E.O. Lawrence Berkeley National Laboratory
University of California
Environmental Restoration Program

United States Department of Energy

ENVIRONMENTAL RESTORATION PROGRAM

QUARTERLY PROGRESS REPORT
THIRD QUARTER FISCAL YEAR 2008
(April 1 to June 30, 2008)

for the
Lawrence Berkeley National Laboratory
Hazardous Waste Facility Permit

November 2008

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Hazardous Waste Facility Permit

Environment, Health and Safety Division
Ernest Orlando Lawrence Berkeley National Laboratory
Berkeley, CA 94720

November 2008

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(April 1 to June 30, 2008)

November 2008

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LIST OF ABBREVIATIONS

BC	BC Laboratories
Cal-EPA	California Environmental Protection Agency
CAP	Corrective Action Program
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CDPH	California Department of Public Health
COCs	Chemicals of Concern
DCA	Dichloroethane
DCE	Dichloroethene
DO	Dissolved Oxygen
DOE	U.S. Department of Energy
DTSC	Cal-EPA Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EH&S	Environment, Health and Safety Division
EML	LBNL Environmental Measurement Laboratory
EPA	U. S. Environmental Protection Agency
ERP	Environmental Restoration Program
FY	Fiscal Year (October 1 to September 30)
GAC	Granular Activated Carbon
HRC	Hydrogen Release Compounds®
HWHF	Hazardous Waste Handling Facility
HQ	Hazard Quotient
ICMs	Interim Corrective Measures
ILCR	Incremental Lifetime Cancer Risk
LBNL	Lawrence Berkeley National Laboratory
MCL	Maximum Contaminant Level
MCS	Media Cleanup Standard
MDA	Minimum Detectable Activity
mg/kg	milligrams per kilogram
MNA	Monitored Natural Attenuation
m/s	meters per second
µg/L	micrograms per liter (10^{-6} grams per liter)
NA	Not Analyzed
ND	Not Detected
NTLF	National Tritium Labeling Facility

PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene (Perchloroethene)
pCi/g	picocuries per gram (10^{-12} curies per gram)
pCi/L	picocuries per liter (10^{-12} curies per liter)
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RPM	Remedial Project Manager
SWRCB	State Water Resources Control Board
TCA	Trichloroethane
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
UC	University of California
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
Water Board	San Francisco Bay Regional Water Quality Control Board

EXECUTIVE SUMMARY

This quarterly progress report describes activities conducted by the Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) under the Resource Conservation and Recovery Act (RCRA) Corrective Action Program (CAP) from April 1 through June 30, 2008 (third quarter of fiscal year 2008 [FY08]), the current reporting period. The primary actions conducted during the current reporting period included conducting groundwater cleanup activities and monitoring groundwater quality to assess progress towards achieving required groundwater cleanup levels (Media Cleanup Standards [MCSs]). Groundwater monitoring data indicate that the corrective measures implemented by LBNL continue to be effective in reducing concentrations of volatile organic compounds (VOCs) in the groundwater, the groundwater plumes are stable or attenuating, and contaminants are not migrating offsite in the groundwater.

LBNL is currently in the Corrective Measures Implementation (CMI) phase of the CAP. The purpose of the CMI phase is to design, construct, operate, maintain, and monitor the corrective measures (cleanup activities) approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC). The corrective measures required for soil have been completed. The corrective measures required for groundwater consist of in situ soil flushing and groundwater capture, subsurface injection of Hydrogen Release Compound® (HRC), and Monitored Natural Attenuation (MNA). These measures have been implemented and are currently in the operation, maintenance, and monitoring phase. A listing of the measures is provided in the following table.

Summary of DTSC Approved Corrective Measures for Groundwater

Groundwater Unit	Ongoing Corrective Measure
Building 71B Groundwater Solvent Plume	• In situ soil flushing/HRC injection in the source area. • Capture and treatment of contaminated Building 51-area-hydrauger effluent.
Building 51/64 Groundwater Solvent Plume	• In situ soil flushing in the source area. • MNA for contaminants in the downgradient plume area. • Extraction and treatment of contaminated water from the Building 51 subfloor drainage system. • Extraction of groundwater from EW51-07-1 and EW51-07-2 to control migration of contaminated groundwater southward under Building 51.[(a)] • Extraction of groundwater from EW51B-07-1 and EW51B-07-2 to control potential downgradient migration.[(a)]
Building 51L Groundwater Solvent Plume	• Extraction and treatment of groundwater from EW51L-06-1 and EW51A-06-1. • Extraction and treatment of subdrain effluent from the concrete sump installed inside Building 51A.
Building 7 Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing in the source area (Building 7 Groundwater Collection Trench) downgradient of the former Building 7 sump location. • In situ soil flushing in the core area downgradient from the Building 7 Groundwater Collection Trench. • Operation of the Building 58 West and Building 58 Southeast Groundwater Collection Trenches and groundwater extraction well EW58-07-1[(a)] to control plume migration. • Dual-phase (groundwater and soil vapor) extraction on the Building 53/58 slope. • Extraction and treatment of water from a concrete sump (SB58-98-4). • MNA for contaminants in the peripheral plume areas.
Building 52 Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing (injection and extraction wells) in the source area. • Collection and treatment of groundwater from the Building 46 subdrain at the downgradient lobe margin.
Building 25A Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing (infiltration bed and extraction trench) west of Building 25A in the source area. • In situ soil flushing south of Building 25. • Extraction and treatment of water from electrical utility manhole EMH-133.
Building 69 Area	• Enhanced bioremediation (MNA with HRC injection) in the source area.

(a) These actions were implemented to enhance the approved corrective measures subsequent to approval of the Corrective Measures Implementation (CMI) Report.

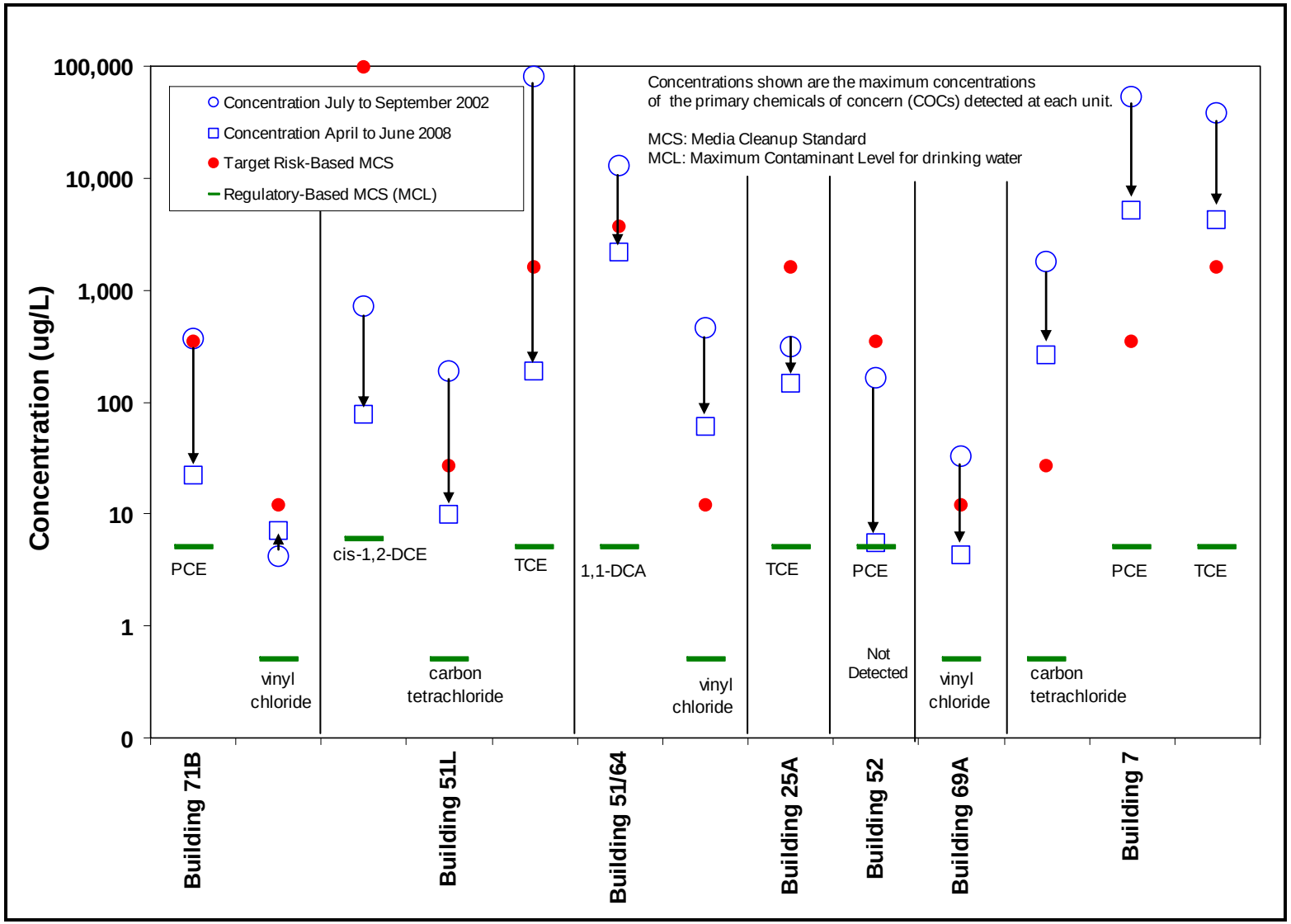
Cleanup to target risk-based MCSs is the short-term goal for areas of LBNL where groundwater is not considered a potential drinking water source (i.e., does not meet State Water Resources Control Board [SWRCB] well yield criteria of at least 200 gallons per day). Cleanup to regulatory-based MCSs (Maximum Contaminant Levels [MCLs] for drinking water) is the short-term goal for areas where groundwater does meet the SWRCB well yield criteria. The overall long-term goal for all groundwater at LBNL is the reduction of groundwater concentrations to MCLs, if practicable. The groundwater at LBNL is not used for domestic, irrigation, or industrial purposes; drinking water is supplied by the East Bay Municipal Utility District (EBMUD).

The progress of corrective measures toward achieving the required groundwater cleanup levels (risk-based and/or regulatory-based MCSs) is illustrated on the following graph. The graph shows that at each of the groundwater units where corrective measures are required, the maximum concentrations of the primary Chemicals of Concern (COCs) detected have been substantially reduced since the start of the Corrective Measures Study (CMS) phase of the CAP in 2002. Similar reductions have been observed in the other contaminants detected at each unit. The increase in the concentration of vinyl chloride observed in the Building 71B plume is likely the product of the biodegradation of other chlorinated compounds by reductive dechlorination.

Seventeen wells monitor for potential migration of contaminated groundwater beyond the site boundary or the developed areas of the site. Except for one of these wells (MWP-7), VOCs have either not been detected or only anomalously detected in the groundwater, with no VOCs detected since July 2004. Concentrations of VOCs detected in MWP-7 have been decreasing, with all concentrations below MCLs for drinking water after February 2000.

Extracted groundwater and contaminated effluent from drain lines and hydraugers are treated using granular activated carbon (GAC) systems. During the current reporting period 2,901,778 gallons of water were treated, with more than 86 million gallons treated to date. Most of the treated water is injected into the subsurface for in situ soil flushing purposes. The remainder is discharged to the sanitary sewer in accordance with the provisions of LBNL's East Bay Municipal Utility District (EBMUD) Wastewater Discharge Permit.

Cleanup Progress at Groundwater Units Where Corrective Measures are Required



During the current reporting period, groundwater samples were collected from wells in all three areas of groundwater contamination where MNA is a component of the approved corrective measure and analyzed for hydrochemical parameters indicative of the potential for biodegradation. In general, the analytical parameters indicate conditions favorable for biodegradation at most of the wells monitored. In particular, the relatively high concentrations of methane, the presence of ethene, and the low levels of dissolved oxygen (DO) in most of the wells monitored is evidence of the reductive dechlorination of halogenated VOCs.

Radionuclides, including tritium, are not regulated under RCRA and are therefore not included in the RCRA CAP; however, tritium data have been included in the quarterly reports in order to provide a comprehensive evaluation of the status of site contaminants. Concentrations of tritium have been declining in almost all wells monitoring the Building 75 Tritium Plume since closure of the National Tritium Labeling Facility (NTLF) in December 2001, with a concurrent reduction in the lateral extent of the plume. Concentrations of tritium have been below the MCL (<20,000 pCi/L) in all wells since February 2005, with a maximum detected concentration of 15,600 pCi/L during the previous reporting period. Only one well, which is located downgradient from the tritium plume, was sampled for tritium during the current reporting period. No tritium was detected.

Historical soil sampling results indicated the presence of tritium contamination in a wide area surrounding the former National Tritium Labeling Facility (NTLF) hillside stack (Building 75 area). Tritium had also detected in a few soil samples collected near Building 85, at levels slightly above the Minimum Detectable Activity (MDA). These results were based on sampling that was primarily conducted prior to the December 2001 shutdown of the NTLF, which was the source of the contamination. Soil sampling conducted during the current and upcoming reporting periods shows no evidence of tritium contamination in the soil in the Building 85 area, and a significant reduction in the extent of tritium contamination in the soil in the Building 75 area.

SECTION 1

INTRODUCTION

1.1 BACKGROUND

The Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) Hazardous Waste Handling Facility (HWHF) operates under a Resource Conservation and Recovery Act (RCRA) Part B Hazardous Waste Facility Permit issued by the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC). DTSC required LBNL to investigate and address all releases of hazardous waste that may have occurred at the site, in accordance with RCRA Corrective Action Program (CAP) requirements. These activities are the responsibility of the LBNL Environmental Restoration Program (ERP), which is currently a program of the Environmental Services Group of the LBNL Environment, Health and Safety (EH&S) Division. This quarterly progress report describes RCRA CAP activities conducted at LBNL from April 1 through June 30, 2008 (third quarter of fiscal year 2008 [FY08]), the current reporting period.

LBNL is currently in the Corrective Measures Implementation (CMI) phase of the CAP. The purpose of the CMI phase is to design, construct, operate, maintain, and monitor the corrective measures (cleanup activities) recommended by LBNL in the Corrective Measures Study (CMS) Report (LBNL, 2005a) and approved by the DTSC. On April 2, 2007, LBNL submitted its RCRA Corrective Measures Implementation (CMI) Report to the DTSC (LBNL, 2007). The CMI Report provided a consolidated record of the construction and implementation of the DTSC approved corrective measures. These measures include the operation of in situ soil flushing and groundwater capture systems, subsurface injection of Hydrogen Release Compound® (HRC), and implementation of Monitored Natural Attenuation (MNA).

1.2 PURPOSE AND SCOPE

The primary purpose of this quarterly progress report is to document the progress of the implemented corrective measures toward achieving the required groundwater cleanup levels (Media Cleanup Standards [MCSs]). An additional purpose is to document that site groundwater plumes are stable or attenuating and that the plumes are not migrating offsite.

Quarterly summaries of RCRA CAP activities conducted prior to the current reporting period (since January 1993) have been presented in the LBNL ERP Quarterly Progress Reports (LBNL, 1993-2008). Annually, the fourth quarter progress report includes a complete tabulation of historical groundwater data for volatile organic compounds (VOCs), a four-quarter tabulation of groundwater data for other analytes, and a more extensive discussion of long-term concentration trends than is provided in the first three quarterly progress reports of the fiscal year. The most recent annual status summary report is the fourth quarter FY07 report (LBNL, 2008).

1.3 SITE DESCRIPTION AND HISTORY

LBNL is a multi-program scientific research campus operated by the University of California (UC) for the United States Department of Energy (DOE). From an initial emphasis on nuclear physics research in the 1940s, LBNL has grown into a multi-program scientific research facility that includes energy, life and environmental sciences, high performance computing, and physical sciences. It is located on a 202-acre parcel of UC Regents' land in the Berkeley/Oakland Hills in Alameda County, California (Figure 1). The western three-quarters of LBNL is in the City of Berkeley and the eastern quarter is in Oakland. A map of the site showing the locations of site creeks and the surface topography is included as Figure 2.

For reporting purposes, the RCRA Facility Assessment (RFA) (LBNL, 1992a) subdivided LBNL into 15 Areas. Subsequently, during the RCRA Facility Investigation (RFI), the 15 RFA Areas were grouped into four areas (Bevalac, Old Town, Support Services, and Outlying), based on the locations of groundwater plumes, the direction of groundwater flow, and potential contaminant migration pathways. Figures and tables presented in this report are

organized based on these four areas. The locations of the four areas and the 15 RFA Areas are shown on Figure 3.

1.4 TERMINOLOGY

Groundwater contaminant plumes presented in this report are described using the terminology listed in the following table to refer to relative directions and zones within each plume.

Groundwater Plume Terminology

Term	Definition
Plume	A volume of contaminated groundwater that extends outward in the direction of contaminant migration (primarily the groundwater flow direction) from a source of contamination.
Upgradient	In the direction from which groundwater flows (direction toward greater hydraulic head).
Downgradient	In the direction of groundwater flow (direction toward lesser hydraulic head).
Crossgradient	In the direction perpendicular to groundwater flow.
Source	The location where the contaminant was released to the environment.
Core	The area of relatively high contaminant concentrations extending downgradient from the source.
Plume-Periphery	Downgradient or crossgradient from the core near the plume margins.
Background	Upgradient or crossgradient from the plume where wells are not affected by contamination.
Off-Site	Outside the property boundary.

SECTION 2

ENVIRONMENTAL ACTIVITIES CONDUCTED DURING THE CURRENT REPORTING PERIOD (April through June 2008)

2.1 GROUNDWATER MONITORING

Summary of the Groundwater Monitoring Program

The primary purpose of groundwater sampling during the CMI phase of the CAP is to monitor the effectiveness of the implemented corrective measures toward achieving the required groundwater MCSs. The data are also used to document that site groundwater plumes are stable or attenuating and that the plumes are not migrating offsite. To accomplish these objectives, groundwater samples are collected from groundwater monitoring wells and analyzed for VOCs in accordance with the schedule (LBNL, 2005b) approved by the Regional Water Quality Control Board-San Francisco Bay Region (Water Board) (Water Board, 2005). In addition, groundwater samples collected from temporary groundwater sampling points and groundwater extraction wells are analyzed for VOCs to obtain supplemental data to support these objectives. The complete list of VOC (Method 8260) analytes and quantitation limits (assuming no sample dilution) for each laboratory utilized during the current reporting period is provided in Table 1.

Samples from selected monitoring wells and temporary groundwater sampling points are also analyzed for hydrochemical parameters indicative of the potential for biodegradation. The purpose of this sampling is to provide the data necessary to assess the potential effectiveness of MNA and/or enhanced bioremediation for achieving the required MCSs.

In addition to collecting groundwater samples from monitoring wells, temporary sampling points, and extraction wells; groundwater samples are also periodically collected from slope stability wells and hydraugers (subhorizontal hillside drains). Slope stability wells and hydraugers, although not installed for groundwater monitoring purposes, provide qualitative data that are useful in helping to assess plume geometry. The locations of slope stability wells are

shown on Figure 4. The locations of groundwater monitoring wells, temporary groundwater sampling points, groundwater extraction wells, and hydraugers are shown on Figure 5 and Figures 6a through 6i.

Selected groundwater samples are also analyzed for metals, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), and tritium to obtain additional information on groundwater quality. Samples for metals and tritium analysis are collected in accordance with the schedule approved by the Water Board (LBNL, 2005b). Radionuclides, including tritium, are not regulated under RCRA and are therefore not included in the RCRA CAP; however, tritium data have been included in the quarterly reports in order to provide a comprehensive evaluation of the status of site contaminants.

A listing of analytical methods used for groundwater sampling at each of the sampling locations during the current reporting period is presented in Table 2. Groundwater elevation data are presented in Table 3. Groundwater monitoring well construction details are presented in Table 4. Groundwater analytical results for each of the site areas and types of sampling locations are provided in the tables listed in the following index:

Index of Table Numbering for Groundwater Analytical Results

Chemical	Area	Groundwater Monitoring Wells	Temporary Groundwater Sampling Points	Groundwater Extraction or Injection Wells	Other Locations	Hydraugers
Volatile Organic Compounds (VOCs)[a]	Bevalac	5-1	5-2	5-3	—	8
	Old Town	6-1	6-2	6-3	6-4	—
	Support Services	7-1	7-2	—	—	—
	Outlying[c]	—	—	—	—	—
Tritium[b]	Sitewide	10		—	—	—
Hydrochemical Indicator Parameters[a]	Sitewide	12	12	—	—	—

(a) Includes results only for current reporting period.
(b) Includes results for four quarters.
(c) No Outlying Area locations were sampled during the reporting period.

Each of the tables listing VOC concentrations is subdivided into halogenated non-aromatic compounds, which are primarily derived from solvents, and nonhalogenated or aromatic compounds, which are primarily derived from petroleum products. In order to simplify the reporting tables, the VOC result tables only list the principal VOCs detected at the site.

Monitoring the Implemented Corrective Measures (Halogenated Volatile Organic Compounds)

Corrective Measures Requirements

The Corrective Measures Study Report (LBNL, 2005a) recommended that corrective measures be implemented in seven areas of solvent-contaminated groundwater. These seven areas are listed in the following table, which also lists the corresponding figure numbers for the groundwater elevation maps and isoconcentration contour maps of total halogenated hydrocarbons in groundwater for the current reporting period. The locations of the seven areas are shown on Figure 7.

LBNL Groundwater Monitoring — Figure Index
Locations Where Corrective Measures are Required

Plume or Area of Groundwater Contamination	Figure Number	
	Isoconcentration Contour Map Total Halogenated Hydrocarbons	Water Level Elevation Map
Bevalac Area		11
Building 71 Groundwater Solvent Plume Building 71B Lobe	8	—-
Building 51/64 Groundwater Solvent Plume	8, 9	—
Building 51L Groundwater Solvent Plume	8, 10	—
Old Town Area		14
Old Town Groundwater Solvent Plume Building 7 Lobe	12, 13	—
Old Town Groundwater Solvent Plume Building 52 Lobe	12	—
Old Town Groundwater Solvent Plume Building 25A Lobe	12	—
Support Services Area		16
Building 69A Area of Groundwater Contamination	15	—

The primary objective of the corrective measures for these seven areas is to reduce contaminant concentrations below either risk-based or regulatory-based MCSs, as applicable.

Regulatory-based MCSs (i.e. Maximum Contaminant Levels [MCLs] for drinking water) are applicable to the areas where groundwater characteristics (i.e. yields) meet State Water Resources Control Board (SWRCB) criteria for potential sources of drinking water, as defined by SWRCB Resolution 88-63. For the areas, that do not constitute potential sources of drinking water, less stringent risk-based MCSs are applicable. The overall long-term goal for all groundwater at LBNL is to reduce contaminant concentrations to MCLs for drinking water, if practicable. However, it should be noted that groundwater at LBNL is not used for domestic, irrigation, or industrial purposes and drinking water is supplied by the East Bay Municipal Utility District (EBMUD).

Two sets of risk-based MCSs were developed in the CMS Report (LBNL, 2005a): 1) target risk-based MCSs and 2) upper-limit risk-based MCSs. The target risk-based MCSs were based on theoretical Incremental Lifetime Cancer Risks (ILCRs) of 10^{-6} (the lower bound of the United States Environmental Protection Agency [EPA] risk management range) and a non-cancer Hazard Quotient (HQ) of 1.0. Since the target risk-based MCSs may not be achievable at some groundwater units due to technical impracticability, upper-limit risk-based MCSs were also developed that represent the upper bound of the risk management range (i.e. a theoretical ILCR of 10^{-4}).

In addition to monitoring groundwater at the seven units listed above, LBNL monitors groundwater in three other areas where solvent-contaminated groundwater is present. Corrective measures are not required in these areas because concentrations of VOCs in groundwater are below applicable cleanup levels (risk-based MCSs), and regulatory-based MCSs do not apply because the areas do not constitute potential sources of drinking water (SWRCB Resolution 88-63). However, LBNL is required to monitor groundwater in these areas because VOC concentrations exceed the long-term cleanup goals (MCLs) for all site groundwater. Groundwater monitoring in these three areas is conducted in accordance with the schedule approved by the Water Board (LBNL, 2005b). The following table lists the figure numbers for the isoconcentration contour map of total halogenated hydrocarbons and groundwater elevation maps of these areas.

LBNL Groundwater Monitoring — Figure Index
Locations Where Corrective Measures are not Required

Plume or Area of Groundwater Contamination	Figure Number	
	Isoconcentration Contour Map Total Halogenated Hydrocarbons	Water Level Elevation Map
Support Services Area		16
Building 76 Groundwater Solvent Plume	15	
Building 75/75A Area of Groundwater Contamination	15	
Building 77 Area of Groundwater Contamination*	15	

* Concentrations of VOCs have been below MCLs during most monitoring events since 2002.

Corrective Measures Effectiveness

The monitoring data continue to indicate that: 1) the implemented corrective measures have been effective in reducing contaminant concentrations in the groundwater; 2) the groundwater plumes are stable or attenuating; and, 3) contaminants are not migrating offsite in the groundwater. To illustrate the effectiveness of the groundwater cleanup measures, comparisons of groundwater plume VOC concentrations between the current reporting period and 1999 are provided on Figure 17, Figure 18, and Figure 19, which show the areal extent of total halogenated VOC concentrations exceeding 10 µg/L, 100 µg/L, and 1,000 µg/L, respectively. These comparisons indicate that significant reductions in concentrations of halogenated VOCs in groundwater have occurred since 1999. The reductions are the result of both Interim Corrective Measures (ICMs) implemented during the RFI, and the subsequently implemented approved corrective measures.

Concentrations of all VOCs that exceeded MCLs for drinking water during the current reporting period, and the specific sampling locations where MCLs were exceeded, are listed in Table 9. The maximum concentrations of halogenated VOCs detected above MCLs in each of the 10 areas of solvent-contaminated groundwater discussed above are listed in the following table. The extent of groundwater contamination in areas where concentrations of halogenated VOCs exceeded MCLs during the current reporting period is shown on Figure 20.

Maximum Concentrations (µg/L) of Halogenated VOCs Detected Above MCLs during the Third Quarter of FY08

Area	Groundwater Unit	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	vinyl chloride	carbon tet
	MCL	**5**	**0.5**	**6**	**6**	**10**	**5**	**5**	**0.5**	**0.5**
Bevalac	Building 71B Lobe				31		22	22	7.0	
	Building 51/64 Plume	2,130	4.7	262	114	33	141	378	60	
	Building 51L Plume	7.4			77			185	1.6	9.8
Old Town	Old Town Plume Building 7 Lobe	9.4		17	87	13	5,120	4,200	2.9	261
	Building 25A Lobe			24	17			145	1.4	
	Building 52 Lobe						5.5			
Support Services	Building 69A Area				7.0				4.3	
	Building 75/75A Area*									
	Building 76 Area*									
	Building 77 Area*									

DCA: dichloroethane PCE: tetrachloroethene DCE: dichloroethene
TCE: trichloroethene carbon tet: carbon tetrachloride
* No wells in these areas were sampled during the current reporting period.

Seventeen wells monitor for potential migration of contaminated groundwater beyond the site boundary or the developed areas of the site (Figure 21). No VOCs were detected in MWP-1, the only perimeter well sampled during the current reporting period. Except for MWP-7, in which trichloroethylene (TCE) was detected at a concentration of 1.3 µg/L (MCL = 5 µg/L), no VOCs were detected in the perimeter wells during the previous reporting period. Concentrations of halogenated hydrocarbons detected in MWP-7 have been below MCLs since May 2000.

