ug/L)	Maximum Concentration of Total Halogenated VOCs Detected (ug/L) (past 5 years)	Were any Halogenated VOCs Above MCLs from January 2003 through December 2004	Trends in Concentration of Total Halogenated VOCs	Comments
1	OW3-225		◆			12	48	LT	LT	no	ND	No VOCs detected since anomalous detections during three quarters prior to April 1997.
2	MWP-1	◆				12	49	LT	LT	no	ND	Well included under Building 51/64 Groundwater Solvent Plume. Downgradient from plume.
3	MWP-2		◆			12	49	LT	LT	no	ND	Only anomalous detections of PCE during two quarters prior to 1997.
4	MWP-4		◆			12	49	LT	LT	no	ND	
5	MWP-5		◆			12	49	LT	7.3	no	ND	Only anomalous detections of VOCs during three quarters.
6	MWP-6		◆			12	48	LT	LT	no	ND	Only anomalous detections of VOCs during one quarter.
7	MWP-7		◆			12	48	5.9	5.9	no	decreasing	Concentrations of VOCs below MCLs since February 2000. Well included under Building 37 Lobe of the Old Town Groundwater Solvent Plume.
8	MWP-8		◆			12	49	LT	10	no	ND	Only anomalous detections of VOCs during two quarters.
9	MW61-92-12		◆			12	45	LT	LT	no	ND	Anomalous detections of halogenated VOCs during one quarter. Anomalous detections of aromatic VOCs during three quarters.
10	MW62-92-26		◆			12	39	LT	1.5	no	ND	Anomalous detections of VOCs during five quarters.
11	MW62-92-27		◆			12	44	LT	LT	no	ND	Anomalous detections of VOCs during four quarters prior to May 1997.
12	CD-92-28		◆			12	48	LT	1.4	no	ND	Anomalous detections of VOCs during two quarters prior to February 1997 and in May 2004.
13	MW88-93-11A		◆			11	43	LT	LT	no	ND	No VOCs detected since December 1994.
14	MW74-94-7		◆			11	43	LT	LT	no	ND	No VOCs detected since June 1996.
15	MW74-94-8		◆			11	43	LT	LT	no	ND	A single detection of a halogenated Voc in June 1994 and an aromatic VOC in July 2003.
16	MW25-95-27		◆			9	35	LT	LT	no		ND since February 1999. Well included with B25A lobe of Old Town plume.
17	MW31-98-17		◆			6	23	LT	LT	no	ND	

LT = Less than the quantitation limit.
ND=Not detected.

Table 4-1
Groundwater Sampling Schedule For Tritium

Monitoring Well Reference Number	Monitoring Well Number	Quarters Sampled for Tritium (Through December 2004)	Quarters Tritium Detected	Maximum Concentrations of Tritium Detected (pCi/L) since from May 1999 through December 2004	Tritium Sampling Schedule: Quarterly	Semi- annual	Annual	No Sampling Required
1	MW46A-92-15	18	1	530				◆
2	MW71-93-1	10	0	<300				◆
3	MW71-95-9	15	7	770		◆		
4	MW71B-99-3R	15	6	766				◆
5	MW71-98-13	13	3	529				◆
6	MW91-3	22	0	<300				◆
7	MW91-4	32	28	1347				◆
8	MW91-5	31	31	4381				◆
9	MW91-6	30	30	4059				◆
10	MW69A-92-22	19	0	<300				◆
11	MW75-92-23	29	29	3823				◆
12	MW75B-92-24	32	32	5082				◆
13	MW75-96-20	20	1	<300				◆
14	MW75-97-5	26	26	28,800		◆		
15	MW75-97-6	18	0	<300				◆
16	MW75-97-7	18	18	1366		◆		
17	MW69-97-8	27	1	<300				◆
18	MW69-97-21	17	13	949				◆
19	MW75-98-14	24	24	9342		◆		
20	MW75-98-15	25	1	537				◆
21	MW75-99-4	21	0	<300				◆
22	MW75-99-6	20	12	2898		◆		
23	MW75-99-7	21	21	8130				◆
24	MW75-99-8	20	0	<300				◆
25	MW75A-00-7	10	1	388				◆
26	MW69A-00-11	17	0	<300				◆
28	MW76-1	22	13	573				◆
29	MW76-93-6	28	27	4854		◆		
30	MW76-93-7	21	2	882				◆
31	MW78-97-20	17	17	3622				◆
32	MW76-98-21	22	5	553				◆
33	MW76-98-22	24	4	535				◆
34	MWP-9	41	0	<300				◆
35	MWP-10	41	0	<300				◆
36	MW91-1	22	1	<300				◆
37	MW91-2	24	16	952				◆

Table 4-1
Groundwater Sampling Schedule For Tritium

Monitoring Well Reference Number	Monitoring Well Number	Quarters Sampled for Tritium (Through December 2004)	Quarters Tritium Detected	Maximum Concentrations of Tritium Detected (pCi/L) since from May 1999 through December 2004	Tritium Sampling Schedule: Quarterly	Semi- annual	Annual	No Sampling Required
38	MW77-92-10	18	0	<300				◆
39	MW61-92-12	35	0	<300				◆
40	MW77-93-8	19	0	<300				◆
41	MW77-94-5	21	1	<300				◆
42	MW77-94-6	23	23	13,223				◆
43	MW77-97-9	18	18	13,386				◆
44	MW77-97-11	18	18	6998		◆		
45	MW31-97-17	18	18	2228		◆		
46	MW31-97-18	29	0	<300				◆
47	MW31-98-17	23	0	<300	◆			
48	MW88-93-11A	25	0	<300				◆
49	OW3-225	42	0	<300				◆
50	MWP-2	42	0	<300				◆
51	MWP-8	43	1	<300				◆
52	MW52-94-10	8	1	288				◆
53	MW52-95-2B	9	2	402				◆
54	MW25-95-27	13	0	<300				◆
55	MW74-94-7	31	1	<300				◆
56	MW74-94-8	25	0	<300				◆
57	MW62-92-26	31	0	<300				◆
58	MW62-92-27	32	0	<300				◆
59	MWP-4	42	0	<300				◆
60	MWP-5	42	0	<300				◆
61	MWP-6	43	0	<300				◆
62	MWP-7	42	5	<300				◆
63	MW37-92-18A	8	0	<300				◆
64	MW37-94-9	9	0	<300				◆
65	MWP-1	42	1	<300				◆
66	CD-92-28	44	0	<300				◆