Monitoring Other Chemicals in the Groundwater

Aromatic or Non-Halogenated Hydrocarbons

Wells in which aromatic or non-halogenated hydrocarbons were detected during the current reporting period are listed in the following table. Except for benzene in wells MW51-96-16 and SB69A-99-1, concentrations of aromatic or non-halogenated hydrocarbons detected did not exceed MCLs for drinking water. Results were consistent with previously measured concentrations.

Aromatic or Non-Halogenated Hydrocarbons Detected in Groundwater During the Third Quarter of FY08

Chemical	MCL (µg/L)	Well Number	Maximum Concentration (µg/L)
benzene	1	SB69A-99-1 MW51-96-16	1.1 2.0
toluene	150	SB64-02-1 SB64-02-2	3.4 2.2

Tritium

The Building 75 Tritium Plume extends from the Corporation Yard (the area between Buildings 69 and 75) southwards towards Chicken Creek (Figure 22). The source of the plume was the former National Tritium Labeling Facility (NTLF), which operated inside Building 75 for almost 20 years until December 2001. Tritium has also been detected in a localized area near Building 71B, although concentrations in that area have been substantially less than those detected in the Building 75 area. The tritium in the groundwater near Building 71B was likely derived from surface runoff from the hillside northeast of Building 71.

Concentrations of tritium detected from July 2007 through the current reporting period are listed in Table 10. An isoconcentration map of the Building 75 area showing the distribution of tritium in groundwater for the current reporting period is shown on Figure 22. Tritium concentrations have shown significant declines in almost all wells monitoring the plume since closure of the NTLF in December 2001, with a concurrent reduction in the lateral extent of the plume. Concentrations of tritium have been below the MCL for drinking water (<20,000 pCi/L) in all wells since February 2005.

The concentration of tritium in the groundwater near Building 71 has generally been below the reporting limit of 300 pCi/L since closure of the NTLF. No Building 71 area wells were sampled for tritium during the current reporting period. Tritium was detected at a concentration of 387 pCi/L in MW71-95-9 during the previous reporting period.

2.2 OTHER ACTIVITIES

Reevaluation of the Magnitude and Extent of Tritium Contamination in the Soil

Previous site-wide sampling indicated the presence of tritium contamination in the soil in a wide area surrounding the former NTLF hillside stack (Building 75 area) (LBNL, 2006). Tritium was also detected in a few soil samples collected near Building 85, at levels slightly above the Minimum Detectable Activity (MDA). The results were based on sampling that was primarily conducted prior to the December 2001 shutdown of the NTLF, which was the source of the contamination.

Since the source of the contamination had not been operating for almost seven years, it was considered likely that the magnitude and extent of the contamination had significantly decreased as a result of radioactive decay (tritium half life = 12.3 years) and other natural attenuation processes such as evapotranspiration. In order to confirm this hypothesis, soil samples were collected from the areas previously determined to contain tritium-contaminated soil. Detected tritium concentrations in the new soil samples are listed in Table 11 and shown on Figure 23 (Building 75 area) and Figure 24 (Building 85 area). The data presented include results from both the current reporting period and the upcoming reporting period (4th quarter FY08) in order to provide a consolidated record of the results.

Tritium was not detected at any of the six locations sampled (14 samples) in the Building 85 area, indicating that tritium concentrations in the soil in the Building 85 area have decreased to levels below the MDA (< 0.2 picocuries per gram [pCi/g]). Tritium (3.22 pCi/g maximum) was only detected at 4 of the 18 locations sampled in the Building 75 area (9 of the 58 samples), indicating a significant reduction in the extent of tritium contamination in the soil in the Building 75 area. Tritium was detected in three of the four Building 75 area sampling locations covered by pavement. Tritium was not detected in 13 of the 14 Building 75 area sampling locations that were not covered by pavement.

2.3 DOCUMENTS

The following documents were submitted to the regulatory agencies during the current reporting period:

- On May 27, 2008, LBNL submitted the Quarterly Progress Report for the First Quarter of FY08 to the DTSC.

SECTION 3

STATUS OF CORRECTIVE MEASURES

3.1 SUMMARY OF CORRECTIVE MEASURES

A listing of the ongoing corrective measures that have been implemented for groundwater is provided in the following table. More detailed information on the implementation of the measures is provided in the RCRA Corrective Measures Implementation (CMI) Report (LBNL, 2007). In addition to the DTSC-required corrective measures listed in the table, operation of the Building 6 dual-phase (groundwater and soil vapor) extraction system continued during the current reporting period. The Building 6 system was installed to extract petroleum hydrocarbons from the soil and groundwater at the Building 7E Former Underground Storage Tank (UST) site. Petroleum hydrocarbons were last detected in the groundwater at the site in August 2006.

Monitored Natural Attenuation (MNA) and Enhanced Bioremediation

MNA is a component of the approved corrective measures at the following three groundwater units:

1. Downgradient core area of the Building 51/64 Groundwater Solvent Plume
2. Peripheral area of the Building 7 Lobe of the Old Town Groundwater Solvent Plume
3. Building 69A Area of Groundwater Contamination.

HRC has been injected into the groundwater at two of these units (Building 51/64 and Building 69) and in the Building 71B plume source area to enhance natural biodegradation processes.

Summary of DTSC Approved Corrective Measures for Groundwater

Groundwater Unit	Ongoing Corrective Measure
Building 71B Groundwater Solvent Plume	• In situ soil flushing/HRC injection in the source area. • Capture and treatment of contaminated Building 51 area hydrauger effluent.
Building 51/64 Groundwater Solvent Plume	• In situ soil flushing in the source area. • MNA for contaminants in the downgradient plume area. • Extraction and treatment of contaminated water from the Building 51 subfloor drainage system. • Extraction of groundwater from EW51-07-1 and EW51-07-2 to control migration of contaminated groundwater southward under Building 51.(a) • Extraction of groundwater from EW51B-07-1 and EW51B-07-2 to control potential downgradient migration.(a)
Building 51L Groundwater Solvent Plume	• Extraction and treatment of groundwater from EW51L-06-1 and EW51A-06-1. • Extraction and treatment of subdrain effluent from the concrete sump installed inside Building 51A.
Building 7 Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing in the source area (Building 7 Groundwater Collection Trench) downgradient from the former Building 7 sump location. • In situ soil flushing in the core area downgradient from the Building 7 Groundwater Collection Trench. • Operation of the Building 58 West and Building 58 Southeast Groundwater Collection Trenches and groundwater extraction well EW58-07-1(a) to control plume migration. • Dual-phase (groundwater and soil vapor) extraction on the Building 53/58 slope. • Extraction and treatment of water from a concrete sump (SB58-98-4). • MNA for contaminants in the peripheral plume areas.
Building 52 Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing (injection and extraction wells) in the source area. • Collection and treatment of groundwater from the Building 46 subdrain at the downgradient lobe margin.
Building 25A Lobe Old Town Groundwater Solvent Plume	• In situ soil flushing (infiltration bed and extraction trench) west of Building 25A in the source area. • In situ soil flushing south of Building 25. • Extraction and treatment of water from electrical utility manhole EMH-133.
Building 69 Area	• Enhanced bioremediation (MNA with HRC injection) in the source area.

(a) These actions were implemented to enhance the approved corrective measures subsequent to approval of the CMI Report.

To help assess the effectiveness of MNA/enhanced bioremediation in achieving the required MCSs, VOC concentrations and hydrochemical parameters indicative of the potential for biodegradation are being monitored (Table 12). The hydrochemical parameters include seven field-measured parameters (dissolved oxygen [DO], dissolved carbon dioxide (CO_2), pH, temperature, ferrous iron (Fe^{2+}), sulfide (H_2S), and conductivity) and the following laboratory-measured parameters: nitrate (NO^3), nitrite (NO^2), sulfate (SO_4^{2-}), volatile fatty acids (VFAs), and methane (CH^4)/ethane (C_2H^6)/ethene (C_2H^4).

In general, the analytical parameters indicate conditions favorable for biodegradation in most of the monitored wells. In particular, the relatively high concentrations of methane, the presence of ethene, and the low levels of DO and nitrate in most of the wells monitored is evidence of the reductive dechlorination of halogenated VOCs.

3.2 GROUNDWATER TREATMENT SYSTEMS

Extracted groundwater and contaminated effluent from drain lines and hydraugers is treated to non-detectable levels of VOCs at granular activated carbon (GAC) treatment systems. Most of the treated water is injected into the subsurface for soil flushing purposes. The remainder, which is not needed for flushing, is discharged to the sanitary sewer in accordance with the provisions of LBNL's Wastewater Discharge Permit issued by EBMUD. The following table summarizes the volumes of water treated at each GAC treatment system and the disposition of the treated water.

Summary of Treatment Systems

Treatment System	Volume Treated Third Quarter FY08 (gallons)	Total Volume Treated to Date (gallons)	Discharge/Reuse
Building 6 Bioventing	145,042	4,061,235	Soil flushing
Building 7 Trench	954,840	16,716,162	Recirculated or sanitary sewer
Building 25	96,610	923,152	Recirculated
Building 25A	141,801	2,529,518	Recirculated
Building 37*	0	1,818,711	
Building 46	612,129	22,425,880	Recirculated or sanitary sewer
Building 51 Firetrail	336,591	12,808,827	Sanitary sewer or soil flushing
Building 51 Hydraugers**	0	9,482,665	
Building 51 MGR Basement	74,171	4,898,695	Sanitary sewer
Building 51L	67,334	1,526,032	Sanitary sewer
Building 53	207,144	5,567,211	Recirculated
Building 64	240,750	2,886,997	Recirculated
Building 71B	25,366	399,608	Recirculated
Total Volume Treated	**2,901,778**	**86,044,693**	

* System was dismantled in June 2006.
** System no longer operational. Hydrauger effluent is now treated at Building 51 Firetrail Treatment System.

SECTION 4

SUMMARY OF PROBLEMS ENCOUNTERED

4.1 DEFINITIONS

Problems are defined herein as follows:

1. Quality Assurance and Quality Control (QA/QC) problems that would result in failure to meet data quality objectives.
2. Findings that indicate the presence of contamination that could impact human health or the environment, and for which activities are not specified in existing workplans to either further evaluate or remediate the contamination.

4.2 QUALITY ASSURANCE / QUALITY CONTROL

No QA/QC issues were identified that would result in a failure to meet data quality objectives.

Field Quality Control

Eleven groundwater field (equipment/rinse) blanks and ten groundwater trip blanks were collected and analyzed for VOCs during the current reporting period (Table 13). No analytes were detected in the blanks.

Four duplicate groundwater samples were collected and analyzed for VOCs during the current reporting period. The duplicate samples were analyzed by BC Laboratories (BC) and the LBNL Environmental Measurement Laboratory (EML). Except for SB64-98-8, results of the duplicate samples were consistent. For the primary sample from SB64-98-8, the EML reported <5 µg/L trans 1,2-dichloroethene (DCE) and 29 µg/L 1,1-DCE, which is consistent with the historical results from the well. For the duplicate sample, BC reported <0.5 µg/L 1,1-DCE and 33 µg/L trans 1,2-DCE. It appears that BC may have transposed the 1,1-DCE and trans-1,2-DCE results for the well.

Laboratory Quality Control

All laboratories utilized by the LBNL ERP for determining contaminant concentrations in environmental samples are certified by the California Department of Public Health (CDPH) under the California Environmental Laboratory Accreditation Program. Laboratory quality control procedures include the analysis of method blanks and spike samples in accordance with protocols established for specific EPA analytical methods.

Soil and water samples collected during the current reporting period were analyzed by the LBNL Environmental Measurement Laboratory (EML), Eberline, BC Laboratories (BC), Paragon, or Microseeps, as indicated in the following table:

Analytical Laboratories

Analytical Method	Groundwater	Soil
Volatile Organic Compounds (EPA 8260)	EML/BC	
Tritium (EPA 906)	Eberline	Eberline/Paragon
Anions	BC	
Volatile Fatty Acids (VFA) (AM23G) Light Hydrocarbon gasses (LHG) (Methane, Ethane, Ethene) (AM20GAX)	Microseeps	

Laboratory QA/QC problems identified in the laboratory data packages are noted in the following table. The data validation review indicated that the identified laboratory QA/QC problems were not sufficient to invalidate any data.

Analytical Laboratory Deficiencies

Lab	Chain of Custody	Matrix	Deficiency
EML	5638	Water	Matrix spike recovery was out of limit for 1,1-Dichloroethane (DCA).
EML	5653	Water	Matrix spike recovery was out of limit for 1,1-DCA.
BC	5706	Water	Matrix spike recovery was out of limit for 1,2-DCA-d4 (Surrogate).

SECTION 5

ACTIVITIES FOR UPCOMING REPORTING PERIODS

5.1 FOURTH QUARTER FY08

This section describes the activities that were completed during the fourth quarter of FY08 (July 1 through September 30, 2008), the upcoming reporting period. Results of these activities will be reported in the next Quarterly Progress Report, scheduled for submittal to DTSC in February 2009.

Groundwater Monitoring

The number of groundwater samples submitted for each type of analysis during the fourth quarter of FY08 is shown in the following table:

Number of Groundwater Samples Collected During the Fourth Quarter of FY 2008

	VOCs	TPH				PCBs	Metals	Tritium	Total
		D	G	K	FI				
Monitoring Wells Primary Samples	166	5	1	3	5	2	12	16	210
Temporary Sampling Points	122	0	0	0	0	0	0	14	136
Extraction/Injection Wells	77	0	0	0	0	0	0	0	77
Slope Stability Wells	0	0	0	0	0	0	0	0	0
Duplicate Samples	3				1		1	3	8
Trip Blanks	18								18
Rinse Blanks	14				1		1	3	19
TOTAL	400	5	1	3	7	2	14	36	468

VOCs: Volatile Organic Compounds
TPH-D: Total Petroleum Hydrocarbons in the diesel range
TPH-G: Total Petroleum Hydrocarbons in the gasoline range
TPH-K: Total Petroleum Hydrocarbons in the kerosene range
TPH-FI: Total Petroleum Hydrocarbons-fuel identification
PCBs: Polychlorinated Biphenyls

Documents

The following documents were submitted to the regulatory agencies:

- On August 21, 2008, LBNL submitted the Quarterly Progress Report for the Second Quarter of FY08 to the DTSC.

- During the excavation process for the planned User Support Building foundation (former Building 10 site), mercury apparently spilled from a piece(s) of buried sanitary sewer pipe and contaminated the soil that was being excavated. The release was confirmed by mercury vapor readings taken over the excavated soil and from the pipe. Therefore, on September 5, 2008, LBNL notified the DTSC of a possible newly discovered release of hazardous waste or hazardous constituents. LBNL conducted an investigation to determine the residual concentrations of mercury in the in situ soil and submitted the Progress Report for the Environmental Investigation at the Former Building 10 Site to DTSC on September 12, 2008.

- On September 30, 2008, LBNL submitted a letter to DTSC reporting the temporary suspension of active corrective measures at the Building 52 lobe of the Old Town groundwater Solvent Plume. The implemented corrective measure (in situ soil flushing) has resulted in the reduction of concentrations of (Chemicals of Concern) in the groundwater to levels below the required MCSs.

Corrective Measures

Groundwater

The corrective measures for groundwater described in Section 3.1 continued through the fourth quarter of FY08.

Soil Gas Sampling

At a number of Berkeley Lab units, the Human Health Risk Assessment (LBNL, 2003) concluded that de minimis risk levels for hypothetical future residents were exceeded based on the potential for inhalation of COCs migrating from underlying soil and groundwater into indoor air. The risk estimates were based on measured concentrations of COCs in the soil. In order to obtain a more accurate estimate of the potential risk, soil gas samples were collected at six of the units. This methodology complies with current regulatory agency guidelines that recommend using soil gas concentrations and not soil concentrations to estimate vapor intrusion risks associated with soil contamination.

Soil gas sampling for the reevaluation of the vapor intrusion risk was started during the fourth quarter of FY08 and completed during the first quarter of FY09. The following units were evaluated:

- Building 51 Vacuum Pump Room Sump and Collection Basins

- Building 7E Former Underground Storage Tank
- Building 52 Former Hazardous Materials Storage Area
- Building 51L Groundwater Solvent Plume Source Area
- Building 56 Construction Site
- Building 77 Present and Former Yard Decontamination Area

If warranted, the results will be used to support a recommendation to the DTSC that no restrictions should be required on land use.

Reassessment of the Extent of Tritium Contamination in the Soil

The collection of shallow soil samples to reassess the extent of tritium contamination in the soil, which began during the previous reporting period, was completed. The concentrations of tritium detected are included in this current Quarterly Progress Report to provide a consolidated record of the results.

5.2 FIRST QUARTER FY09

In addition to the ongoing activities described in the previous sections of this report, the following is a list of activities planned for the first quarter of FY09 (October 1 to December 30, 2008):

- Submit the Quarterly Progress Report for the third quarter of FY08 to the DTSC.
- Hold Remedial Project Manager (RPM) meetings with the regulatory agencies as needed.
- Conduct quarterly groundwater sampling and continue depth-to-water measurements.
- Temporarily suspend active remediation for the Building 52 lobe of the Old Town Groundwater Solvent Plume. The implemented corrective measure (in situ soil flushing) has resulted in the reduction of the concentrations of COCs to levels below MCLs, the required Media Cleanup Standards for the unit.

SECTION 6

REFERENCES

LBNL, 1992a. RCRA Facility Assessment at the Lawrence Berkeley Laboratory. Lawrence Berkeley Laboratory Environmental Restoration Program, Lawrence Berkeley Laboratory, Berkeley, California, September 30, 1992.

LBNL, 1993-2008. Quarterly Progress Reports, (includes reports covering Second Quarter Fiscal Year 1993 [January 1 to March 31, 1993] through Second Quarter Fiscal Year 2008 [January 1 to March 31, 2008] for the LBNL Hazardous Waste Facility Permit. Environmental Restoration Program, Lawrence Berkeley National Laboratory, Berkeley, California, August 1993 through August 2008.

LBNL, 2003. Human Health Risk Assessment for the Lawrence Berkeley National Laboratory Environmental Restoration Program, May 2003.

LBNL, 2005a. RCRA Corrective Measures Study Report for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, February 2005.

LBNL, 2005b. Proposal for Revised Groundwater Monitoring Schedule for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, May 2005.

LBNL, 2006. Soil Management Plan for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, March 2006.

LBNL, 2007. RCRA Corrective Measures Implementation (CMI) Report for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, January 2007.

LBNL, 2008. Quarterly Progress Report and Annual Status Summary, Fourth Quarter Fiscal Year 2007 (July 1 to September 30, 2007) for the Lawrence Berkeley National Laboratory Hazardous Waste Facility Permit, Environmental Restoration Program, Lawrence Berkeley National Laboratory, Berkeley, California, February 2008.

Water Board, 2005. Water Board Approval of the Proposal for a Revised Groundwater Monitoring Schedule for Lawrence Berkeley National Laboratory, May 2005, Letter from Michael Rochette (Water Board) to Iraj Javandel (LBNL), File No. 2199.9026 (MBR), August 1, 2005.

LIST OF FIGURES

MW25-95-5 Groundwater monitoring well

MW90-6 Properly destroyed monitoring well

T SB76-97-3 Temporary groundwater sampling point

T SB64-98-16 Properly destroyed sampling point

EW Groundwater extraction well

IW Groundwater injection well

DP Dual phase extraction well

SSW-31.63 Slope stability well

OW6-98 Observation well

SI-3.63 Slope indicator well

71-95-10 Vadose zone monitoring well

Shallow soil sampling location

Soil boring

PZ51-92-3 Piezometer

Spring

700 Topographic contour line (elevation in ft above mean sea level)

ND (or <) Not detected

51-01-10 Hydrauger

Sanitary sewer line

Storm drain line

Surface creek

LBNL site boundary

Fence

17 Surface structure (e.g. buildings, etc.)

51B Former building location

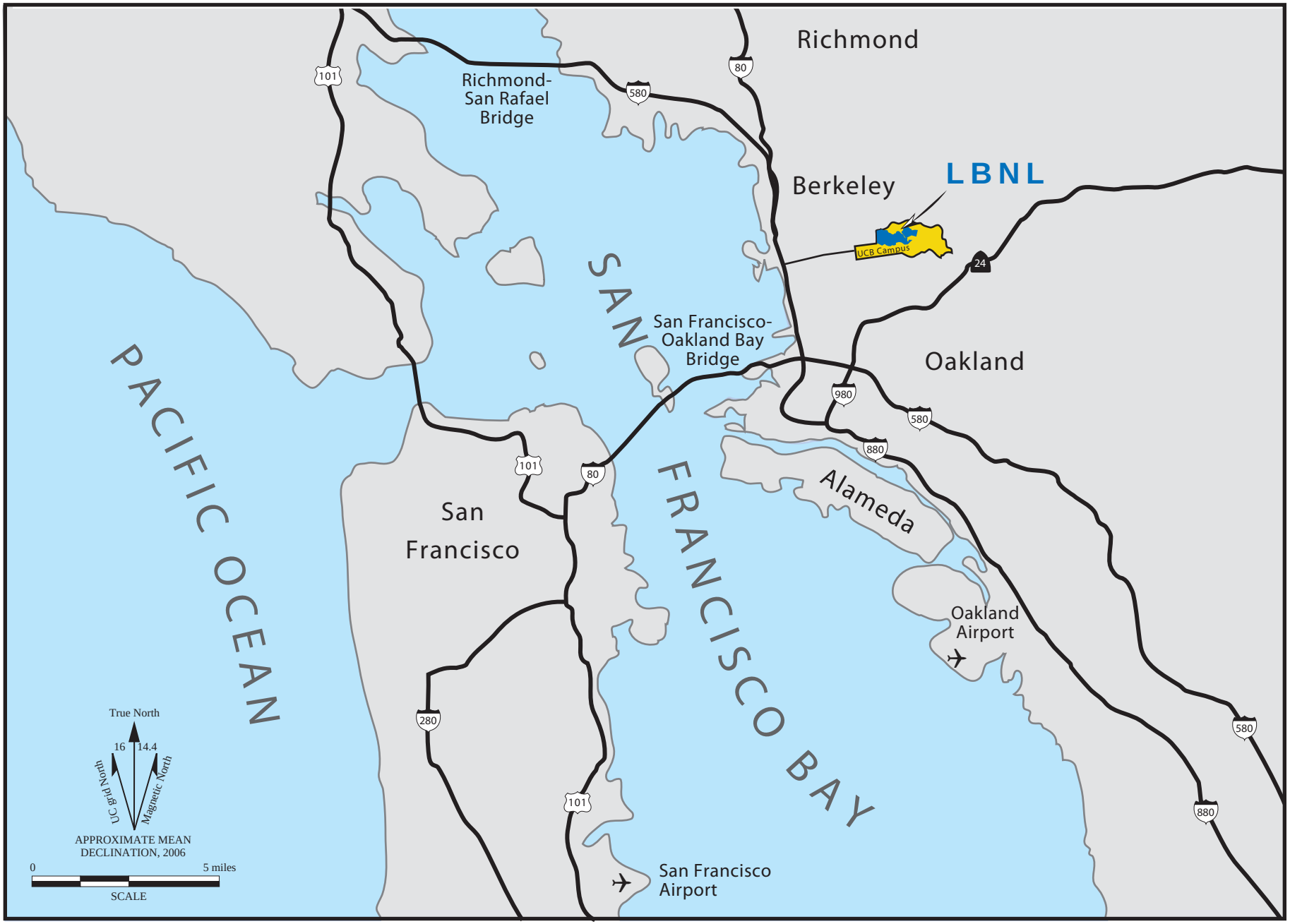
Groundwater collection trench

GAC GAC Granular activated carbon (GAC) treatment system

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.

Key to Symbols Used on Figures.

Symbols.ai
6/99



01-regionalsetting2.ai
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Figure 1. Regional Setting of the Lawrence Berkeley National Laboratory.

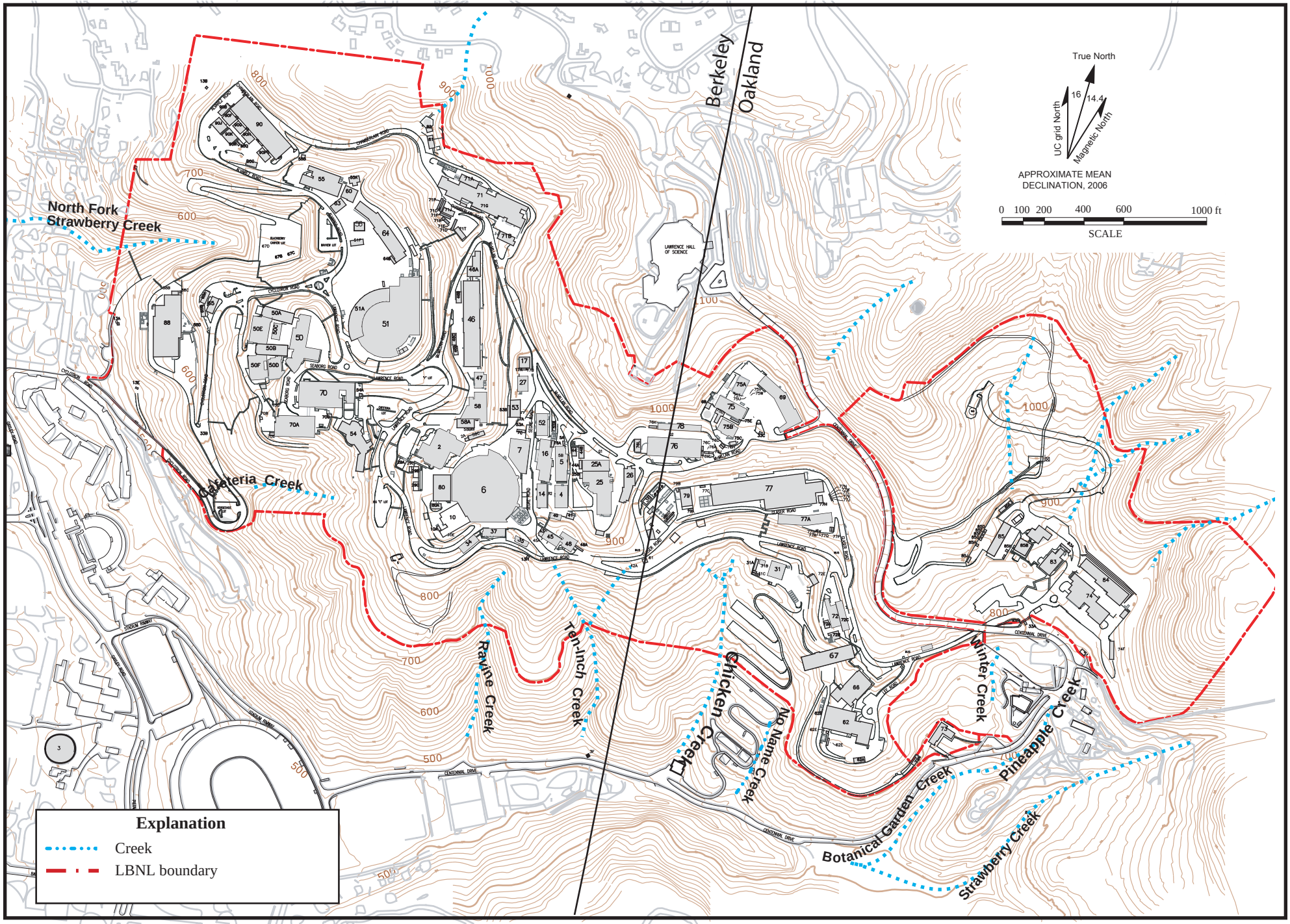

Figure 2. Site Map and Topography, Lawrence Berkeley National Laboratory.

02-sitemap.ai
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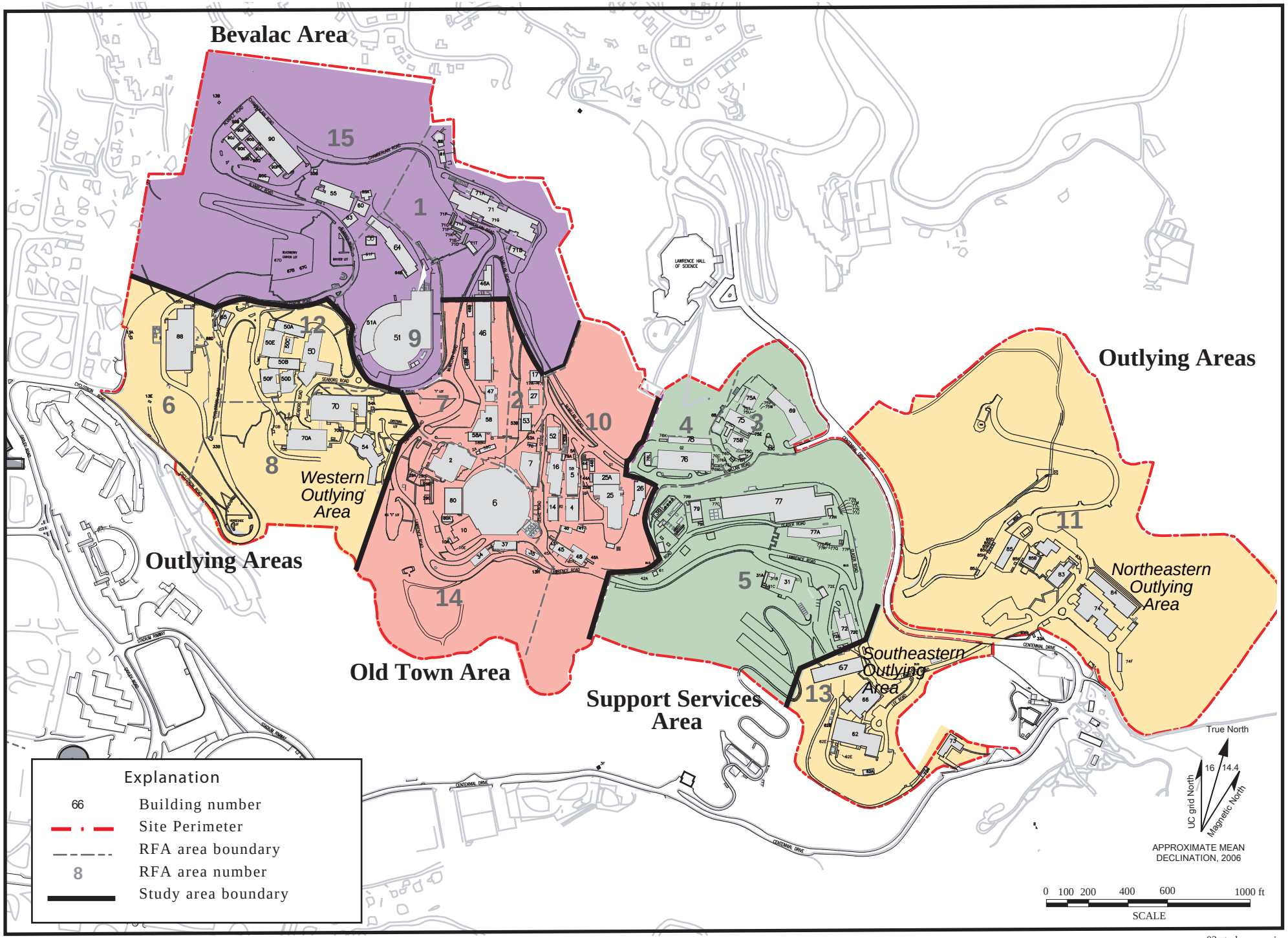

Figure 3. Locations of Study Areas, Lawrence Berkeley National Laboratory.

03-study areas.ai
3/08

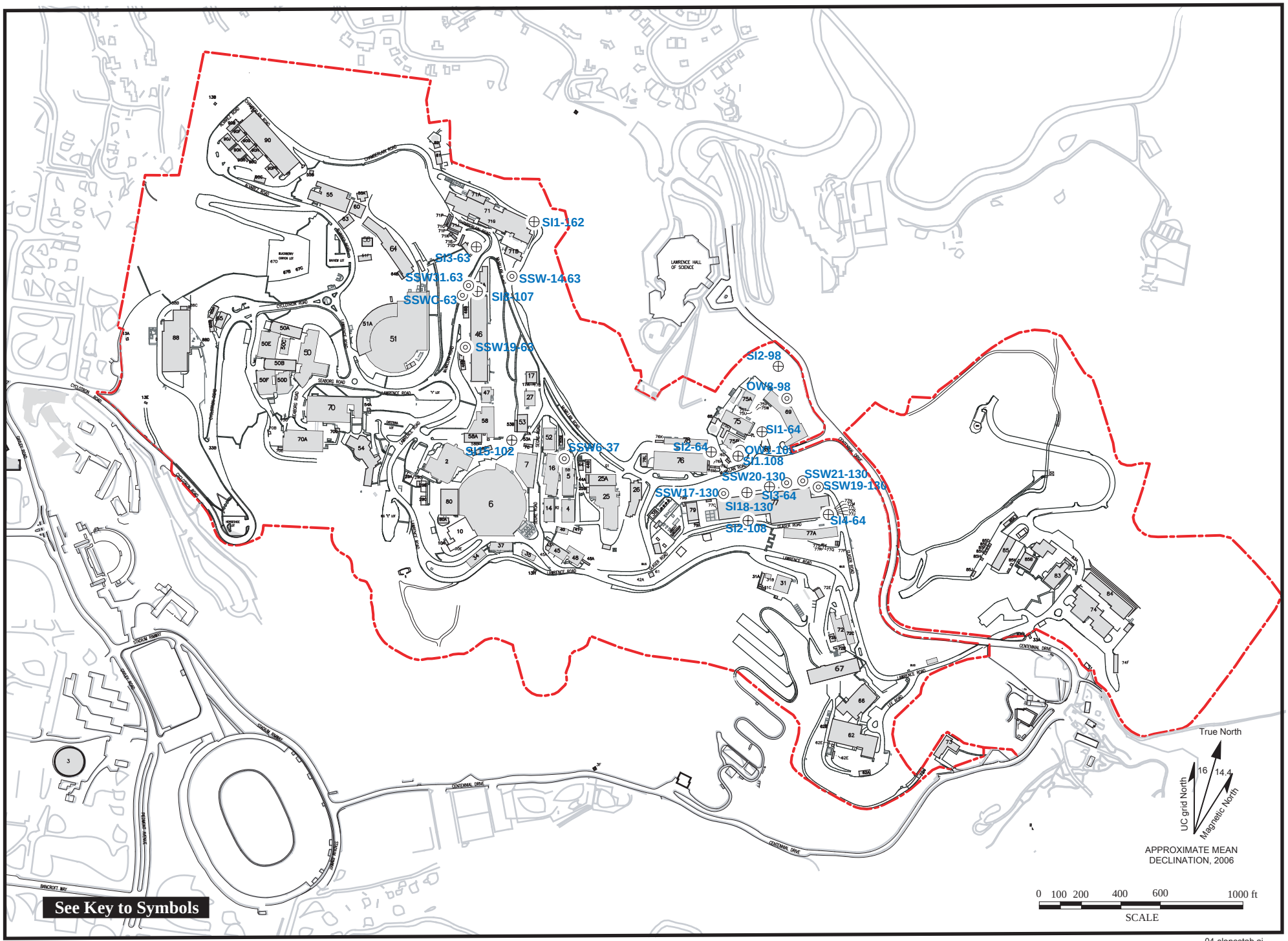

Figure 4. Slope Stability, Slope Indicator, and Observation Well Locations, Lawrence Berkeley National Laboratory.

04-slopestab.ai
4/08

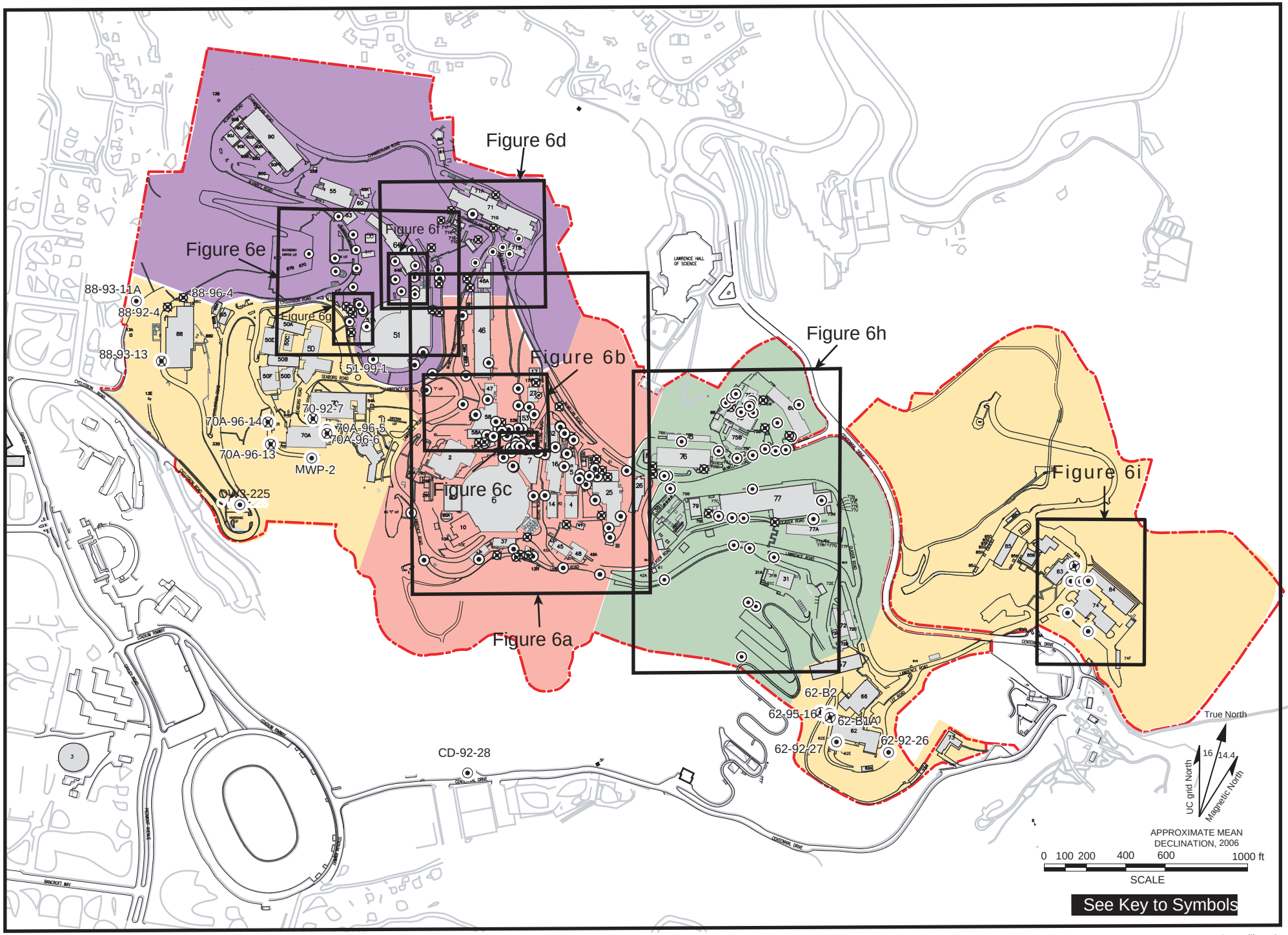

Figure 5. Monitoring Well Locations at Lawrence Berkeley National Laboratory.

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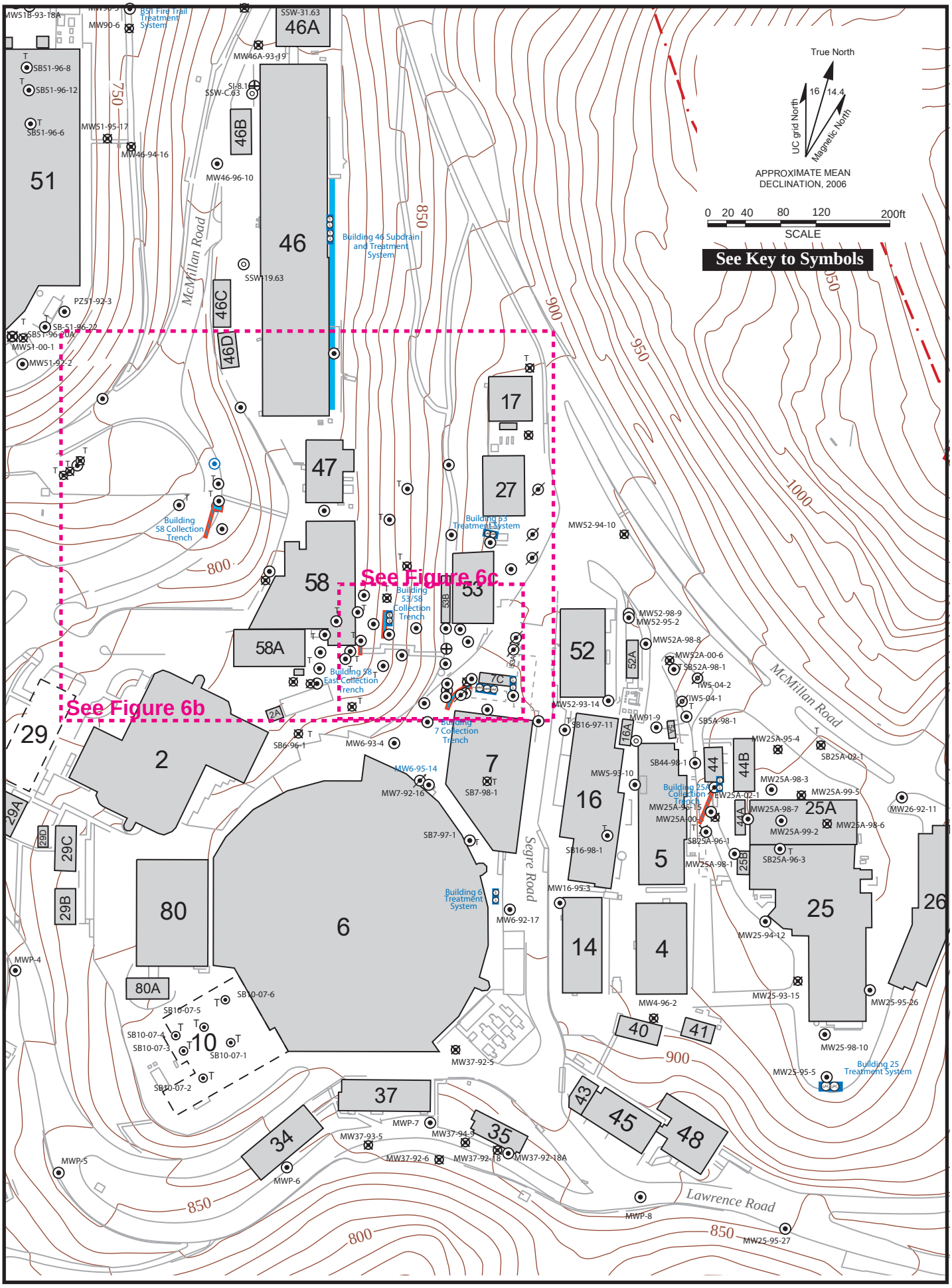


Figure 6a. Well Location Map of Old Town Area, Lawrence Berkeley National Laboratory.

6a-wellocOT.ai
3/08

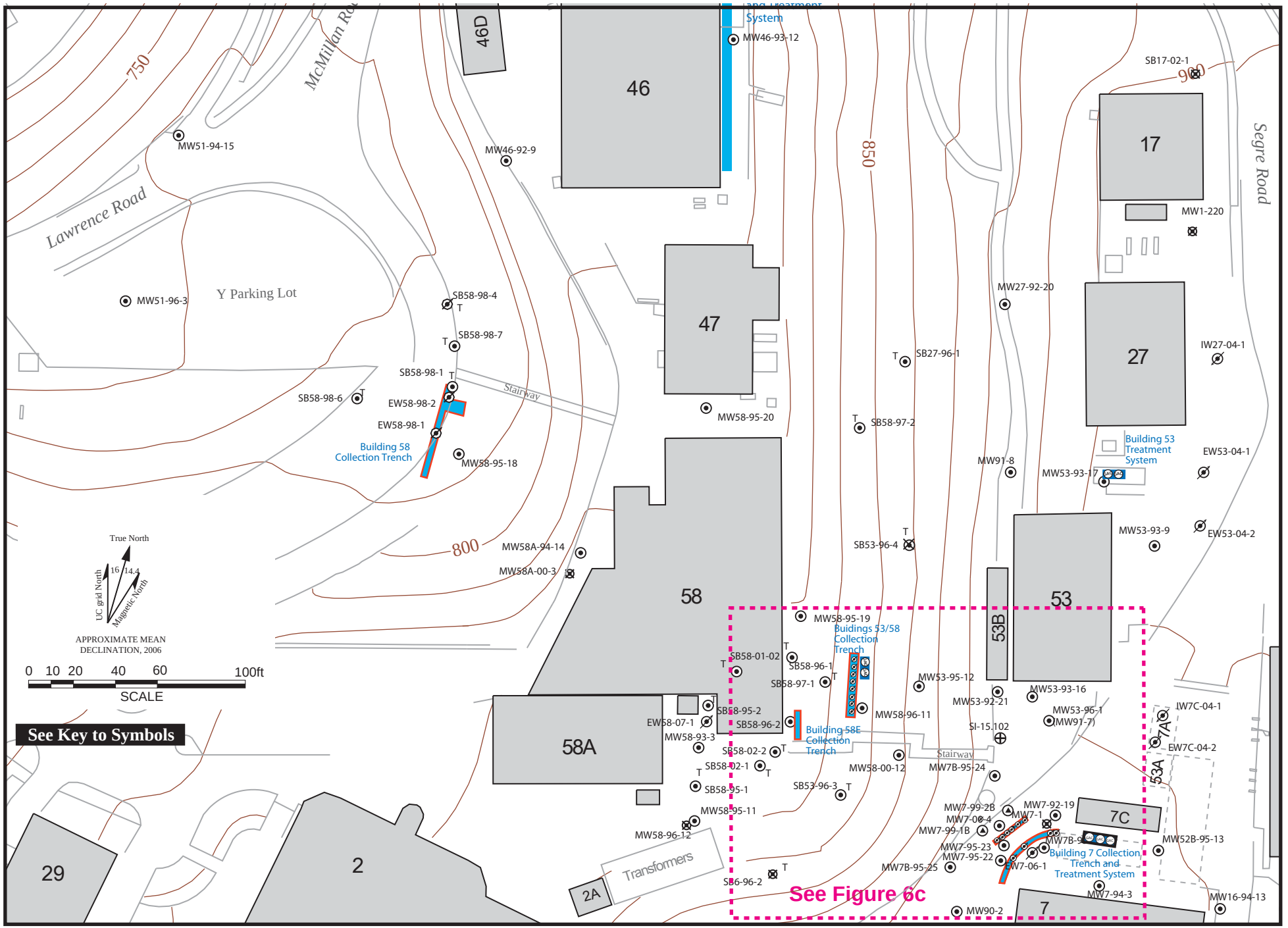
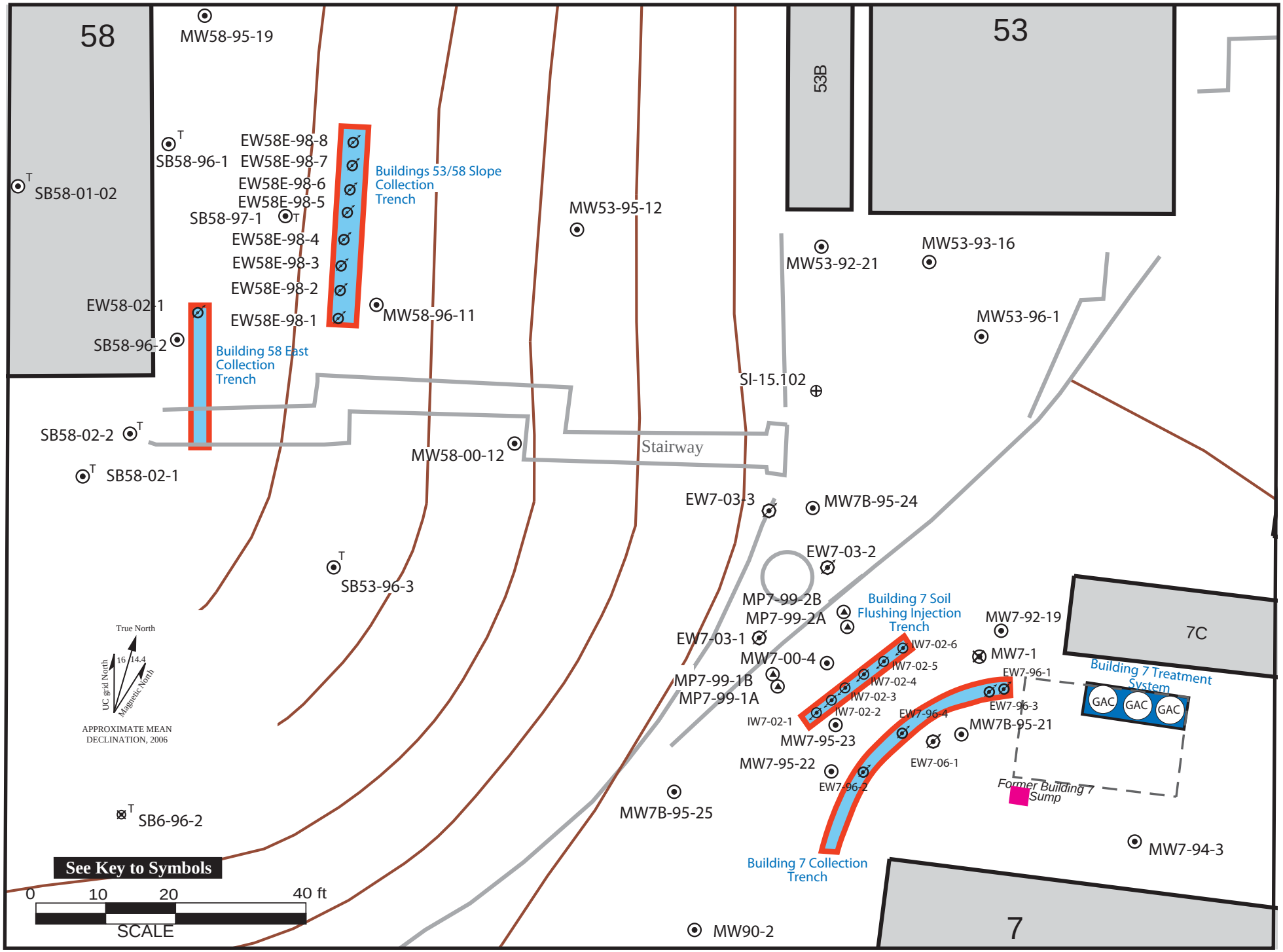


Figure 6b. Well Location Map of the Central Old Town Area, Lawrence Berkeley National Laboratory.

6b-OTDetail.ai
3/08



6c-OTsumparea.ai
3/08

Figure 6c. Well Location Map of the Old Town Plume Source Area, Lawrence Berkeley National Laboratory.

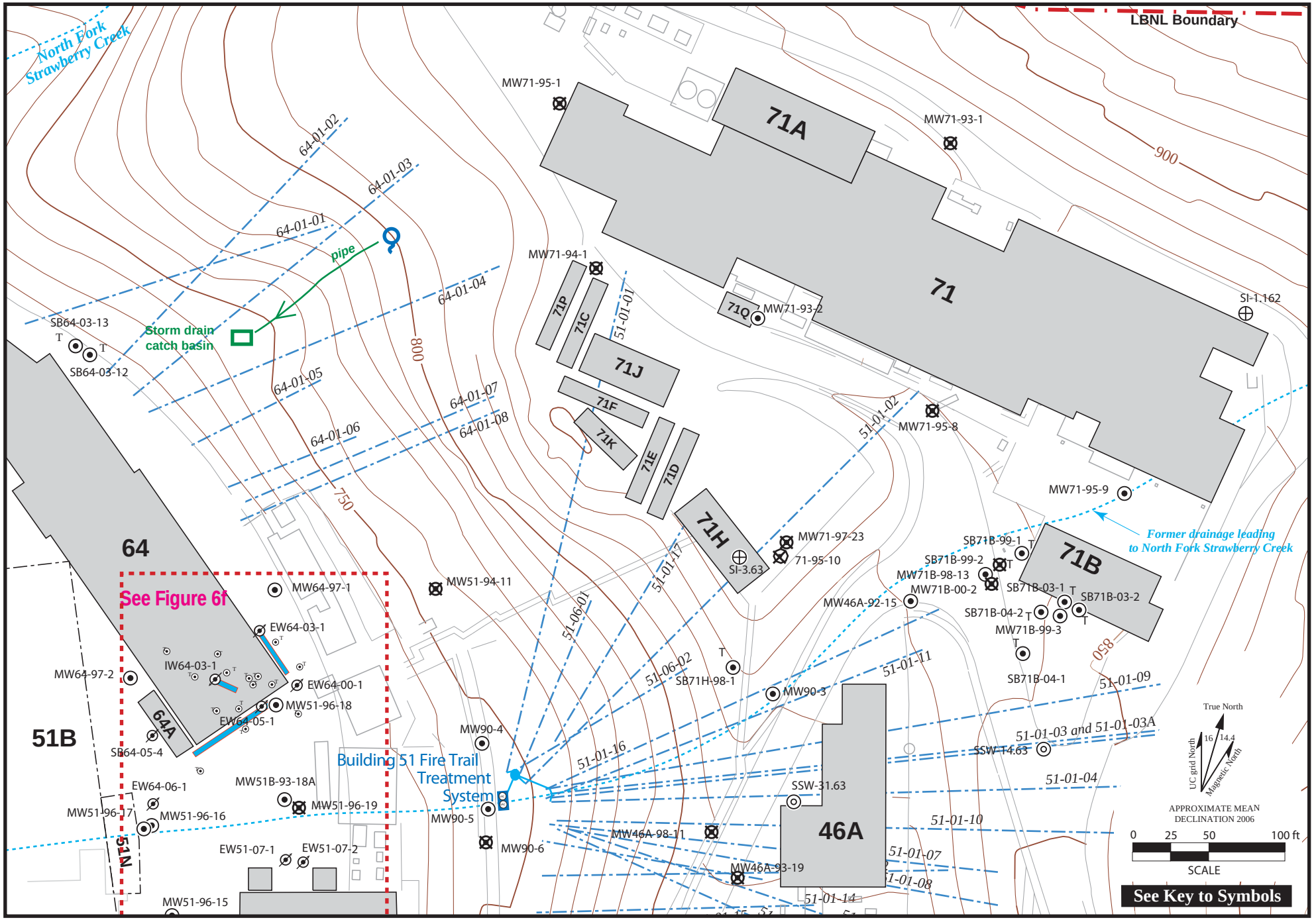


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Figure 6d. Well Location Map of the Building 71 Area, Lawrence Berkeley National Laboratory.

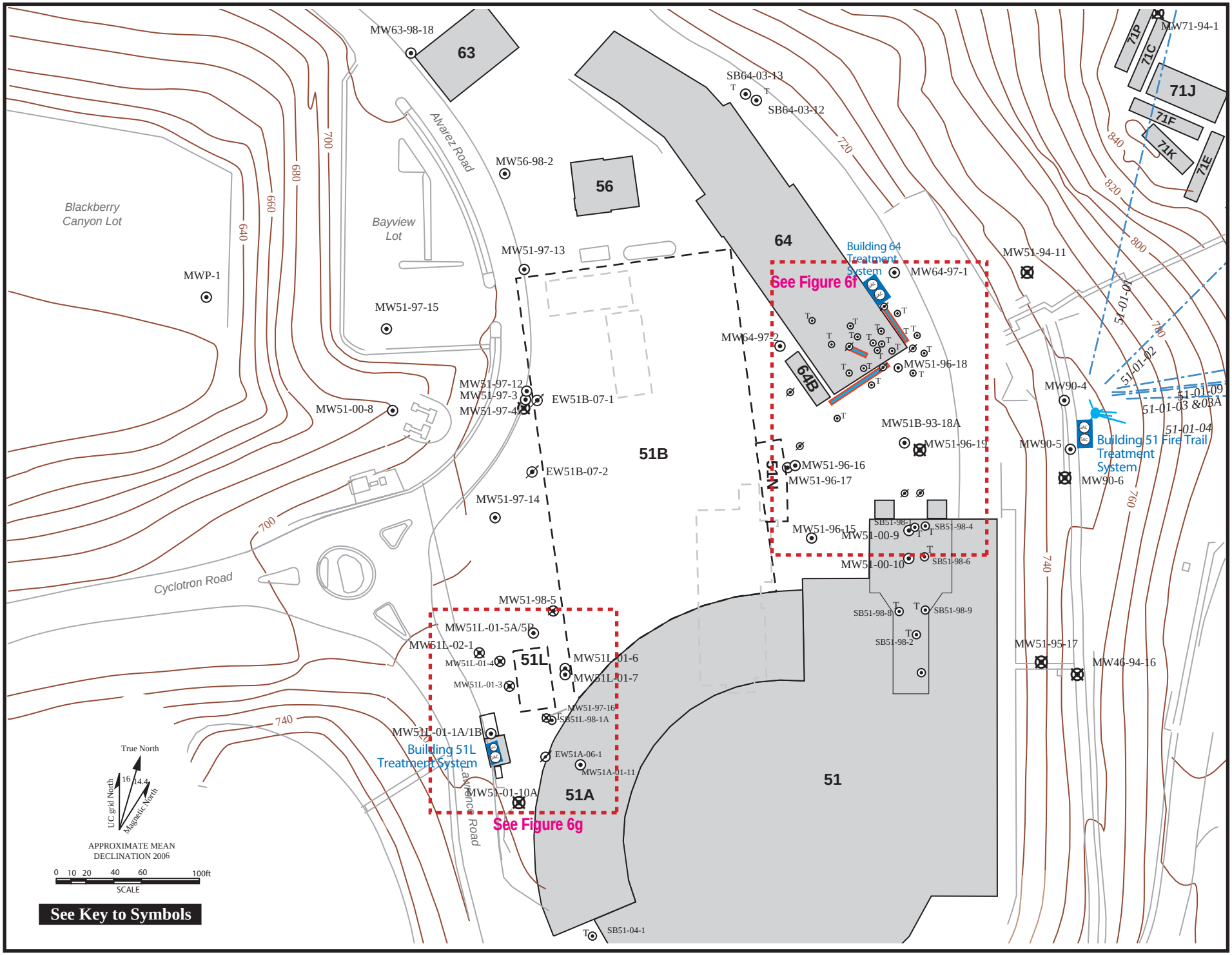

Figure 6e. Well Location Map of the Building 51 and Building 64 Areas, Lawrence Berkeley National Laboratory.

6e-B51baser1.ai
3/08

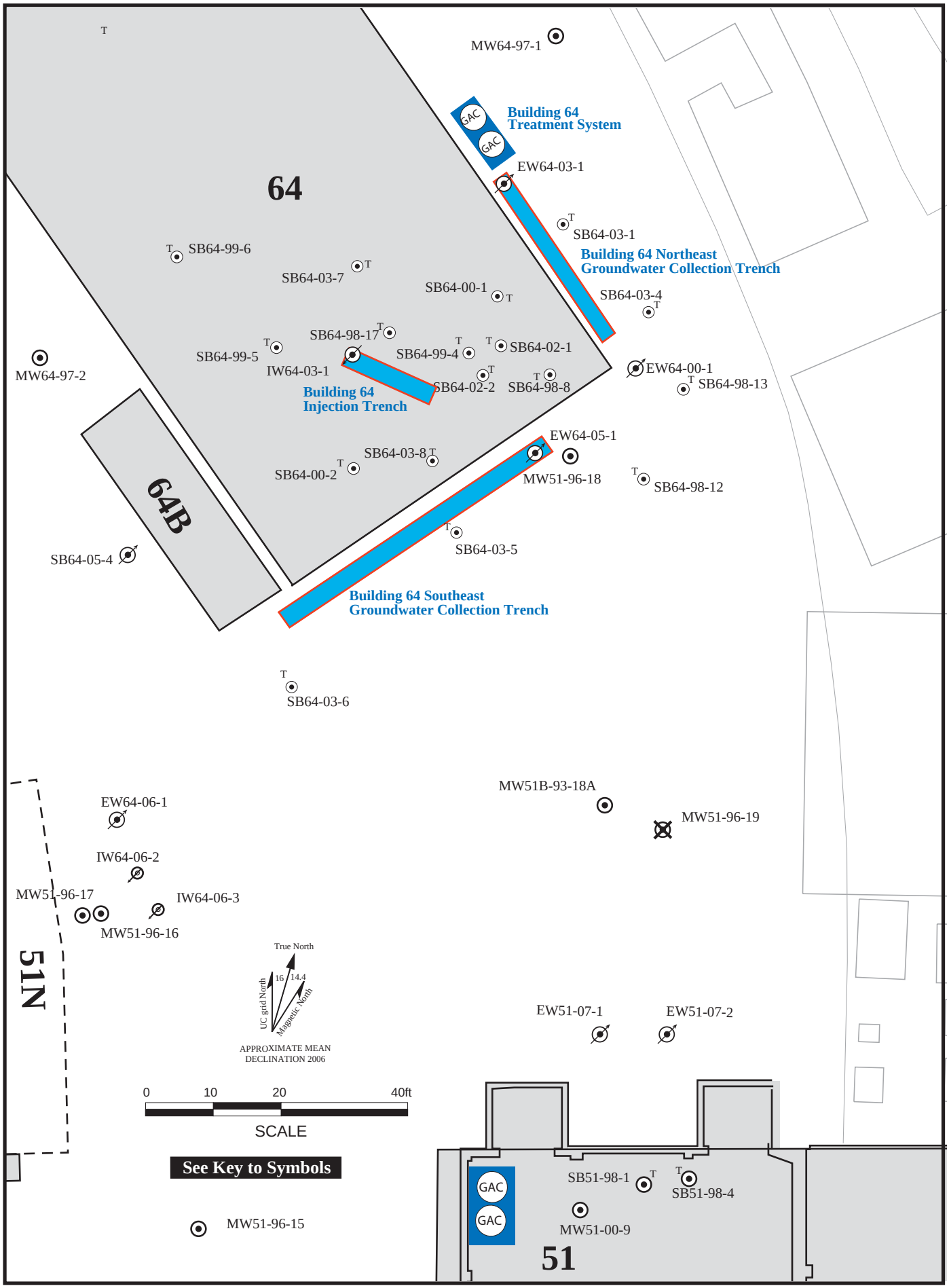

Figure 6f. Well Location Map of the Building 51/64 Plume Source Area, Lawrence Berkeley National Laboratory.

6f-detailB51base
3/08

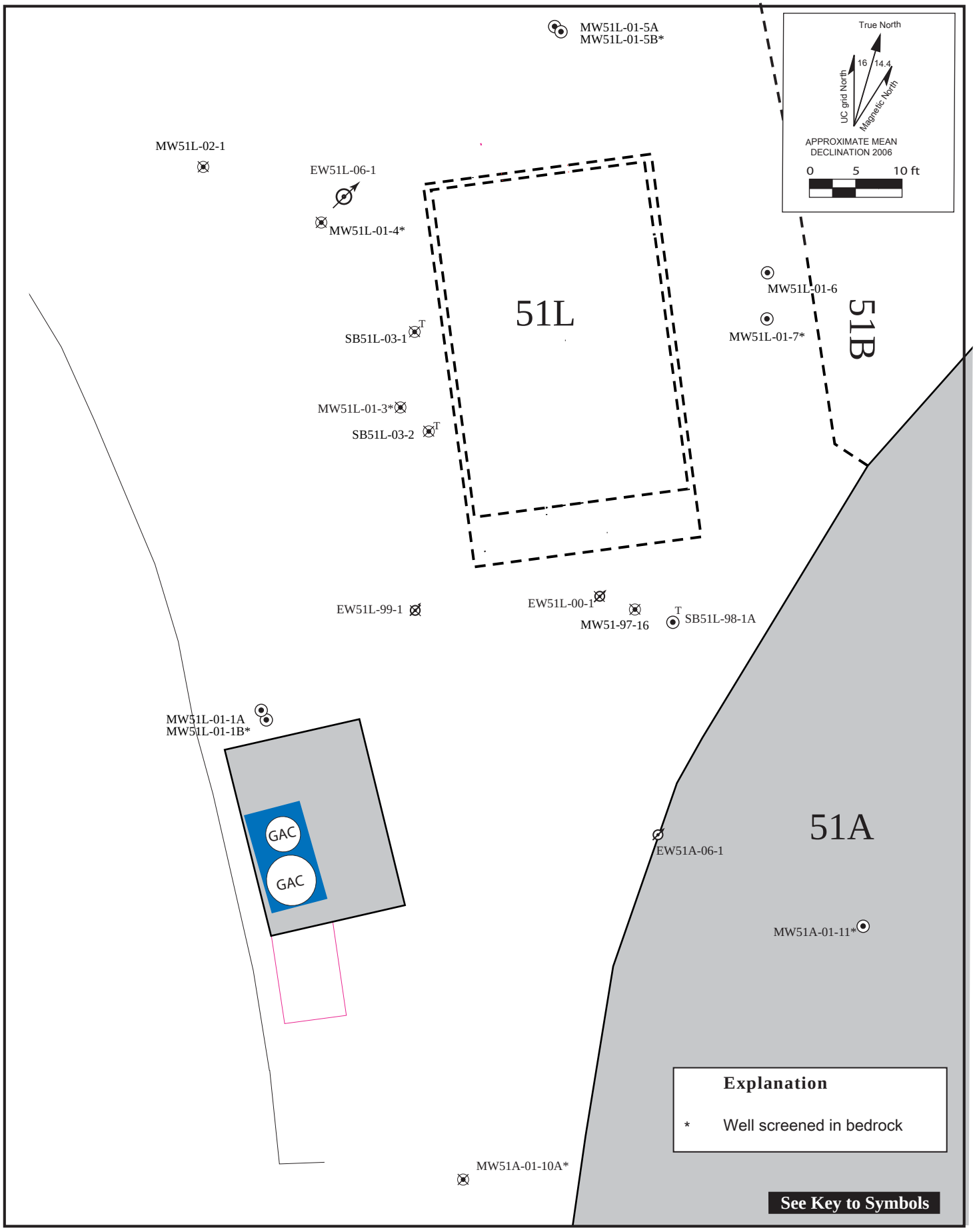

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Figure 6g. Well Location Map of the Building 51L Area, Lawrence Berkeley National Laboratory.

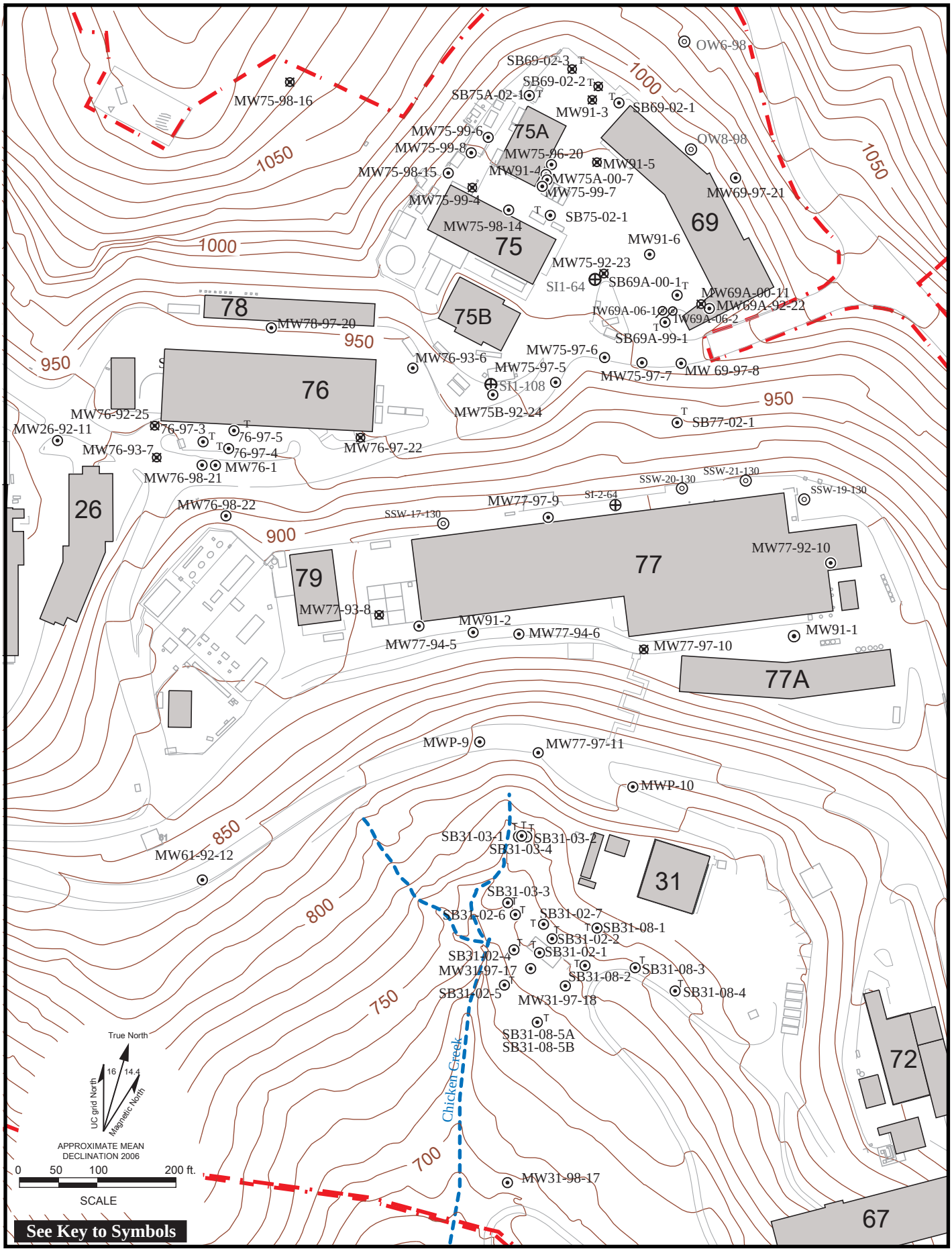

Figure 6h. Well Location Map of the Corporation Yard Area, Lawrence Berkeley National Laboratory.

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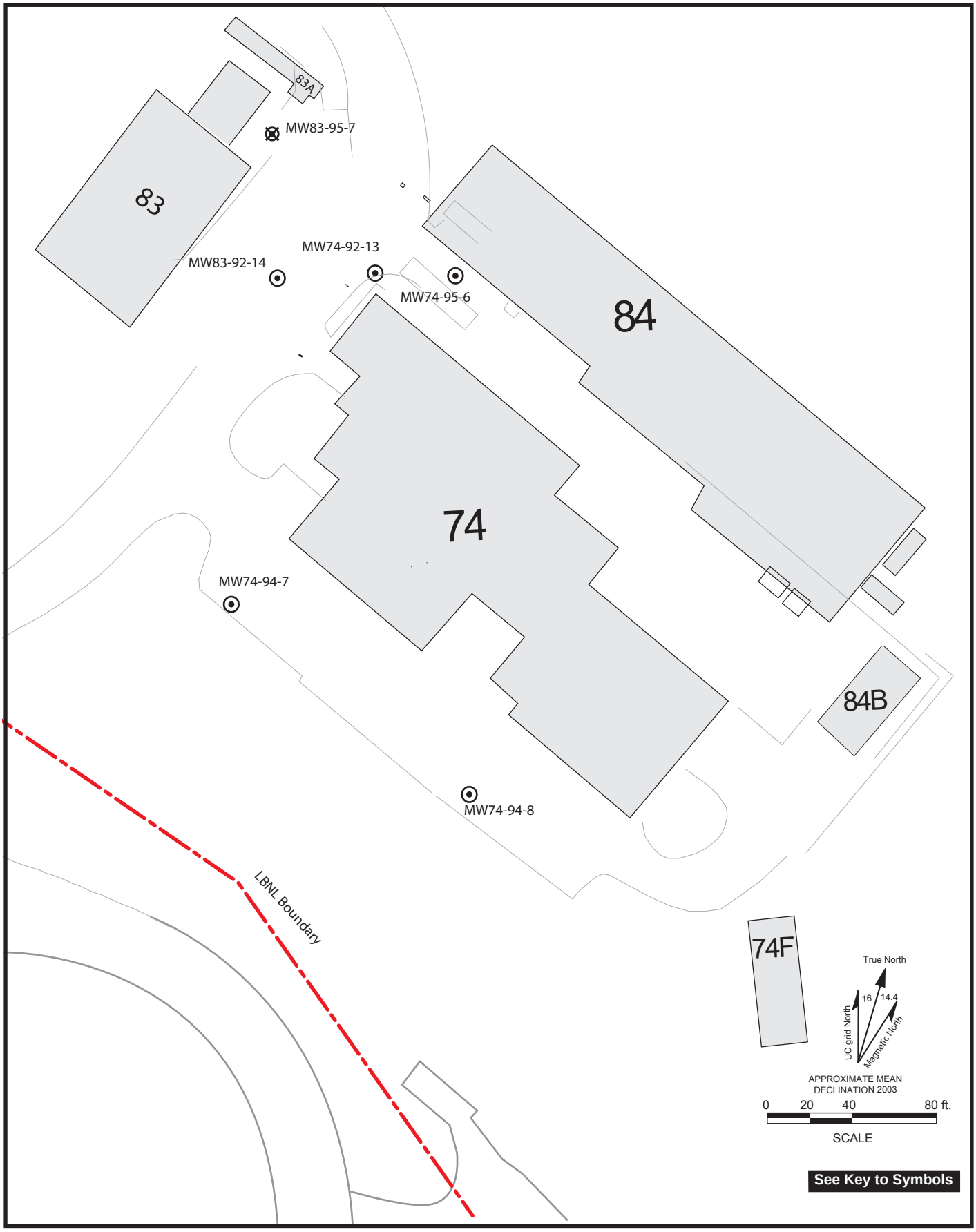
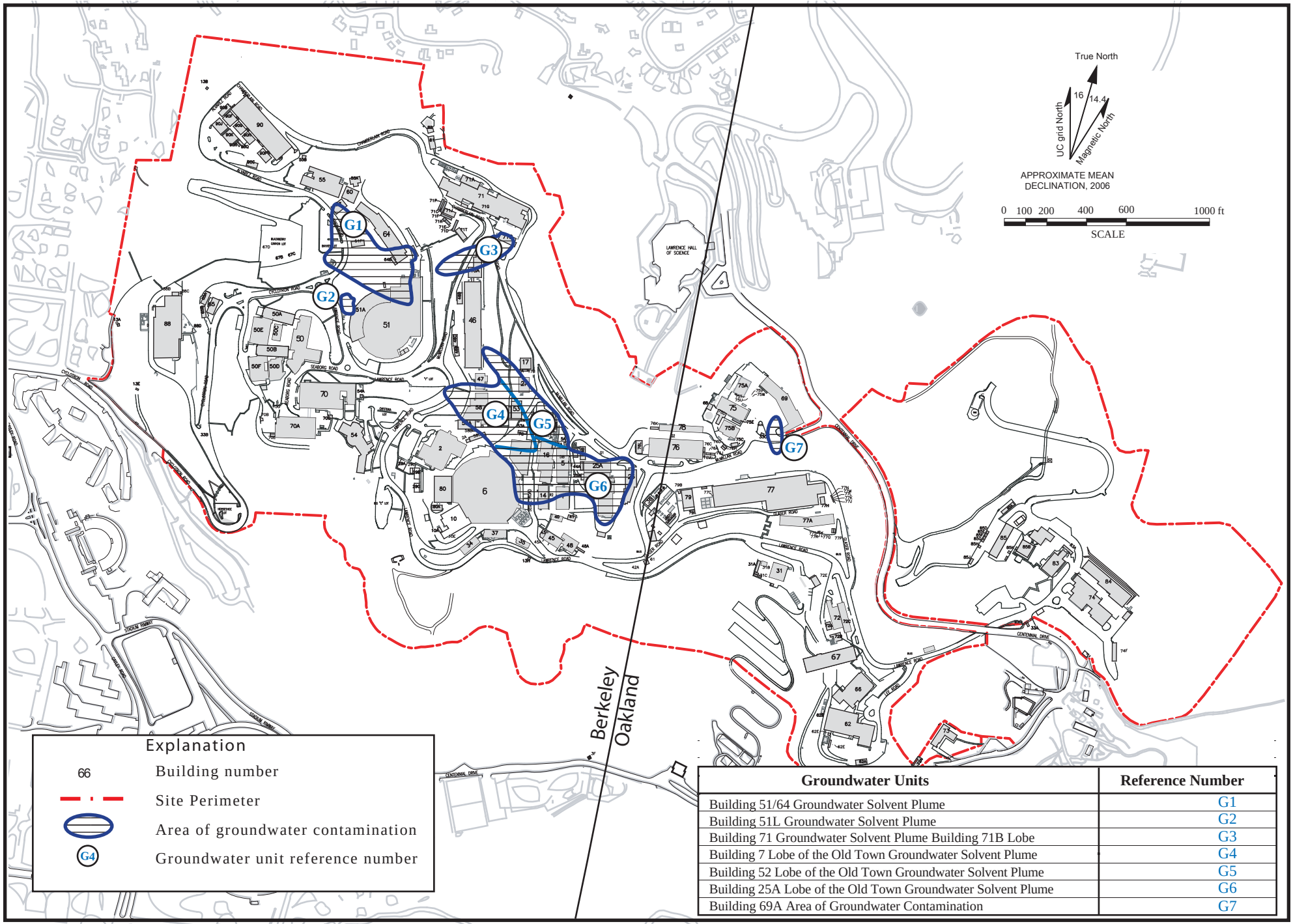
9/08



6i-b74 well locations.ai
3/08

Figure 6i. Well Location Map of the Building 74 Area, Lawrence Berkeley National Laboratory



Groundwater Units	Reference Number
Building 51/64 Groundwater Solvent Plume	G1
Building 51L Groundwater Solvent Plume	G2
Building 71 Groundwater Solvent Plume Building 71B Lobe	G3
Building 7 Lobe of the Old Town Groundwater Solvent Plume	G4
Building 52 Lobe of the Old Town Groundwater Solvent Plume	G5
Building 25A Lobe of the Old Town Groundwater Solvent Plume	G6
Building 69A Area of Groundwater Contamination	G7

Figure 7. Locations of Groundwater Units Requiring Corrective Measures.

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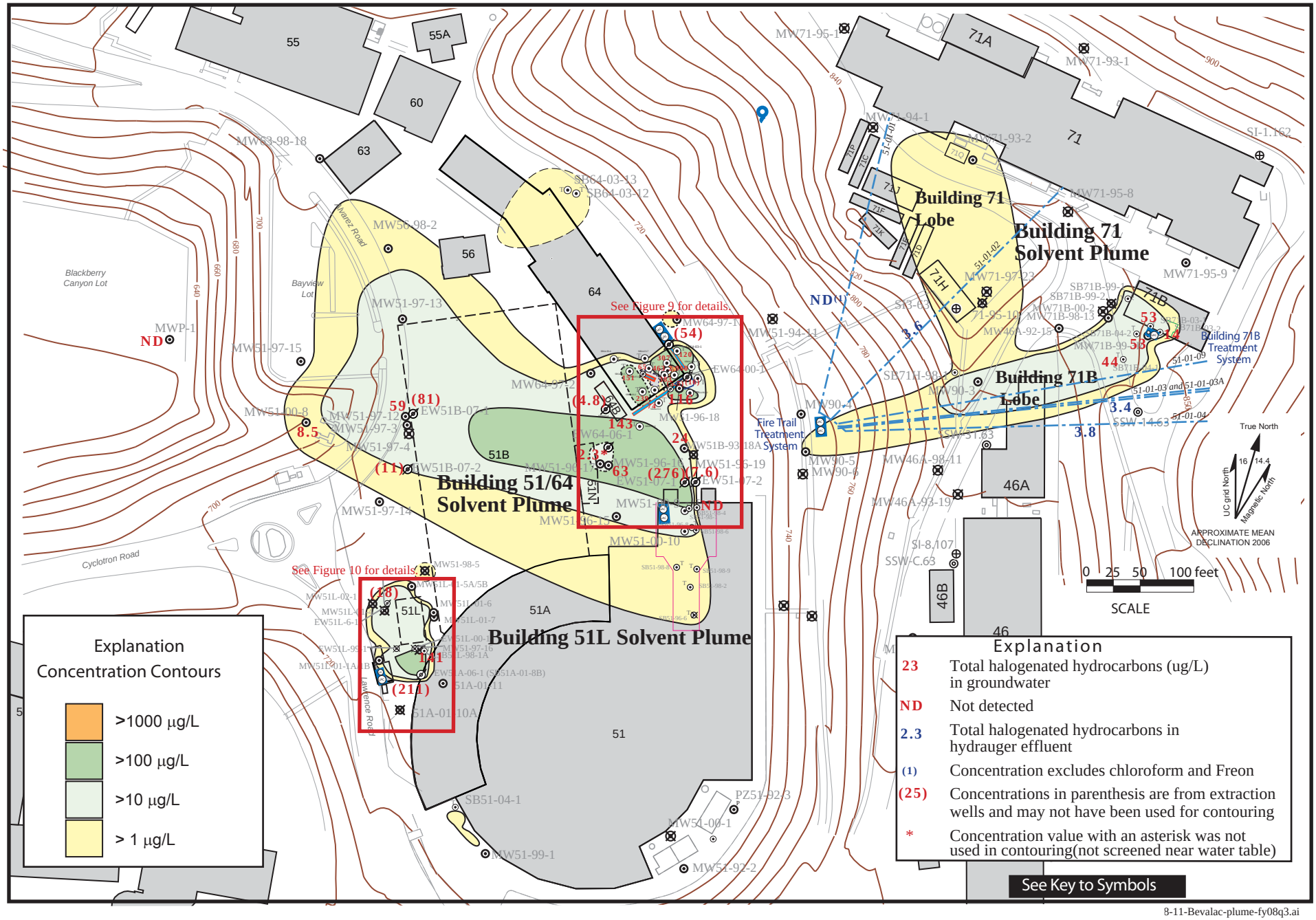
3/08



8-11-Bevalac-plume-fy08q3.ai
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Figure 8. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Bevalac Area, Third Quarter FY08.

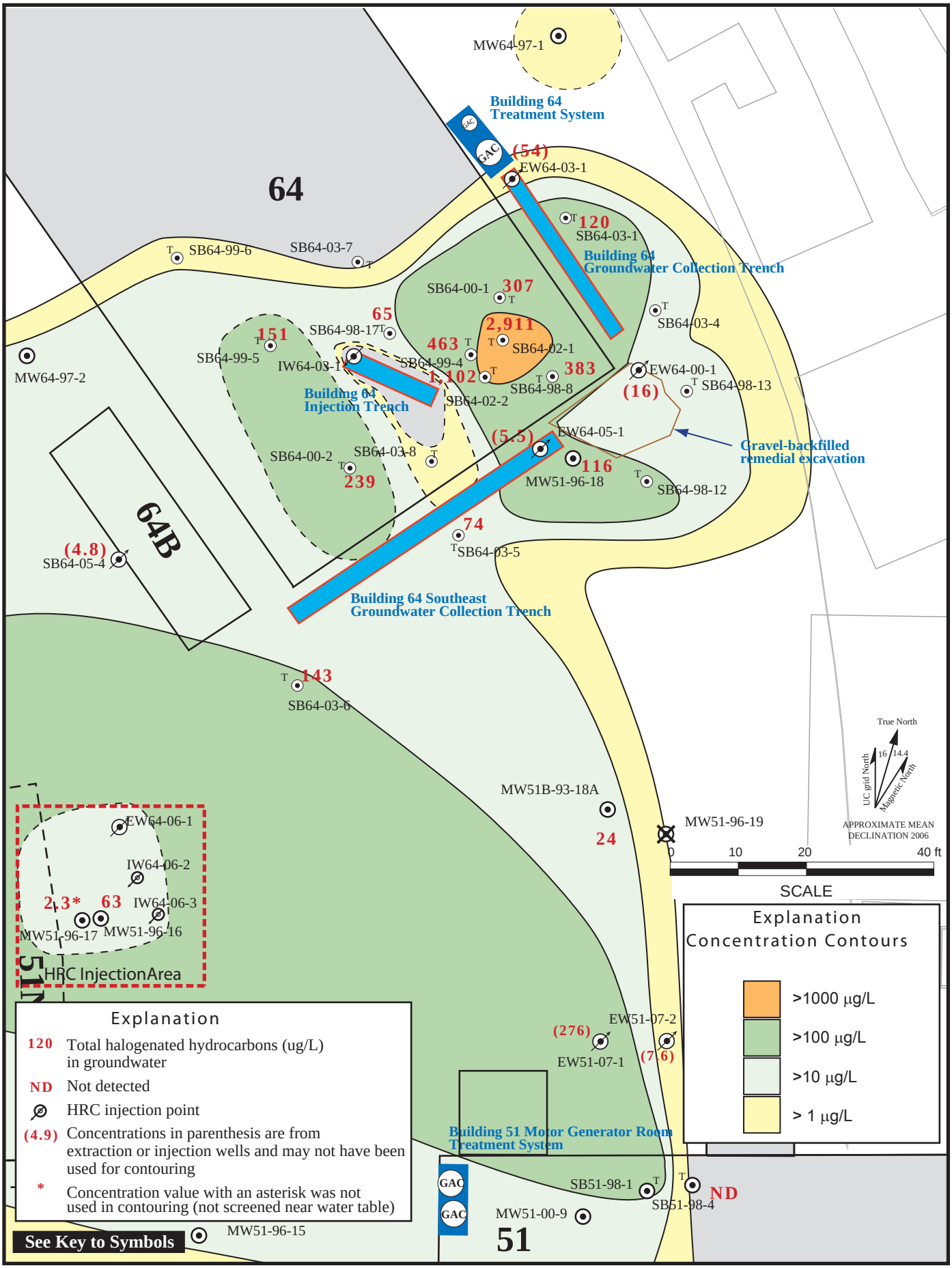

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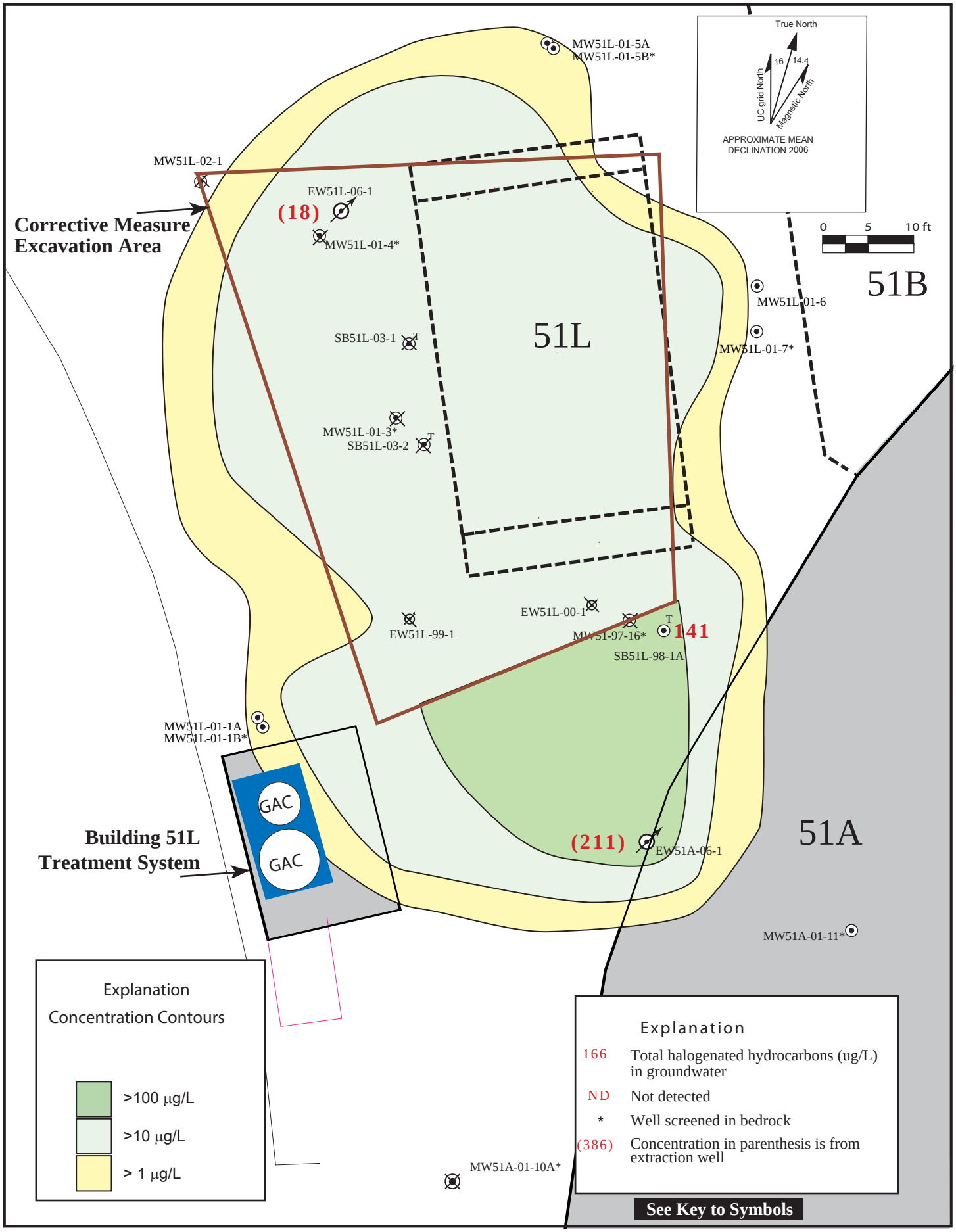
Figure 9. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Source Area of the Building 51/64 Solvent Plume, Third Quarter FY08.



10-b51lltotlvocsfy08q1
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Figure 10. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater in Fill (ug/L), Building 51L Groundwater Solvent Plume, Third Quarter FY08.

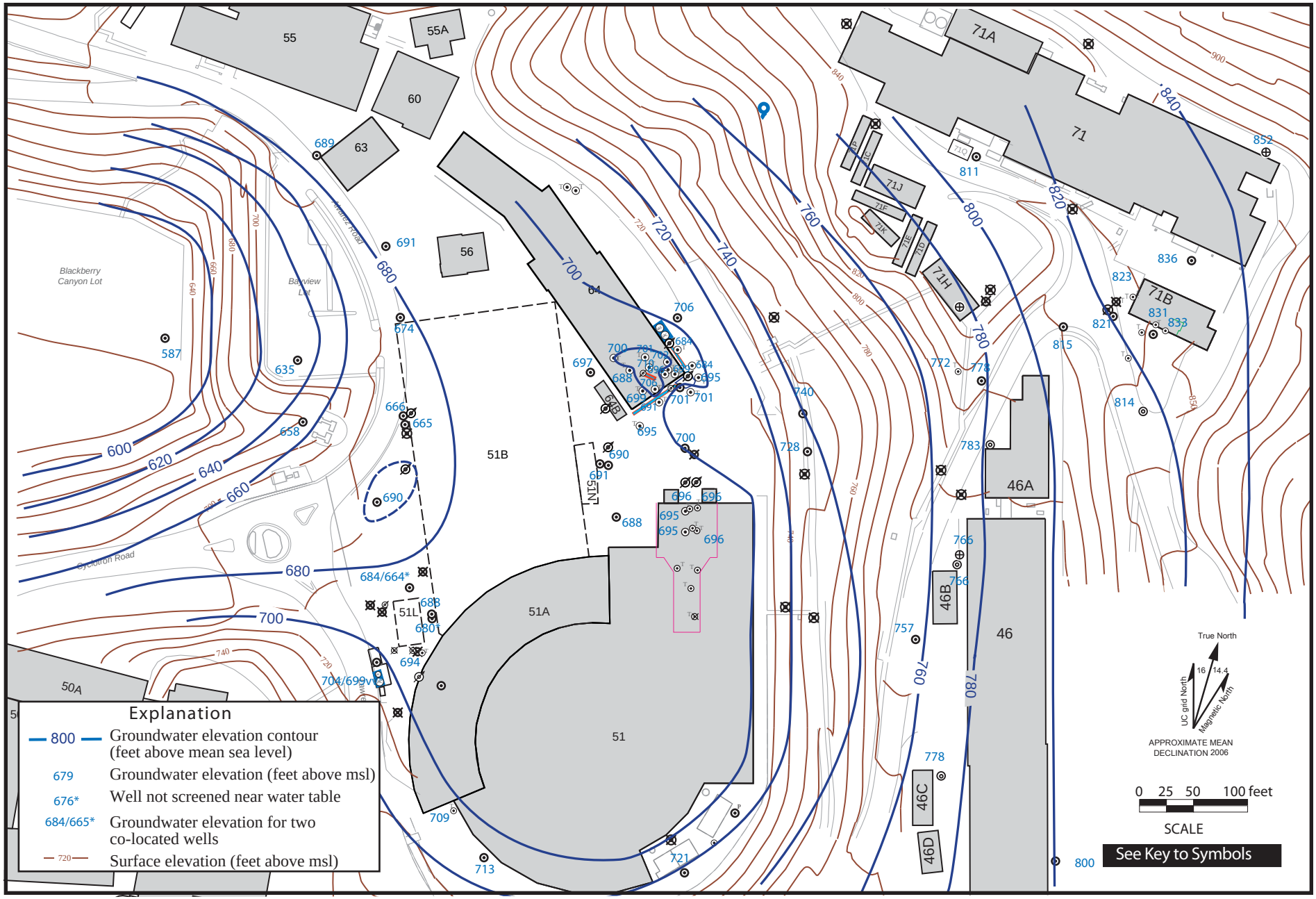

Figure 11. Water Level Elevation Map in the Bevalac Area, Third Quarter FY08.

8-11-Bevalac-plume-fy08q3.ai
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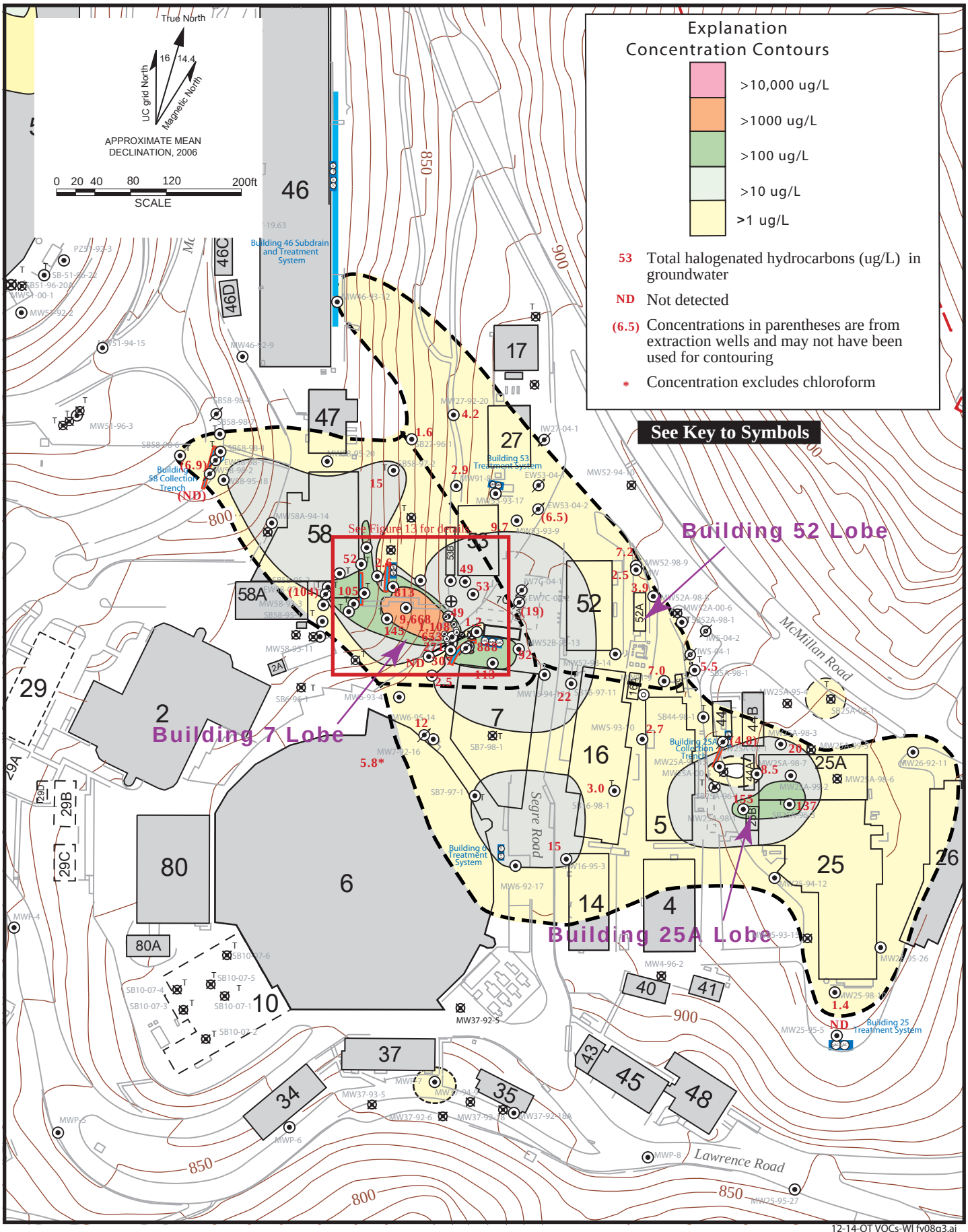

12-14-OT VOCs-WI fy08q3.ai 10/08

Figure 12. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Old Town Area, Third Quarter FY08.

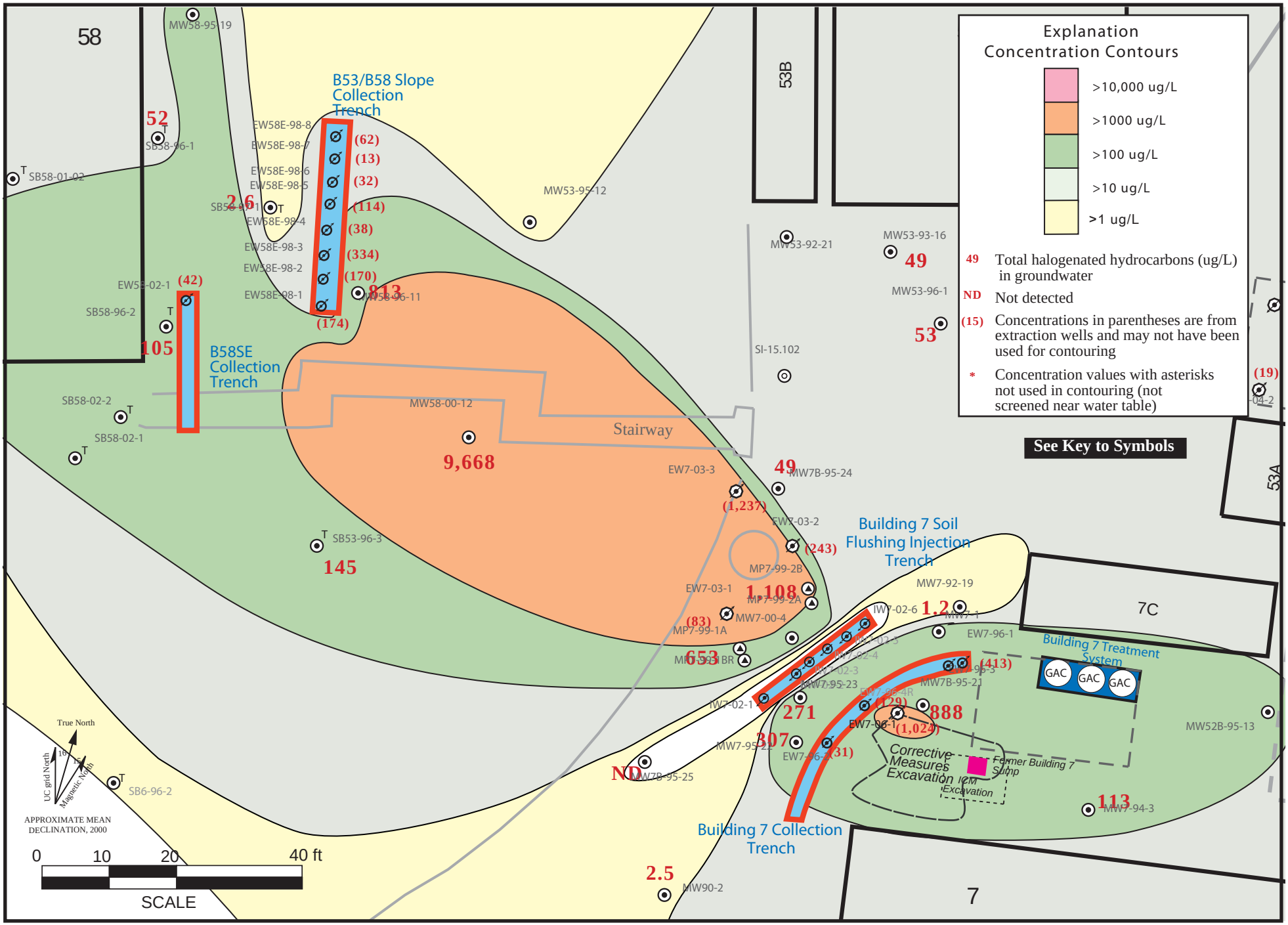

Figure 13. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Source Area of the Old Town Solvent Plume, Third Quarter FY08.

13-OTsumpareaVOCs.ai
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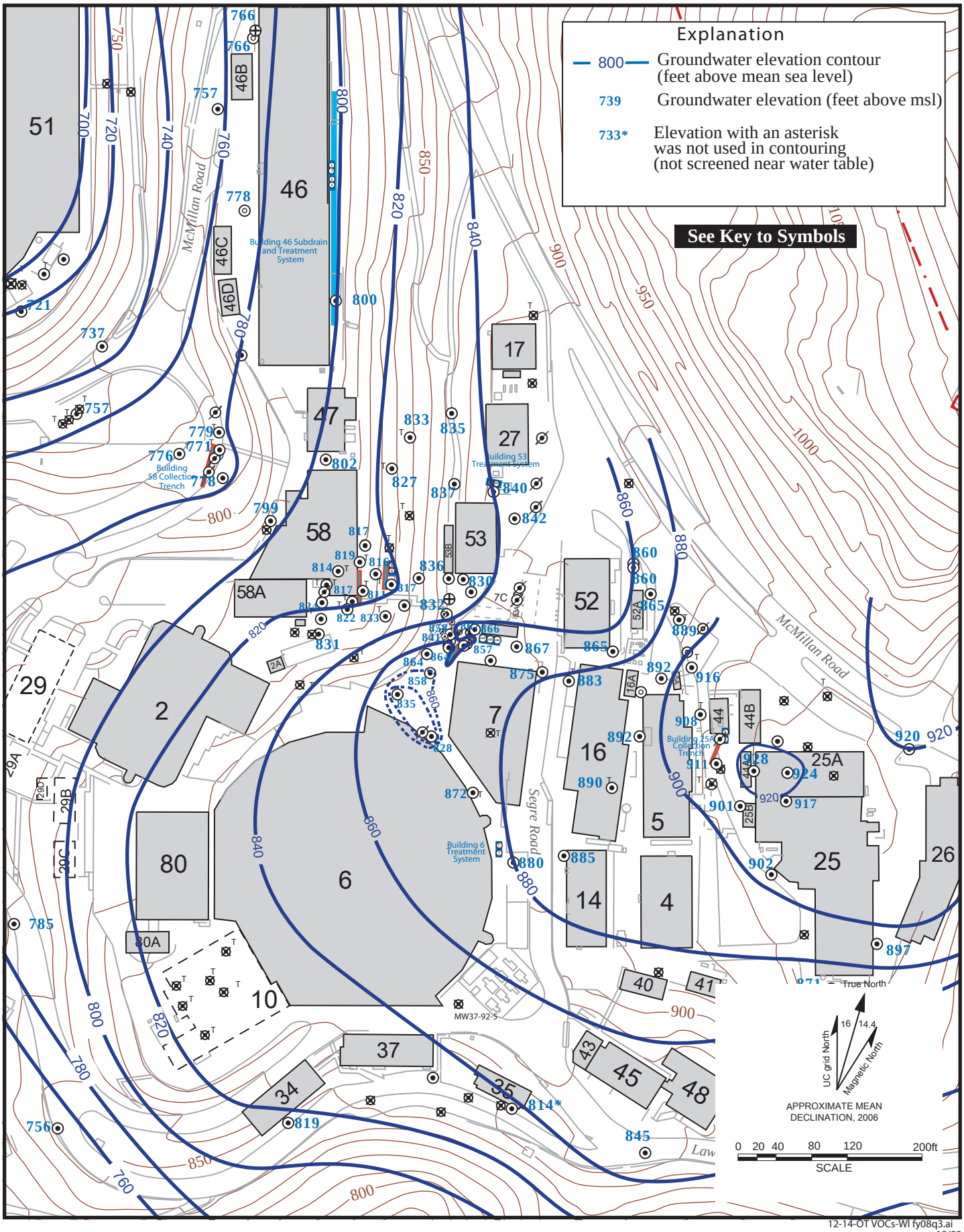
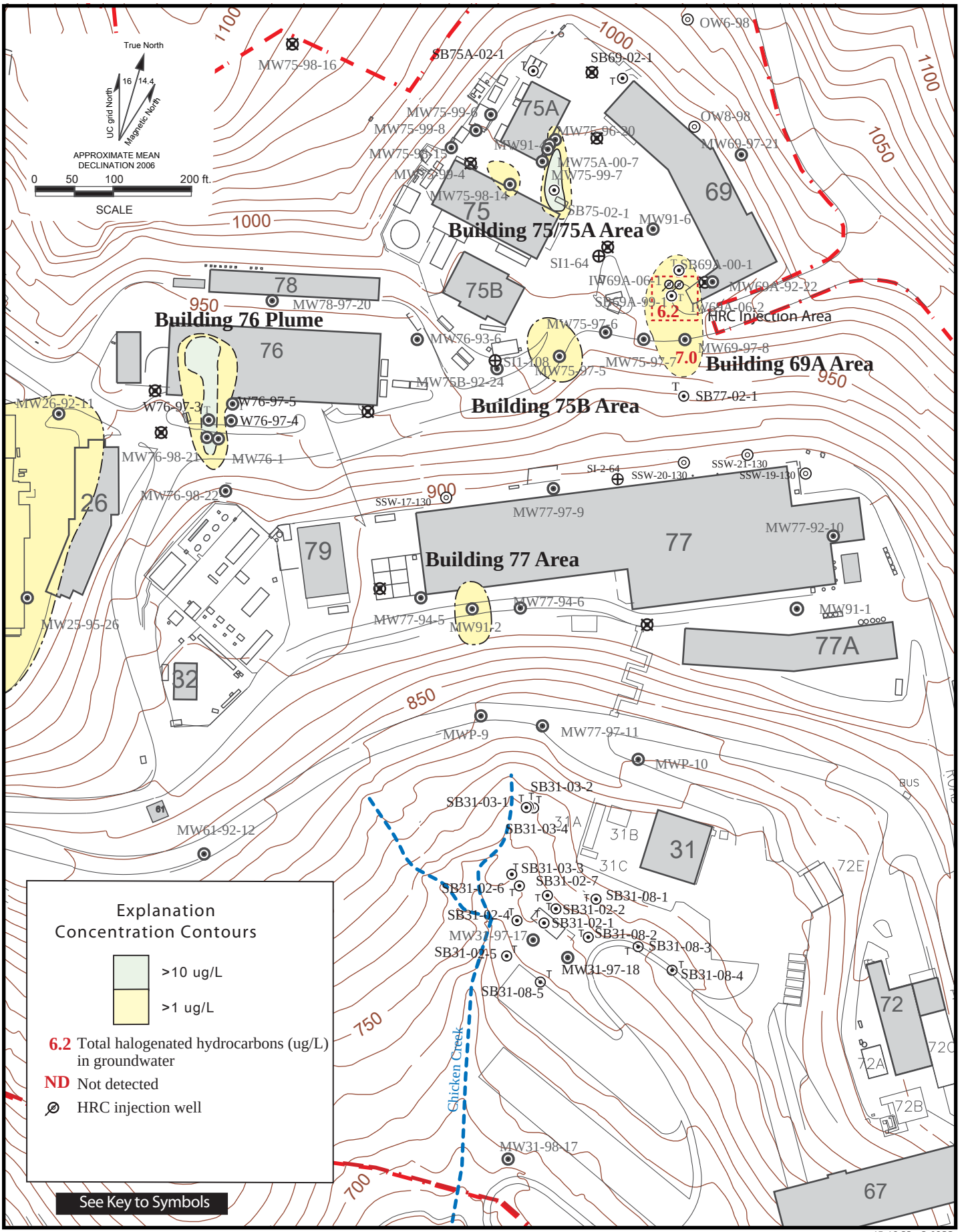


Figure 14. Water Level Elevation Map of the Old Town Area, Third Quarter FY08.



15-16-22-q3-08SS.ai
9/08

Figure 15. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Support Services Area, Third Quarter FY08.

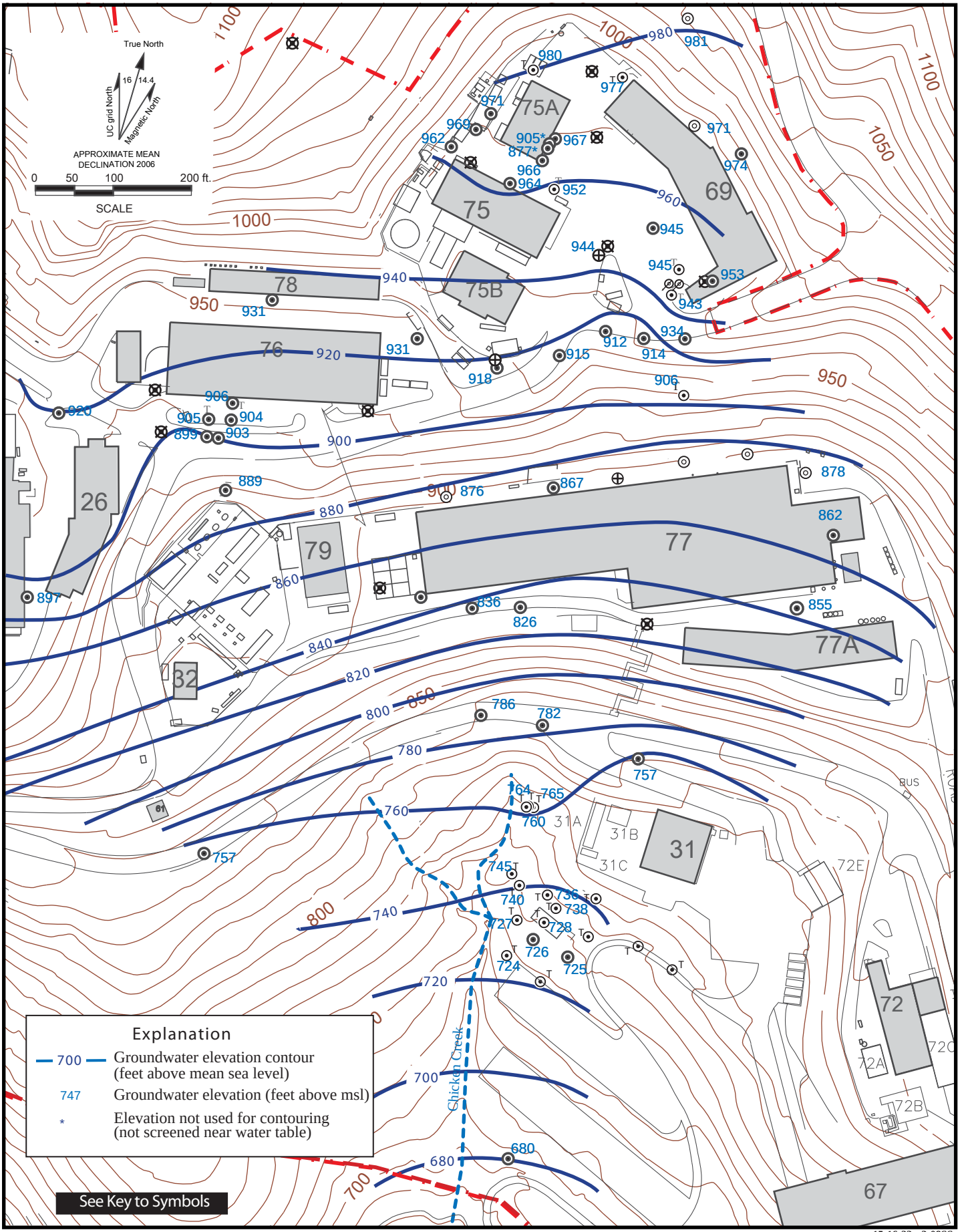


Figure 16. Water Level Elevation Map of the Support Services Area, Third Quarter FY08.

15-16-22-q3-08SS.ai
9/08

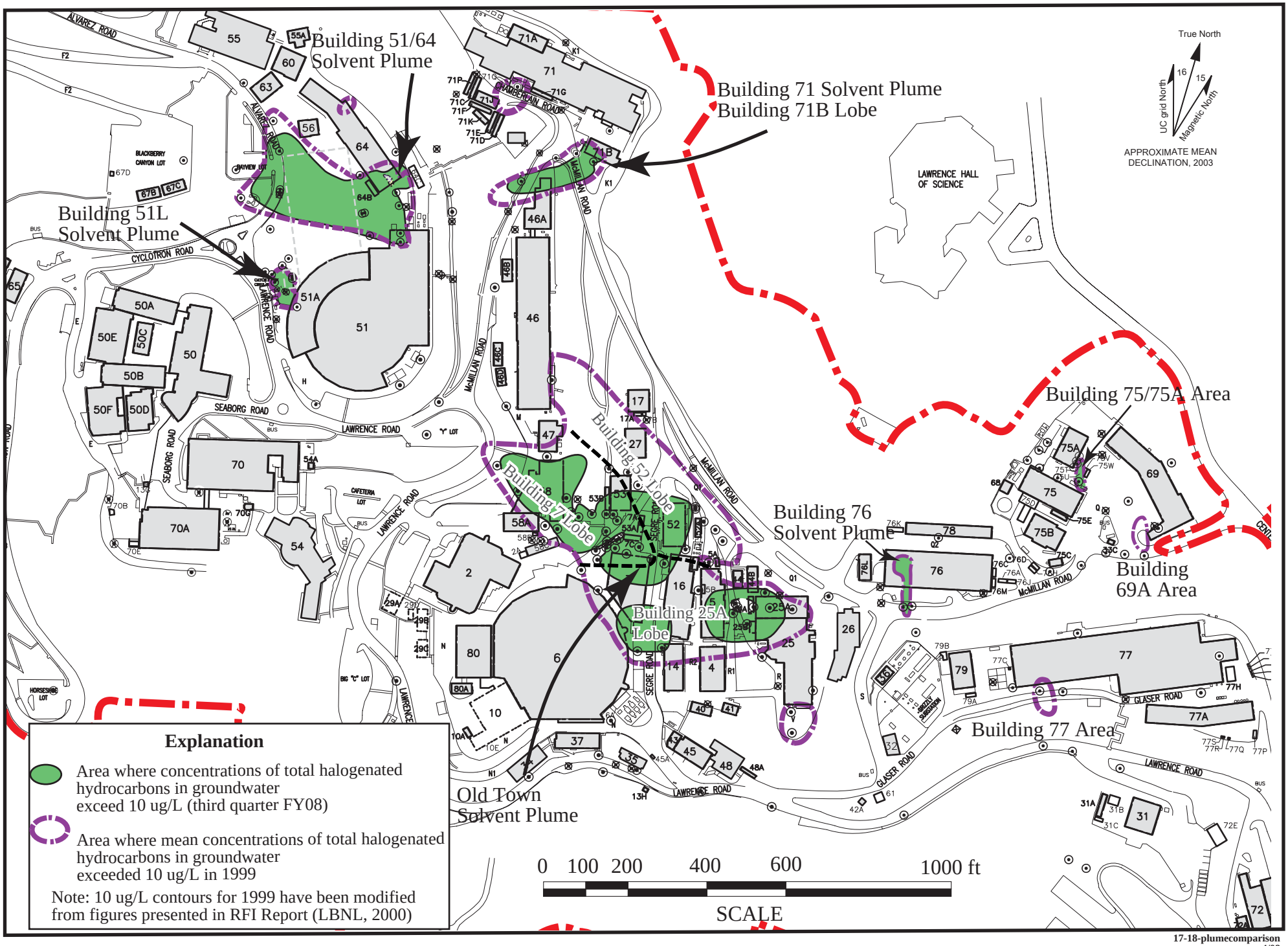
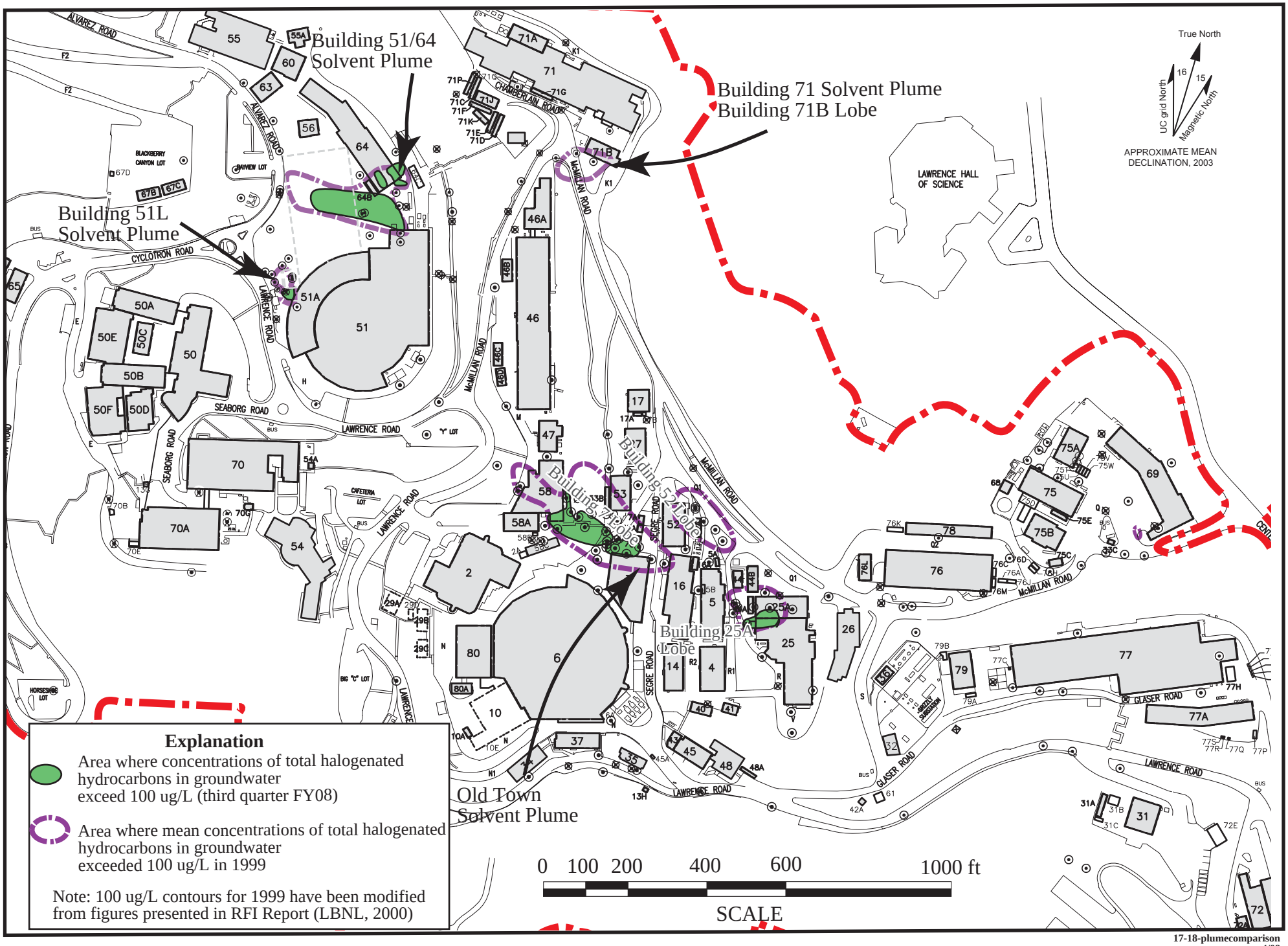
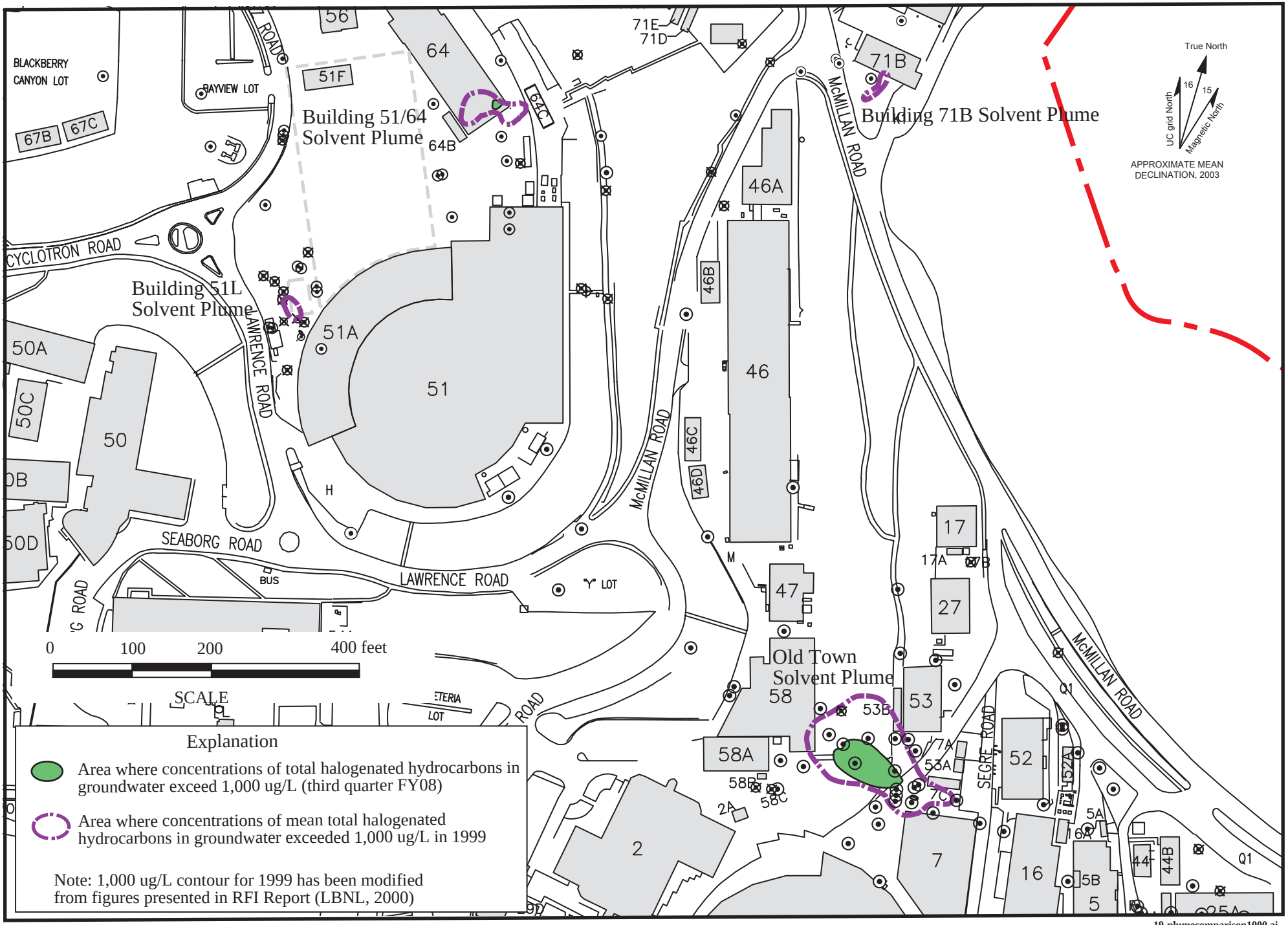


Figure 17. Extent of Groundwater Contamination (Total VOCs > 10 ug/L) Third Quarter FY08 Compared to 1999.



17-18-plumecomparison
4/08

Figure 18. Extent of Groundwater Contamination (Total VOCs > 100 ug/L) Third Quarter FY08 Compared to 1999.



19-plumecomparison1000.ai
10/08

Figure 19. Extent of Groundwater Contamination (Total VOCs > 1,000 ug/L) Third Quarter FY08 Compared to 1999.

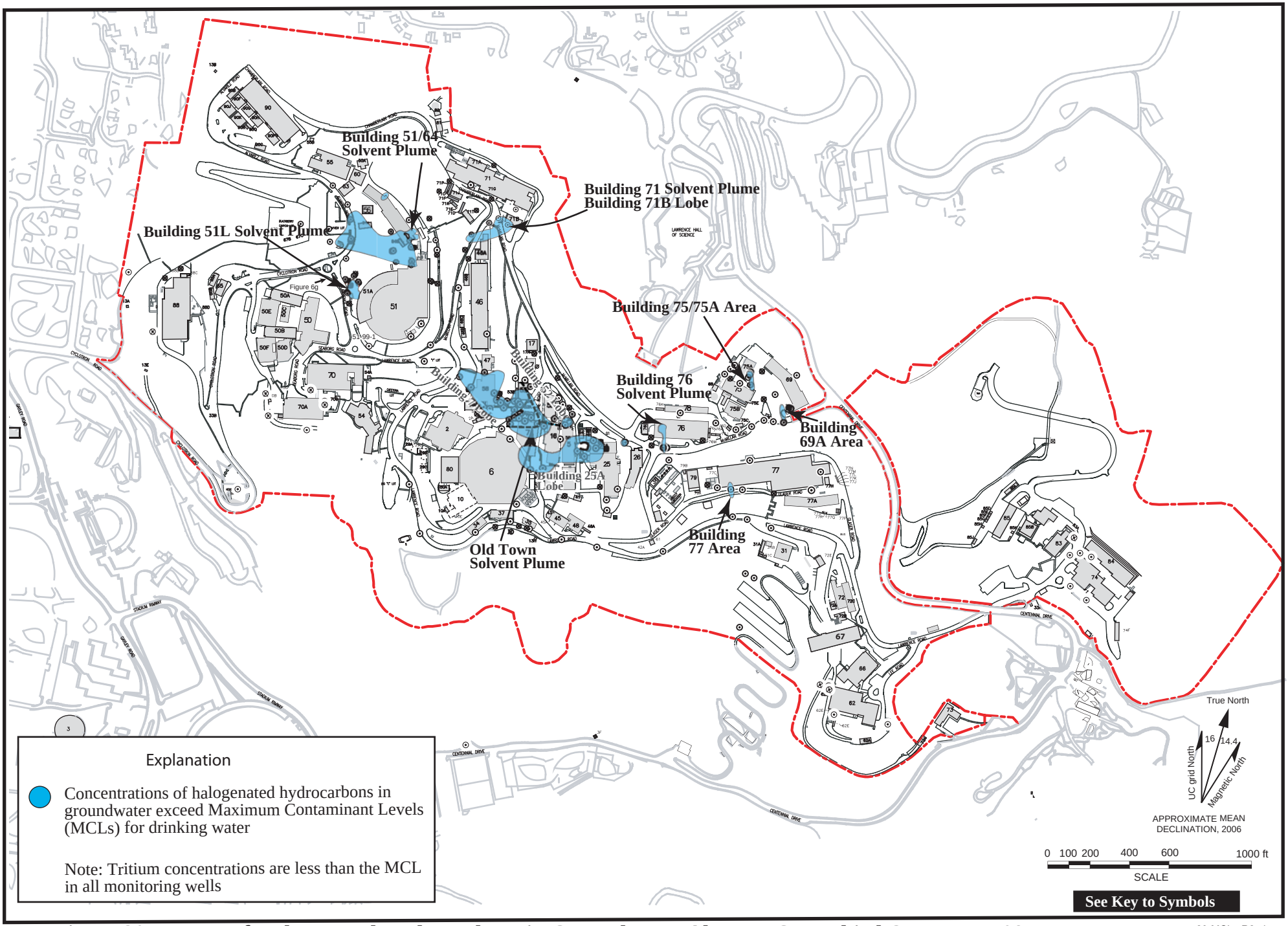


Figure 20. Extent of Halogenated Hydrocarbons in Groundwater Above MCLs, Third Quarter FY08.

20-MCLs-R2.ai
10/08

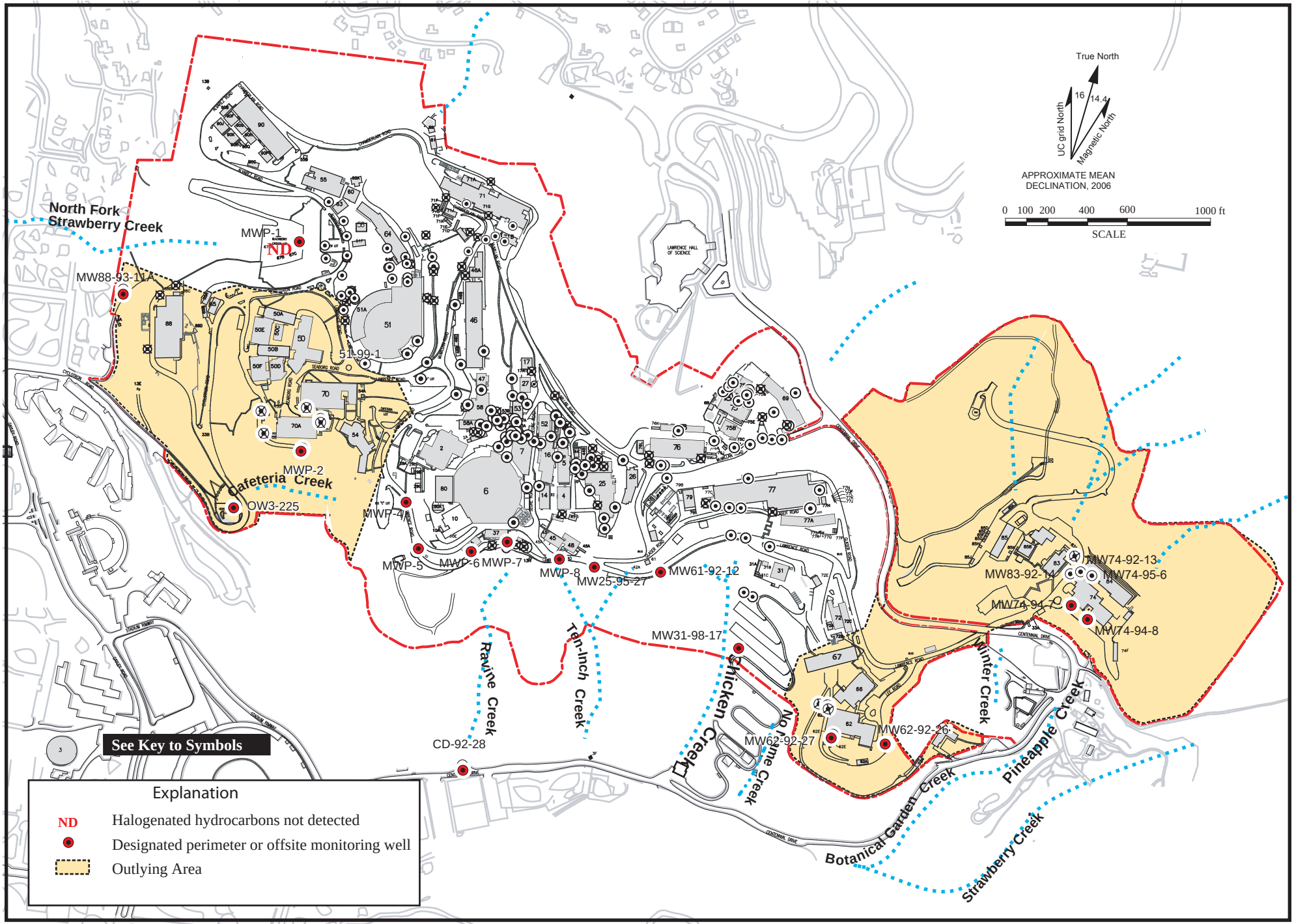


Figure 21. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Outlying Areas and Perimeter Monitoring Wells, Third Quarter FY08.

21-3q08-outlying.ai
10/08

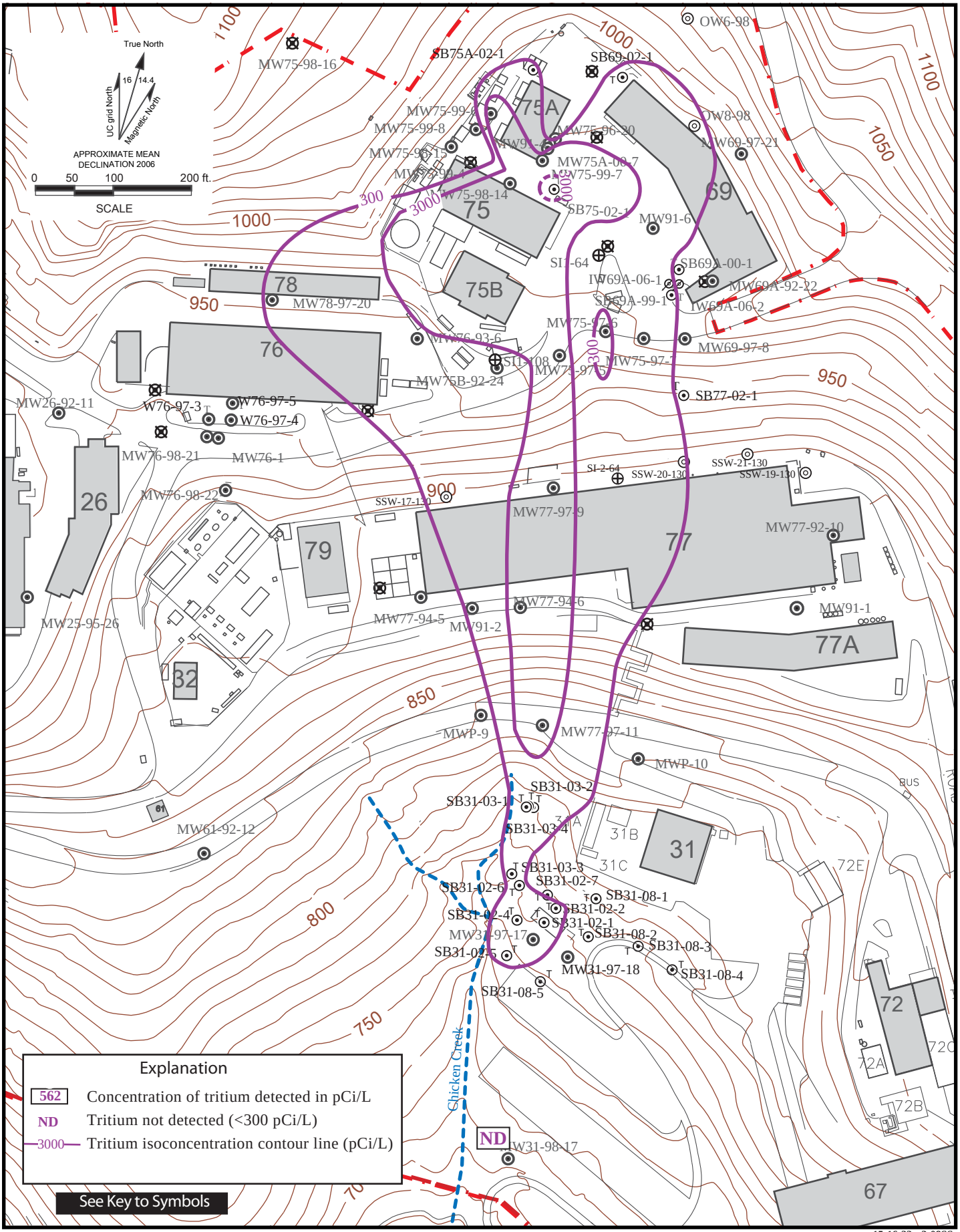


Figure 22. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area, Third Quarter FY08.

15-16-22-q3-08SS.ai
9/08

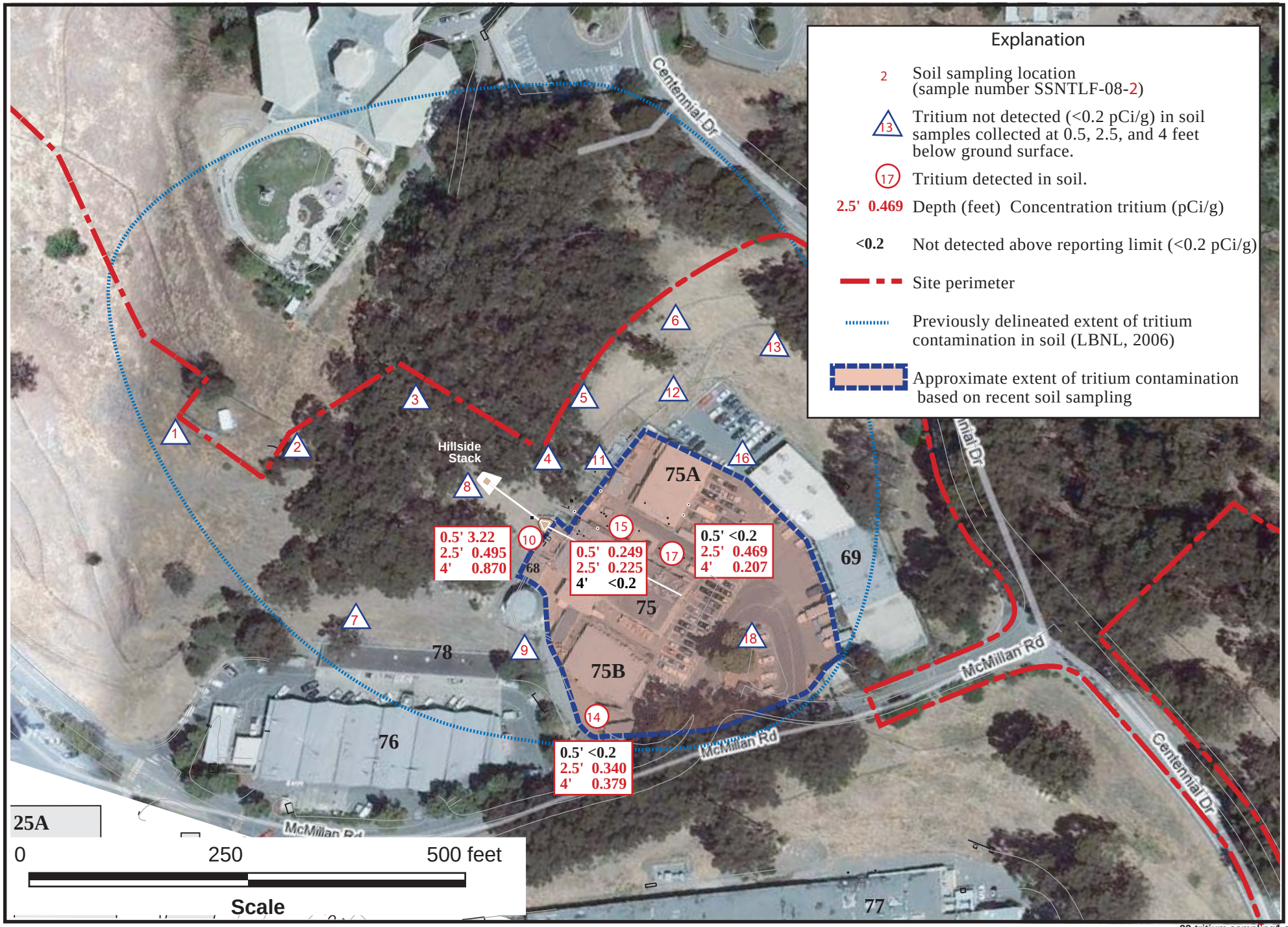


Figure 23. Concentrations of Tritium Detected in Shallow Soil Samples (Depth 0 to 5 feet) in the Vicinity of the Former NTLF.

23-tritium sampling1.ai
1008

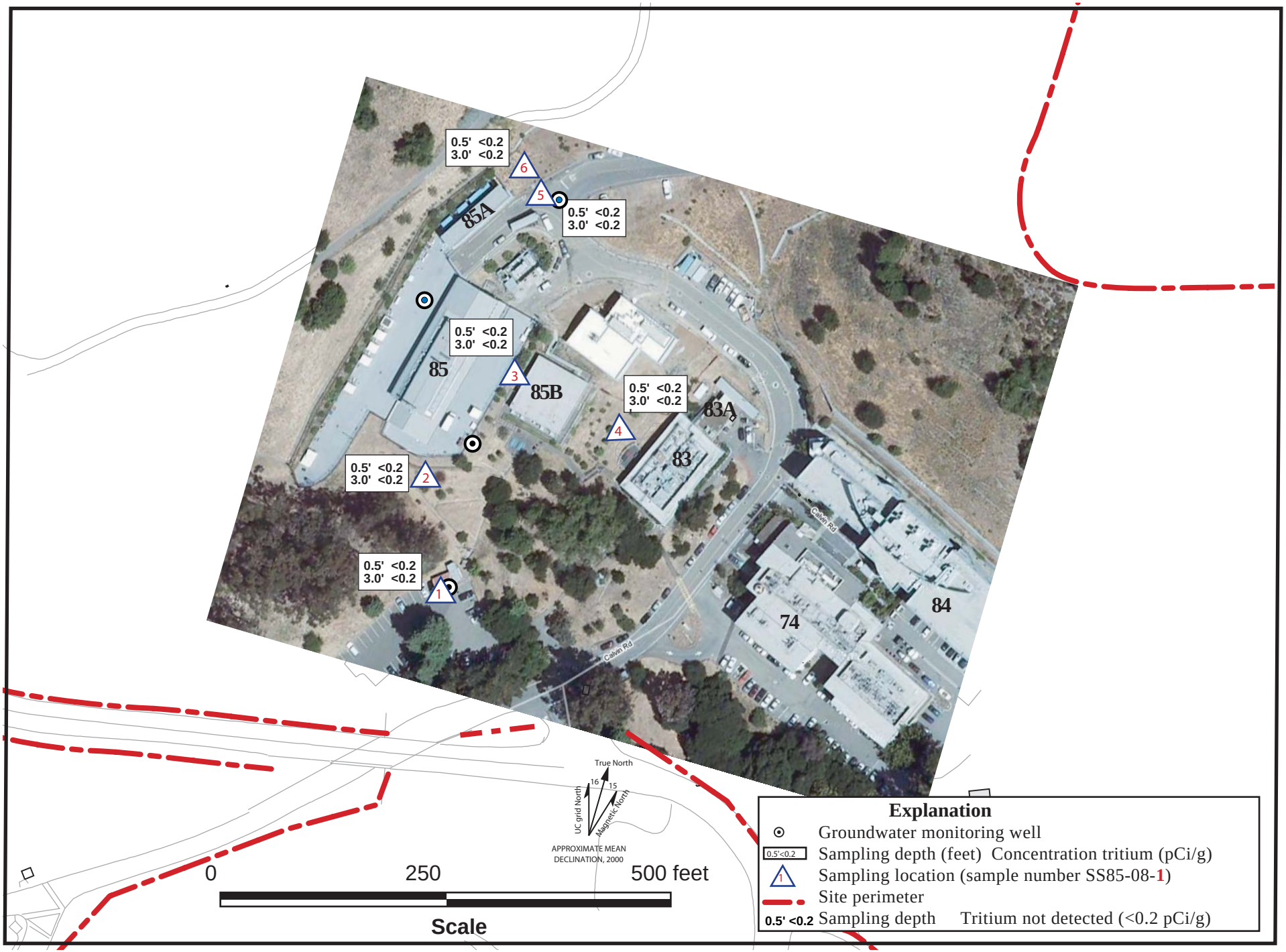


Figure 24. Concentrations of Tritium Detected in Shallow Soil Samples Building 85 Area (June 2008).

LIST OF TABLES

Table 1
EPA Method 8260 Quantitation Limits
Groundwater Samples
3rd Quarter FY 2008

	Water Samples µg/L	
Compound	LBNL EML	BC Laboratories
Benzene	1.0	0.5
Bromobenzene	1.0	
Bromochloromethane	2.0	
Bromodichloromethane	1.0	0.5
Bromoform	2.0	0.5
Bromomethane	10.0	0.5
n-Butylbenzene	1.0	
sec-Butylbenzene	1.0	
tert-Butylbenzene	1.0	
Carbon Tetrachloride	1.0	0.5
Chlorobenzene	1.0	0.5
Chlorodifluoromethane (Freon-22)	30.0	
Chloroethane	30.0	0.5
Chloroform	3.0	0.5
Chloromethane	10.0	0.5
2-Chlorotoluene	2.0	
4-Chlorotoluene	2.0	
Dibromochloromethane	2.0	0.5
1,2-Dibromo-3-chloropropane	2.0	1.0
1,2-Dibromoethane	2.0	
Dibromomethane	1.0	
1,2-Dichlorobenzene	1.0	
1,3-Dichlorobenzene	1.0	
1,4-Dichlorobenzene	1.0	
Dichlorodifluoromethane (Freon-12)	3.0	0.5
1,1-Dichloroethane	1.0	0.5
1,2-Dichloroethane	2.0	0.5
1,1-Dichloroethene	1.0	0.5
cis-1,2-Dichloroethene	1.0	0.5
trans-1,2-Dichloroethene	1.0	0.5
1,2-Dichloropropane	1.0	0.5
1,3-Dichloropropane	1.0	
2,2-Dichloropropane	1.0	
1,1-Dichloropropene	1.0	
cis-1,3-Dichloropropene	1.0	0.5
trans-1,3-Dichloropropene	1.0	0.5
Dichlorotrifluoroethane (Freon-123)	1.0	
Ethylbenzene	1.0	0.5
Hexachlorobutadiene	3.0	
Isopropylbenzene	2.0	

Table 1 (Cont'd)
EPA Method 8260 Quantitation Limits
Groundwater Samples
3rd Quarter FY 2008

	Water Samples µg/L	
Compound	LBNL EML	BC Laboratories
p-Isopropyltoluene	1.0	
Methylene Chloride	1.0	1.0
Naphthalene	2.0	
n-Propylbenzene	1.0	
Styrene	1.0	0.5
1,1,2,2-Tetrachloroethane	1.0	0.5
1,1,1,2-Tetrachloroethane	2.0	0.5
Tetrachloroethene	1.0	0.5
Toluene	1.0	0.5
1,2,3-Trichlorobenzene	2.0	
1,2,4-Trichlorobenzene	1.0	
1,1,1-Trichloroethane	1.0	0.5
1,1,2-Trichloroethane	1.0	0.5
Trichloroethene	1.0	0.5
Trichlorofluoromethane (Freon-11)		0.5
1,2,3-Trichloropropane	1.0	1.0
Trichlorotrifluoroethane (Freon-113)	1.0	0.5
1,2,4-Trimethylbenzene	1.0	
1,3,5-Trimethylbenzene	1.0	
Vinyl Chloride	1.0	0.5
Total-Xylene	2.0	1.0
Acetone		10
Acetonitrile		100
Acrolein		50
Acrylonitrile		50
Carbon DIsulfide		5.0
2-Chloroethyl vinyl ether		10
Chloroprene		5.0
trans-1,4-Dichloro-2-butene		5.0
1,4-Dioxane		100
Ethanol		1000
2-Hexanone		10
Methyl ethyl ketone		10
Methyl isobutyl ketone		10
Vinyl Acetate		20

= Compound not included in analysis

Table 2
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
Trip Blank		T-56	√√√√	√√√	√√√	
Field Blank		T-56	√√√√	√√√√	√√√	
MW90-2[S]	2	T-36		√		
MW90-3[S]	1					
MW90-4[A]	1					
MW90-5[S]	1					
MW91-1[A]	5					
MW91-2[S]	5					
MW91-4[N]	3					
MW91-6[N]	3					
MW91-8[S]	2	T-36	√	√	√	
MW91-9[A]	10	T-36	√	√	√	
MWP-1[Q]	15	T-22	√			
MWP-2[S]	8					
MWP-4[S]	14					
MWP-5[S]	14					
MWP-6[S]	14					
MWP-7[T]	14					
MWP-8[S]	10					
MWP-9[A]	5					
MWP-10[N]	5					
MW76-1[A]	4					
51-92-2[N]	9					
46-92-9[A]	7					
77-92-10[N]	5					
26-92-11[A]	10					
61-92-12[S]	5					
74-92-13[N]	11					
83-92-14[N]	11					
46A-92-15[A]	1					
7-92-16[S]	2					
6-92-17[S]	14					
37-92-18A[N]	14					
7-92-19[S]	2	T-31	√		√	
27-92-20[Q]	2	T-34	√	√	√	
53-92-21-130'[N]	2					
53-92-21-147'[N]	2					
53-92-21-167'[N]	2					
53-92-21-193'[N]	2					
69A-92-22[A]	3					
75B-92-24[N]	3					

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
62-92-26^{S}	13					
62-92-27^{S}	13					
CD-92-28^{S}	OS					
71-93-2^{N}	1					
58-93-3^{S}	7					
6-93-4^{A}	2					
76-93-6^{N}	4					
53-93-9^{Q}	2	T-35	√	√	√	
5-93-10^{S}	10	T-31	√	√	√	
88-93-11A^{S}	6					
46-93-12^{S}	7					
88-93-13^{N}	6					
52-93-14^{A}	10					
53-93-16-42'^{A}	2					
53-93-16-69'^{S}	2	T-35	√	√	√	
53-93-17^{N}	2					
51B-93-18A^{S}	9	T-22	√			
7-94-3^{S}	2	T-31	√		√	
77-94-5^{N}	5					
77-94-6^{N}	5					
74-94-7^{S}	11					
74-94-8^{S}	11					
25-94-12^{A}	10					
16-94-13^{A}	10					
58A-94-14^{S}	7					
51-94-15^{A}	7					
52-95-2A	10					
52-95-2B^{S}	10	T-34	√	√	√	
16-95-3^{N}	10	T-32			√	
25-95-5^{N}	10	T-32	√	√	√	
74-95-6^{A}	11					
71-95-9^{N}	1					
58-95-11^{A}	7					
53-95-12^{S}	2					
52B-95-13^{A}	2	T-35	√			
6-95-14^{A}	2	T-31	√			
25A-95-15^{S}	10					
58-95-18^{A}	7					
58-95-19^{S}	7					
58-95-20^{A}	7					
7B-95-21^{S}	2	T-32	√	√	√	
7-95-22^{S}	2	T-31	√	√	√	

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
7-95-23[Q]	2	T-31	√	√	√	
7B-95-24[Q]	2	T-32	√	√	√	
7B-95-25[S]	2	T-32		√		
25-95-26[A]	10					
25-95-27[S]	10					
53-96-1[A]	2	T-35	√	√	√	
51-96-3[A]	7					
46-96-10[A]	7					
58-96-11[Q]	2	T-35	√	√	√	
51-96-15[S]	9					
51-96-16[S]	9	T-22	√	√√	√	
51-96-17[A]	9	T-22	√	√	√	
51-96-18[S]	9	T-22	√	√	√	
75-96-20[A]	3					
64-97-1[A]	9					
64-97-2[S]	9					
51-97-3[A]	9					
75-97-5[N]	3					
75-97-6[N]	3					
75-97-7[N]	3					
69-97-8[S]	3	T-44	√	√	√	
77-97-9[N]	5					
77-97-11[N]	5					
51-97-12[S]	9	T-22	√			
51-97-13[A]	9					
51-97-14[A]	9					
51-97-15[S]	9					
31-97-17[N]	5					
31-97-18[N]	5					
78-97-20[N]	4					
69-97-21[N]	3					
25A-98-1[S]	10	T-33	√	√	√	
56-98-2[A]	9					
25A-98-3[S]	10	T-33	√	√	√	
25A-98-7[S]	10	T-33	√	√	√	
52A-98-8A[A]	10					
52A-98-8B[S]	10	T-34	√	√	√	
52-98-9[A]	10	T-34	√	√	√	
25-98-10[A]	10	T-33	√	√	√	
71B-98-13[S]	1					
75-98-14[A]	3					
75-98-15[N]	3					

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
31-98-17[S]	5					√
63-98-18[A]	15					
76-98-21[S]	4					
76-98-22[S]	4					
51-99-1[N]	9					
25A-99-2[S]	10					
71B-99-3R[Q]	1	T-22		√ √	√	
75-99-6[N]	3					
75-99-7[N]	3					
75-99-8[N]	3					
7-00-4[A]	2					
75A-00-7[A]	3					
51-00-8[Q]	9	T-22	√			
51-00-9[N]	9					
51-00-10[A]	9					
58-00-12[Q]	7	T-36	√	√	√	
51L-01-1A[A]	9					
51L-01-1B[N]	9					
51L-01-5A[A]	9					
51L-01-5B[A]	9					
51L-01-6[A]	9					
51L-01-7[A]	9					
51A-01-11[A]	9					
OW3-225[S]	8					
Hydraugers						
37-01-01	14					
51-01-01	9	T-46	√,D			
51-01-02	9	T-46	√			
51-01-03	9	T-46	√,D			
51-01-03A	9					
51-01-04	9	T-46	√			
77-02-05	5					
77-03-2	5					
77-03-3	5					
77-04-11	5					
Slope Stability and Slope Indicator Facilities						
SSW19-63	7					
SSW17-130	5					
SSW19-130	5					
SSW20-130	5					
SSW21-130	5					

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
Temporary Groundwater Sampling Points						
SB5A-98-1	10	T-37		√		
SB7-97-1	2					
SB16-97-11	10	T-37	√			
SB16-98-1	10	T-37	√			
SB25A-96-3	10	T-37	√			
SB27-96-1	5	T-37	√	√	√	
SB31-02-1	5					
SB31-02-2	5					
SB31-02-4	5					
SB31-02-5	5					
SB31-02-6	5					
SB31-02-7	5					
SB31-03-1	5					
SB31-03-2	5					
SB31-03-3	5					
SB31-03-4	5					
SB44-98-1	10					
SB51-98-1	9					
SB51-98-2	9					
SB51-98-4	9	T-23	√			
SB51-98-6	9					
SB51-98-8	9					
SB51-98-9	9					
SB51-04-1	9					
SB51L-98-1A	9	T-23		√		
SB52A-98-1	2					
SB53-96-3	2	T-37	√√	√	√	
SB58-95-1	7					
SB58-95-2	7					
SB58-96-1	7	T-38		√		
SB58-96-2	7	T-38		√		
SB58-97-1	7	T-38		√		
SB58-97-2	7	T-38	√	√	√	
SB58-98-1	7					
SB58-98-6	7					
SB58-98-7	7					
SB58-01-2	7					
SB58-02-1	7					
SB58-02-2	7					

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
Temporary Groundwater Sampling Points						
SB64-98-8	9	T-23	√	√,D	√	
SB64-98-12	9					
SB64-98-13	9					
SB64-98-17	9	T-23	√	√	√	
SB64-99-4	9	T-23	√	√	√	
SB64-99-5	9	T-24	√	√	√	
SB64-99-6	9					
SB64-00-1	9	T-24	√	√	√	
SB64-00-2	9	T-24	√	√	√	
SB64-02-1A	9	T-24	√	√	√	
SB64-02-1B	9	T-25	√	√	√	
SB64-02-1C	9	T-25	√	√	√	
SB64-02-1D	9	T-25	√	√	√	
SB64-02-1E	9	T-25	√	√	√	
SB64-02-1F	9	T-26	√	√		
SB64-02-2A	9	T-26	√	√	√	
SB64-02-2B	9	T-26	√	√	√	
SB64-02-2C	9	T-26	√	√	√	
SB64-02-2D	9	T-26	√	√	√	
SB64-02-2E	9	T-27	√	√	√	
SB64-02-2F	9	T-27	√	√	√	
SB64-03-1A	9					
SB64-03-1B	9	T-27	√	√	√	
SB64-03-4	9					
SB64-03-5	9	T-27		√		
SB64-03-6	9	T-27	√	√	√	
SB64-03-7	9					
SB64-03-8	9					
SB64-03-12	9					
SB64-03-13	9					
SB64-05-4	9	T-28	√	√	√	
SB69-02-1A	3					
SB69-02-1B	3					
SB69A-99-1	3	T-45	√	√	√	
SB69A-00-1	3					
SB71B-99-1	1					
SB71B-99-2	1					
SB71B-03-1	1	T-28	√	√	√	
SB71B-03-2	1	T-28	√	√	√	

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
Temporary Groundwater Sampling Points						
SB71B-04-1	1	T-28	√	√	√	
SB71B-04-3	1					
SB71H-98-1	1					
SB75-02-1	3					
SB75A-02-1A	3					
SB75A-02-1B	3					
SB77-02-1	5					
W76-97-3	4					
W76-97-4	4					
W76-97-5	4					
Other Locations						
MP7-99-1BR	2	T-43	√	√	√	
MP7-99-2BR	2	T-43	√,D	√	√	
Extraction/Injection Wells						
EW7-96-1	2	T-39	√	√	√	
EW7-96-2	2	T-39	√	√	√	
EW7-96-4R	2	T-39	√	√	√	
EW7-03-1	2	T-39	√	√	√	
EW7-03-2	2	T-40	√	√	√	
EW7-03-3	2	T-40	√	√	√	
EW7-06-1	2	T-40	√	√	√	
EW7C-04-2	2	T-40	√	√	√	
EW25A-02-1	10	T-41	√	√	√	
EW51-07-1	9	T-29		√		
EW51-07-2	9	T-29		√		
EW51A-06-1	9	T-29	√	√	√	
EW51B-07-1	9	T-29	√	√	√	
EW51B-07-2	9	T-29	√	√	√	
EW51L-06-1	9	T-30	√	√	√	
EW53-04-2	2	T-41	√	√	√	
EW58-98-1[T]	7	T-41	√			
EW58-98-2[T]	7	T-41	√			
EW58E-98-1	7	T-41		√		
EW58E-98-2	7	T-41		√		
EW58E-98-3	7	T-41		√		
EW58E-98-4	7	T-42		√		
EW58E-98-5	7	T-42		√		
EW58E-98-6	7	T-42		√		
EW58E-98-7	7	T-42		√		
EW58E-98-8	7	T-42		√		

Table 2 (Cont'd)
Groundwater Sampling Locations and Analytical Methods
3rd Quarter FY 2008

		VOCs - 8260				Tritium
Location	Area	Page #	Apr	May	Jun	906
Extraction/Injection Wells						
EW58-02-1[T]	7	T-42	√	√	√	
EW58-07-1	7	T-42	√	√	√	
EW64-00-1[T]	9	T-30	√	√	√	
EW64-03-1[T]	9	T-30	√	√	√	
EW64-05-1[T]	9	T-30	√	√	√	
EW64-06-1[T]	9					

= all compounds less than Quantitation Limit or for tritium less than Minimum Detectable Activity

Minimum required groundwater monitoring well sampling schedule for VOCs

[N] = No sampling

[Q] = Quarterly

[S] =Semi-annual

[A] = Annual

[T] = Treatment system influent samples

D - each D represents one duplicate sample

OS = Offsite well

√ = each check represents one sample taken

Analytical Methods:

VOCs = Volatile Organic Compounds, EPA Method 8260

Table 3
Groundwater Elevations in LBNL Monitoring Wells
3rd Quarter FY 2008

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Bevalac Area						
46A-92-15	830.10	5/27	15.00	815.10	816.89	-1.79
51-92-2	724.69	5/27	4.13	720.56	720.43	0.13
51-96-15	709.83	5/27	21.85	687.98	689.06	-1.08
51-96-16	709.72	5/27	19.54	690.18	692.20	-2.02
51-96-17	709.64	5/27	18.45	691.19	694.53	-3.34
51-96-18	710.76	5/27	9.45	701.31	702.39	-1.08
51-97-3	709.81	5/27	44.45	665.36	666.01	-0.65
51-97-12	709.37	5/27	43.22	666.15	666.51	-0.36
51-97-13	709.48	5/27	35.63	673.85	674.91	-1.06
51-97-14	708.89	5/27	18.72	690.17	660.01	30.16
51-97-15	706.11	5/27	71.49	634.62	634.76	-0.14
51-99-1	724.44	5/27	11.06	713.38	NM	
51-00-8	682.11	5/27	23.62	658.49	660.19	-1.70
51-00-9	698.16	5/27	3.24	694.92	695.65	-0.73
51-00-10	698.18	5/27	3.36	694.82	695.54	-0.72
51A-01-11	709.74	5/28	NM		696.99	-696.99
51B-93-18A	709.95	5/27	10.07	699.88	701.78	-1.90
51L-01-1A	710.04	5/28	5.88	704.16	703.82	0.34
51L-01-1B	710.04	5/28	11.16	698.88	701.94	-3.06
51L-01-5A	709.96	5/27	26.19	683.77	NM	
51L-01-5B	709.94	5/27	45.55	664.39	NM	
51L-01-6	709.80	5/27	21.82	687.98	687.00	0.98
51L-01-7	709.76	5/27	30.08	679.68	679.26	0.42
56-98-2	709.76	5/27	18.72	691.04	694.40	-3.36
63-98-18	709.99	5/27	20.55	689.44	692.42	-2.98
64-97-1	709.94	5/27	3.93	706.01	705.37	0.64
64-97-2	709.65	5/27	12.82	696.83	700.59	-3.76
71-93-2	844.39	5/27	33.38	811.01	812.46	-1.45
71-95-9	854.18	5/27	18.31	835.87	837.05	-1.18
71B-98-13	832.33	5/27	11.47	820.86	822.51	-1.65
71B-99-3R	840.13	5/27	NM		NM	
MW90-3	820.60	5/27	42.15	778.45	779.89	-1.44
MW90-4	746.15	5/27	6.49	739.66	740.76	-1.10
MW90-5	745.75	5/27	17.40	728.35	730.62	-2.27
MWP-1	630.65	5/27	43.57	587.08	587.68	-0.60
Old Town Area						
5-93-10	914.90	5/27	22.98	891.92	898.69	-6.77
6-92-17	891.20	5/27	11.60	879.60	880.15	-0.55
6-93-4	881.60	5/28	46.54	835.06	835.53	-0.47
7-92-16	882.40	5/28	54.08	828.32	830.92	-2.60
7-92-19	884.80	5/28	18.63	866.17	870.58	-4.41
7-94-3	882.88	5/28	NM		NM	
7-95-22	882.16	5/28	18.62	863.54	863.58	-0.04
7-95-23	882.37	5/28	24.83	857.54	872.45	-14.91
7-00-4	883.18	5/28	73.39	809.79	804.97	4.82
7B-95-21	883.63	5/28	26.59	857.04	870.53	-13.49
7B-95-24	883.88	5/28	51.95	831.93	831.70	0.23
7B-95-25	882.03	5/28	18.29	863.74	865.11	-1.37
16-94-13	892.50	5/27	17.82	874.68	881.37	-6.69
16-95-3	901.52	5/27	16.33	885.19	886.98	-1.79

Table 3 (Cont'd)
Groundwater Elevations in LBNL Monitoring Wells
3rd Quarter FY 2008

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Old Town Area						
25-94-12	937.59	5/27	35.75	901.84	906.66	-4.82
25-95-5	932.88	5/27	NM		NM	
25-95-26	935.81	5/27	39.12	896.69	897.40	-0.71
25-95-27	859.83	5/28	31.03	828.80	829.28	-0.48
25-98-10	934.42	5/27	63.55	870.87	890.92	-20.05
25A-95-15	931.68	5/27	20.69	910.99	909.29	1.70
25A-98-1	936.88	5/27	35.43	901.45	900.94	0.51
25A-98-3	940.14	5/27	NM		NM	
25A-98-7	942.71	5/27	14.34	928.37	930.53	-2.16
25A-99-2	940.45	5/27	16.14	924.31	929.09	-4.78
26-92-11	936.19	5/27	16.48	919.71	925.17	-5.46
27-92-20	881.10	5/28	45.74	835.36	836.55	-1.19
37-92-18A	861.20	5/27	47	814.20	814.16	0.04
46-92-9	805.30	5/28	72.25	733.05	731.90	1.15
46-93-12	807.57	5/28	7.55	800.02	800.08	-0.06
46-96-10	790.35	5/28	33.52	756.83	757.97	-1.14
51-94-15	771.17	5/27	34.04	737.13	738.87	-1.74
51-96-3	766.44	5/27	9.8	756.64	757.83	-1.19
52-93-14	900.03	5/27	34.85	865.18	866.59	-1.41
52-95-2A	910.27	5/27	43.72	866.55	867.74	-1.19
52-95-2B	910.23	5/27	50.51	859.72	861.11	-1.39
52-98-9	910.86	5/27	50.58	860.28	861.57	-1.29
52A-98-8A	913.56	5/27	31.72	881.84	884.35	-2.51
52A-98-8B	913.51	5/27	48.86	864.65	865.95	-1.30
52B-95-13	887.40	5/28	20.12	867.28	872.37	-5.09

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
53-92-21-130'	886.97	5/28	67.72	819.25	819.08	0.17
53-92-21-147'	886.99	5/28	66.74	820.25	820.07	0.18
53-92-21-167'	886.97	5/28	67.66	819.31	818.93	0.38
53-92-21-193'	886.98	5/28	80.44	806.54	806.26	0.28
53-93-9	900.68	5/28	59.12	841.56	843.23	-1.67
53-93-16-42'	887.45	5/28	38.29	849.16	854.04	-4.88
53-93-16-69'	887.40	5/28	NM		NM	
53-93-17	902.62	5/28	62.92	839.70	841.74	-2.04
53-95-12	867.45	5/28	31.35	836.10	836.61	-0.51
53-96-1	887.64	5/28	57.93	829.71	829.53	0.18
58-93-3	830.06	5/28	6.39	823.67	823.95	-0.28
58-95-11	831.62	5/28	0.68	830.94	831.52	-0.58
58-95-18	788.61	5/28	10.57	778.04	780.07	-2.03
58-95-19	834.33	5/28	17.16	817.17	817.48	-0.31
58-95-20	818.81	5/28	16.40	802.41	803.70	-1.29
58-96-11	848.23	5/28	31.71	816.52	816.38	0.14
58-00-12	860.62	5/28	NM		NM	
58A-94-14	821.73	5/28	23.12	798.61	798.89	-0.28
MW90-2	880.78	5/28	23.12	857.66	859.82	-2.16
MW91-8	887.02	5/28	50.09	836.93	838.92	-1.99
MW91-9	915.67	5/27	23.20	892.47	897.25	-4.78
MWP-4	831.56	5/27	46.32	785.24	784.95	0.29
MWP-5	852.37	5/27	96.51	755.86	755.95	-0.09
MWP-6	845.44	5/27	26.68	818.76	821.08	-2.32
MWP-8	872.34	5/28	27.02	845.32	847.25	-1.93

Table 3 (Cont'd)
Groundwater Elevations in LBNL Monitoring Wells
3rd Quarter FY 2008

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Support Services						
31-97-17	746.15	5/27	20.62	725.53	727.22	-1.69
31-97-18	747.80	5/27	22.64	725.16	726.67	-1.51
31-98-17	693.47	5/27	13.30	680.17	682.63	-2.46
61-92-12	843.90	5/28	86.59	757.31	756.69	0.62
69-97-8	975.75	5/28	41.82	933.93	933.94	-0.01
69-97-21	1003.40	5/28	29.35	974.05	975.31	-1.26
69A-92-22	977.06	5/28	24.03	953.03	953.55	-0.52
75-96-20	979.07	5/28	11.92	967.15	969.06	-1.91
75-97-5	963.73	5/28	48.44	915.29	918.77	-3.48
75-97-6	967.89	5/28	56.00	911.89	911.06	0.83
75-97-7	970.70	5/28	56.68	914.02	908.95	5.07
75-98-14	977.94	5/28	14.20	963.74	965.40	-1.66
75-98-15	977.97	5/28	16.16	961.81	961.04	0.77
75-99-6	979.94	5/28	8.51	971.43	971.28	0.15
75-99-7	977.92	5/28	12.05	965.87	966.81	-0.94
75-99-8	979.34	5/28	10.10	969.24	970.02	-0.78
75A-00-7	978.32	5/28	101.38	876.94	867.47	9.47
75B-92-24	956.90	5/28	39.39	917.51	920.64	-3.13
MW76-1	923.70	5/27	20.96	902.74	905.21	-2.47
76-93-6	948.61	5/27	18.05	930.56	934.22	-3.66
76-98-21	923.20	5/27	23.73	899.47	904.76	-5.29
76-98-22	904.57	5/27	15.48	889.09	892.62	-3.53
77-92-10	879.11	5/27	17.12	861.99	856.97	5.02
77-94-5	878.96	5/27	NM		846.24	
77-94-6	876.76	5/27	50.49	826.27	827.93	-1.66
77-97-9	888.69	5/27	22.11	866.58	866.53	0.05
77-97-11	814.67	5/27	32.65	782.02	783.14	-1.12
78-97-20	949.54	5/27	18.63	930.91	933.21	-2.30
MW91-1	877.98	5/27	23.20	854.78	854.95	-0.17
MW91-2	877.27	5/27	41.32	835.95	830.45	5.50
MW91-4	978.55	5/28	73.97	904.58	895.47	9.11
MW91-6	975.22	5/28	30.33	944.89	947.88	-2.99
MWP-9	818.83	5/27	33.15	785.68	788.64	-2.96
MWP-10	809.74	5/27	52.25	757.49	758.25	-0.76
Outlying Areas						
62-92-26	773.70	5/27	45.76	727.94	728.47	-0.53
62-92-27	769.90	5/27	35.29	734.61	739.67	-5.06
74-92-13	834.90	5/27	18.32	816.58	816.92	-0.34
74-94-7	819.82	5/27	14.61	805.21	806.60	-1.39
74-94-8	815.74	5/27	20.25	795.49	796.00	-0.51
74-95-6	838.66	5/27	23.17	815.49	815.81	-0.32
83-92-14	830.09	5/27	13.85	816.24	816.32	-0.08
88-93-11A	537.35	5/27	61.80	475.55	475.84	-0.29
CD-92-28	486.29	5/27	16.44	469.85	469.76	0.09
MWP-2	710.33	5/27	54.02	656.31	653.39	2.92
OW3-225	570.00	5/27	62.08	507.92	508.19	-0.27

NM = Not measured

Table 4
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Geologic Unit
MW90-2	2	7/19/1990		253.21	2637.82	880.78	2	25-35	Orinda
MW90-3	1	7/23/1990		1134.60	2460.40	820.60	2	48-58	Colluvium
MW90-4	1	12/1/1990		1103.90	2289.30	746.15	2	15-25	Colluvium
MW90-5	1	12/1/1990		1067.30	2293.70	745.75	4	15-25	Colluvium
MW90-6	1	12/1/1990	9/17/2002	1046.70	2291.60	746.00	2	15-25	Colluvium / Orinda
MW91-1	5	5/30/1991		-69.08	4050.61	877.98	2	44-54	Orinda
MW91-2	5	5/31/1991		-65.83	3666.47	877.27	2	40-50	Orinda
MW91-3	3	6/4/1991	9/21/2005	566.47	3807.95	981.69	2	53-63	Orinda
MW91-4	3	12/2/1991		476.81	3756.52	978.55	2	115-145	Orinda
MW91-5	3	6/3/1991	9/21/2005	490.76	3815.48	978.28	2	30-40	Orinda
MW91-6	3	11/17/1991		382.38	3879.71	975.22	4	34-44	Orinda
MW91-8	2	1/9/1992		465.11	2662.97	887.02	2	65.5-75.5	Moraga
MW91-9	10	12/9/1991		246.20	2896.17	915.67	2	28.5-38.5	Orinda
MWP-1	15	6/6/1991		1177.15	1674.81	630.65	2	39-49	Colluvium
MWP-2	8	12/6/1991		219.37	1693.34	710.33	2	66-76	Great Valley
MWP-4	14	6/19/1991		-36.08	2169.41	831.56	2	43-53	Great Valley
MWP-5	14	6/25/1991		-262.06	2213.41	852.37	2	98-108	Great Valley
MWP-6	14	6/9/1991		-256.79	2476.38	845.44	2	27-37	Great Valley
MWP-7	14	6/10/1991		-206.48	2638.97	854.01	2	25-35	Orinda / Great Valley
MWP-8	10	6/14/1991		-292.68	2876.29	872.34	2	25-35	Orinda
MWP-9	5	6/18/1991		-196.07	3674.77	818.83	2	51-61	Great Valley
MWP-10	5	6/8/1991		-246.37	3862.41	809.74	2	57-67	Great Valley
MW1-220	2	9/24/1988	9/26/2005	578.73	2751.09	901.64	4	83-93	Moraga
MW7-1	2	8/12/1988	8/19/2006	295.97	2681.13	884.13	4	8-18	
MW62-B1A	13	9/26/1987	9/20/2005	-987.16	4129.20	757.70	2	23-33	
MW62-B2	13	9/1/1986	9/7/2005	-984.02	4127.06	756.60	2	24-34	
MW76-1	4	8/9/1988		137.13	3366.07	923.70	4	20-30	
51-92-2	9	3/19/1992		660.30	2174.22	724.69	2	6.5-16.5	Orinda
88-92-4	6	3/18/1992	9/28/2005	931.05	1029.80	590.82	2	49-59	Great Valley
37-92-5	14	3/28/1992	12/9/2005	-125.20	2668.23	881.56	2	85-105	Great Valley

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
37-92-6	14	2/23/1992	2/19/2007	-245.60	2649.39	854.15	2	29-39	Great Valley
70-92-7	8	3/8/1992	9/12/2005	403.84	1708.83	762.93	2	20.8-25.8	Great Valley
46-92-9	7	3/1/1992		612.25	2423.20	805.30	2	68.5-78.5	Orinda
77-92-10	5	3/3/1992		19.05	4092.31	879.11	2	48-68	Orinda
26-92-11	10	3/9/1992		165.02	3175.74	936.19	2	20.5-30.5	Orinda
61-92-12	5	2/28/1992		-356.90	3347.90	843.90	2	89-99	Orinda
74-92-13	11	4/15/1992		-355.80	5301.10	834.90	2	38.2-48.2	San Pablo (?)
83-92-14	11	2/22/1992		-354.70	5254.65	830.09	2	48-58	San Pablo (?)
46A-92-15	1	9/12/1992		1187.20	2539.10	830.10	2	29-39	Colluvium / Orinda
7-92-16	2	8/28/1992		181.20	2635.90	882.40	2	39-59	Moraga
6-92-17	14	8/27/1992		40.50	2729.10	891.20	2	24-39	Moraga/Orinda
37-92-18	14	8/31/1992	9/25/2002	-237.40	2723.80	860.30	2	19-29	Orinda
37-92-18A	14	9/14/1992		-240.60	2730.30	861.20	2	49-69	Great Valley
7-92-19	2	8/29/1992		299.60	2684.50	884.80	2	24-39	Moraga/Orinda
27-92-20	2	10/14/1992		544.10	2661.00	881.10	2	63.5-83.5	Moraga/Orinda
53-92-21-130'	2	10/92		358.33	2657.18	886.97	2	125-130	Orinda
53-92-21-147'	2	10/92		357.94	2657.11	886.99	2	142-147	Orinda
53-92-21-167'	2	10/92		358.07	2656.90	886.97	2	162-167	Orinda
53-92-21-193'	2	10/92		358.35	2656.90	886.98	2	188-193	Orinda
69A-92-22	3	1/22/1993		320.97	3951.1	977.06	2	44-64	Orinda
75-92-23	3	9/2/1992	9/26/2005	361.19	3826.89	972.10	6	29-49	Colluvium
75B-92-24	3	9/1/1992		218.40	3692.30	956.90	2	37-57	Orinda
76-92-25	4	9/13/1992	9/18/2002	181.90	3293.20	928.70	2	23.5-38	Orinda
62-92-26	13	9/3/1992		-1157.60	4402.30	773.70	2	47-57	Great Valley
62-92-27	13	9/4/1992		-1112.00	4157.10	769.90	2	56-66	Great Valley
CD-92-28	OS	10/26/1992		-1240.92	2435.51	486.29	2	45-55	Great Valley
71-93-1	1	9/9/1993	9/19/2005	1458.58	2562.60	872.39	2	43-63	Moraga/Orinda
71-93-2	1	9/8/1993		1352.87	2441.60	844.39	2	39-59	Moraga
58-93-3	7	5/17/1994		331.23	2515.06	830.06	2	14-24	Colluvium/Moraga
6-93-4	2	9/10/1993		229.92	2599.52	881.60	2	35-50	Artificial Fill/Moraga

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
37-93-5	14	8/26/1993	9/18/2002	-230.96	2573.02	850.17	2	39-49	Great Valley
76-93-6	4	8/25/1993		252.62	3600.80	948.61	2	34-44	Orinda
76-93-7	4	8/28/1993	9/27/2005	141.90	3299.84	924.85	2	24-39	Orinda
77-93-8	5	8/23/1993	9/19/2005	-44.32	3554.55	879.01	2	16-26	Art Fill/Col/Orinda
53-93-9	2	9/9/1993		427.92	2732.45	900.68	2	68-88	Moraga/Orinda
5-93-10	10	9/10/1993		179.51	2873.28	914.90	2	22-37	Moraga/Orinda
88-93-11A	6	3/2/1994		956.00	864.20	537.35	2	55-65	Great Valley
46-93-12	7	9/7/1993		673.46	2530.88	807.57	2	8.5-13.5	Moraga/Orinda
88-93-13	6	11/1/1993	2/19/2007	671.81	980.85	581.50	2	118.5-138.5	Great Valley
52-93-14	10	12/9/1993		276.79	2842.59	900.03	2	24.5-39.5	Moraga/Orinda
25-93-15	10	11/8/1993	9/14/2005	-46.77	3057.62	936.44	2	55-75	Moraga/Orinda
53-93-16-42'	2	1/29/1994		356.87	2674.05	887.45	2	31.5-41.5	Moraga
53-93-16-69'	2	1/29/1994		356.74	2673.78	887.40	4	58.5-68.5	Moraga
53-93-17	2	11/2/1993		458.40	2707.41	902.62	2	60.5-75.5	Moraga
51B-93-18A	9	5/19/1994		1070.65	2174.99	709.95	2	23.5-43.5	Orinda
46A-93-19	1	1/15/1994	9/28/2005	1024.48	2439.82	809.77	2	44-64	Orinda
71-94-1	1	5/21/1994	9/16/2005	1381.17	2358.57	845.84	2	38.5-48.5	Moraga
7-94-3	2	5/13/1994		267	2705.26	882.88	2	22.5-42.5	Orinda
77-94-5	5	5/9/1994		-53.24	3604.82	878.96	2	43.5-63.5	Orinda
77-94-6	5	5/5/1994		-67.94	3722.2	876.76	2	40.5-60.5	Orinda
74-94-7	11	4/28/1994		-508.66	5233.24	819.82	2	33.5-43.5	San Pablo (?)
74-94-8	11	5/10/1994		-594.5	5343.25	815.74	2	20-30	Col/Alluv/San Pablo (?)
37-94-9	14	5/12/1994	9/9/2005	-228.55	2682.42	856.51	2	24-44	Orinda/Great Valley
52-94-10	10	10/17/1994	9/20/2005	465.38	2859.99	906.04	2	47-67	Moraga/Orinda
51-94-11	1	10/18/1994	9/16/2005	1194.70	2263.64	756.83	4	8-18	Moraga/Orinda
25-94-12	10	10/14/1994		24.60	3021.73	937.59	2	26-46	Moraga/Orinda
16-94-13	10	10/11/1994		253.46	2762.79	892.50	2	22-42	Orinda
58A-94-14	7	10/4/1994		424.85	2457.65	821.73	2	21-41	Moraga/Orinda
51-94-15	7	11/7/1994		625.97	2264.47	771.17	4	30-40	Orinda
46-94-16	9	11/7/1994	9/19/2002	906.27	2300.02	756.16	2		Orinda

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
71-95-1	1	4/11/1995	9/17/2002	1479.30	2335.13	846.94	2		Moraga
52-95-2A	10	8/29/1995		372.05	2864.37	910.27	2	34.5-44.5	Moraga
52-95-2B	10	8/29/1995		372.19	2864.56	910.23	2	65-110	Moraga/Orinda
16-95-3	10	4/18/1995		45.73	2787.74	901.52	2	23-30	Moraga/Orinda
25A-95-4	10	4/20/1995	9/19/2005	219.82	3033.97	938.35	2	28-48	Orinda
25-95-5	10	8/22/1995		-154.47	3091.60	932.88	2	69-94	Moraga/Orinda
74-95-6	11	7/14/1995		-354.67	5334.83	838.66	4	35-50	San Pablo (?)
83-95-7	11	7/14/1995	9/27/2005	-285.14	5246.70	840.75	4	36-46	San Pablo (?)
71-95-8	1	4/13/1995	9/16/2005	1298.86	2549.05	839.09	2	29-49	Orinda
71-95-9	1	4/14/1995		1249.27	2662.35	854.18	2	23.5-38.5	Artificial Fill/Colluvium
58-95-11	7	5/15/1995		296.22	2512.06	831.62	4	8.5-28.5	Moraga/Orinda
53-95-12	2	7/19/1995		360.87	2616.60	867.45	1	35-50	Moraga/Orinda
52B-95-13	10	7/21/1995		282.76	2732.91	887.40	1	16-31	Moraga/Orinda
6-95-14	2	8/15/1995		184.75	2631.08	881.43	4	22-67	Moraga/Orinda
25A-95-15	10	8/3/1995		148.22	2960.59	931.68	2	29-49	Orinda
62-95-16	13	8/4/1995	9/20/2005	-972.38	4088.45	741.06	4	18.5-33.5	Great Valley
51-95-17	9	2/12/1996	11/18/2002	913.86	2272.51	744.67	2	22-37	Orinda
58-95-18	7	8/9/1995		471.88	2401.55	788.61	4	7.5-17.5	Colluvium/Moraga/Orinda
58-95-19	7	9/13/1995		395.42	2562.55	834.33	1	20.5-30.5	Orinda
58-95-20	7	8/8/1995		494.26	2517.86	818.81	2	14.5-34.5	Moraga/Orinda
7B-95-21	2	8/11/1995		283.95	2679.19	883.63	4	13.5-38.5	Moraga/Orinda
7-95-22	2	8/10/1995		278.23	2659.08	882.16	4	13.5-38.5	Moraga
7-95-23	2	12/22/1995		285.15	2659.67	882.37	4	43-53	Moraga/Orinda
7B-95-24	2	12/18/1995		318.75	2655.51	883.88	4	53-73	Moraga/Orinda
7B-95-25	2	12/13/1995		274.27	2634.08	882.03	2	24-44	Moraga
25-95-26	10	4/29/1996		-54.01	3139.20	935.81	2	38-58	Moraga
25-95-27	10	12/20/1995		-327.09	3045.68	859.83	2	19.5-34.5	Orinda
53-96-1 (MW91-7)	2	4/19/1996		344.37	2682.54	887.64	4	67-82	Moraga/Orinda
4-96-2	10	4/17/1996	9/13/2005	-84.00	2889.05	912.64	2	45-65	Orinda
51-96-3	9	4/23/1996		546.48	2240.66	766.44	4		Colluvium

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
88-96-4	6	4/26/1996	9/6/2005	968.53	1105.35	594.25	2	46.5-66.5	Great Valley
70A-96-5	8	4/15/1996	11/13/2002	370.50	1757.93	762.68	4	15-30	Great Valley
70A-96-6	8	4/16/1996	11/13/2002	334.24	1764.19	762.67	4	20-40	Great Valley
46-96-10	7	11/4/1996		886.68	2397.81	790.35	2	22-37	Moraga
58-96-11	2	6/11/1996		350.19	2588.64	848.23	2	15-40	Moraga/Orinda
58-96-12	7	12/4/1996	9/16/2002	295.46	2508.67	831.84	4	2-7	Fill/Moraga
70A-96-13	8	9/24/1996	9/7/2005	292.97	1511.04	711.87	2	111-141	Great Valley
70A-96-14	8	9/24/1996	9/8/2005	392.41	1498.87	716.64	2	112-142	Great Valley
51-96-15	9	9/26/1996		1004.38	2109.8	709.83	2	20-40	Orinda
51-96-16	9	9/25/1996		1054.3	2095.66	709.72	2	10-30	Artificial Fill
51-96-17	9	9/25/1996		1054.56	2093.45	709.64	2	35-55	Orinda
51-96-18	9	9/27/1996		1126.37	2170.13	710.76	2	6-16	Orinda
51-96-19	9	9/27/1996	9/12/2005	1066.52	2184.14	709.40	2	5-15	Artificial Fill
75-96-20	3	2/13/1997		487.72	3762.28	979.07	2	24.5-49.5	Orinda ?
64-97-1	9	5/20/1997		1194.82	2167.79	709.94	2	4.5-24.5	Orinda
64-97-2	9	5/20/1997		1142.40	2085.16	709.65	2	9-29	Orinda
51-97-3	9	6/3/1997		1102.96	1902.48	709.81	2	54.5-74.5	Artificial Fill
51-97-4	9	6/25/1997	9/15/2005	1101.16	1902.01	709.66	2	89-104	Orinda
75-97-5	3	7/19/1997		232.73	3768.01	963.73	2	39-69	Orinda
75-97-6	3	5/22/1997		262.75	3819.22	967.89	4	53.5-73.5	Orinda
75-97-7	3	6/9/1997		253.44	3870.26	970.70	2	58.5-78.5	Orinda
69-97-8	3	9/13/1997		255.05	3921.16	975.75	2.25	50-70	Colluvium/Orinda
77-97-9	5	6/4/1997		76.53	3753.30	888.69	2	19-49	Colluvium/Orinda
77-97-10	5	5/21/1997	9/18/2002	-91.93	3871.35	877.73	2	32-52	Colluvium/Orinda
77-97-11	5	6/24/1997		-205.88	3749.71	814.67	2	22.5-42.5	Colluvium/Orinda
51-97-12	9	9/2/1997		1109.18	1904.55	709.37	2	29.5-49.5	Artificial Fill
51-97-13	9	9/11/1997		1196.36	1901.98	709.48	2	48-68	Artificial Fill
51-97-14	9	9/10/1997		1020.26	1883.14	708.89	2	44-64	Artificial Fill
51-97-15	9	9/12/1997		1155.18	1803.16	706.11	2	88-108	Artificial Fill
51-97-16	9	9/9/1997	3/17/2005	875.26	1917.64	709.58	2	14.5-34.5	Art. Fill/Great Valley

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
31-97-17	5	9/5/1997		-459.67	3738.68	746.15	2	21.5-31.5	Colluvium
31-97-18	5	9/4/1997		-480.52	3779.68	747.80	2	39.5-59.5	Colluvium/Great Valley
78-97-20	4	10/10/1997		298.21	3429.47	949.54	2	14-34	Orinda
69-97-21	3	9/23/1997		471.24	3985.45	1003.4	2	18.5-38.5	Orinda
76-97-22	4	10/17/1997	9/25/2002	165.14	3545.94	937.91	2	25-45	Colluvium/Orinda
71-97-23	1	9/8/1997	9/15/2005	1221.62	2469.83	844.45	2	39.5-59.5	Artificial Fill/Orinda
25A-98-1	10	4/23/1998		99.79	2986.86	936.88	2	30-50	Orinda
56-98-2	9	4/24/1998		1264.86	1887.99	709.76	2	35-55	Artificial Fill/Orinda
25A-98-3	10	4/21/1998		175.76	3027.87	940.14	2	25-45	Orinda
64-98-4	9	4/20/1998	3/15/2000	1133.05	2172.54	711.12	2	5-15	Orinda
51-98-5	9	5/8/1998	8/10/2006	951.70	1922.10	709.63	2	30-50	Colluvium
25A-98-6	10	10/2/1998	8/10/2006	134.29	3091.47	939.90	2	20.5-40.5	Moraga/Orinda
25A-98-7	10	9/1/1998		140.51	3001.67	942.71	2	19-34	Orinda
52A-98-8A	10	9/16/1998		339.79	2883.49	913.56	2	23-33	Colluvium
52A-98-8B	10	9/17/1998		339.86	2883.73	913.51	2	60-80	Moraga
52-98-9	10	9/11/1998		377.44	2864.09	910.86	2	60-80	Moraga
25-98-10	10	9/12/1998		-105.23	3087.97	934.42	2	70-90	Moraga/Orinda
46A-98-11	1	11/3/1998	11/16/2002	1049.68	2422.42	813.66	2	54-74	Orinda
71B-98-13	1	9/23/1998		1202.90	2583.97	832.33	2	15-30	Artificial Fill/Orinda
75-98-14	3	9/17/1998		436.14	3711.28	977.94	2	20-35	Orinda
75-98-15	3	9/21/1998		479.95	3640.78	977.97	2	20-35	Orinda
75-98-16	3	10/12/1998	9/16/2002	603.26	3451.27	1074.19	2	69-89	Orinda
31-98-17	5	9/14/1998		-719.39	3709.06	693.47	2	50-60	Colluvium
63-98-18	15	9/15/1998		1352.18	1819.94	709.99	2	20-35	Artificial Fill
64-98-19	9	2/1/1999	3/15/2000	1130.56	2178.51	711.11	2	21-26	Orinda
64-98-20	9	4/30/1999	8/2000	1133.29	2180.09	710.98	2	9.5-14.5	Orinda
76-98-21	4	9/25/1998		137.79	3352.42	923.20	2	15-35	Orinda
76-98-22	4	12/18/1998		72.85	3375.83	904.57	2	19-39	Orinda
51-99-1	9	5/1/1999		679.33	1978.83	724.44	2	25-35	Great Valley
25A-99-2	10	5/1/1999		137.70	3037.07	940.45	2	20-30	Moraga/Orinda

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
71B-99-3	1	7/6/1999	10/2000	1179.35	2637.78	843.21	2	20-30	Orinda
71B-99-3R	1	4/5/2001		1178.62	2629.15	840.13	4	24-34	Orinda
75-99-4	3	7/20/1999	8/10/2006	462.42	3665.77	977.90	2	19.5-34.5	Orinda
25A-99-5	10	7/19/1999	9/23/2005	166.42	3062.06	940.16	2	24-44	Orinda
75-99-6	3	11/19/1999		519.69	3687.82	979.94	2	15.5-25.5	Orinda
75-99-7	3	11/19/1999		463.30	3749.60	977.92	2	14-24	Artificial Fill/Orinda
75-99-8	3	12/6/1999		502.05	3669.34	979.34	2	20-30	Orinda
51-00-1	9	2/5/2000	9/7/2005	690.86	2162.65	725.28	2	20-25	Orinda
71B-00-2	1	3/20/2000	8/10/2006	1197.37	2587.90	832.41	2	45-60	Orinda
58A-00-3	7	5/17/2000	8/10/2006	415.38	2454.06	822.54	2	69-84	Orinda
7-00-4	2	5/17/2000		294.69	2658.33	883.18	2	84-99	Orinda
25A-00-5	10	5/17/2000	8/10/2006	139.64	2965.28	933.12	2	68-83	Orinda
52A-00-6	10	5/17/2000	8/11/2006	321.30	2911.46	917.34	2	105-120	Orinda
75A-00-7	3	1/5/2001		469.39	3758.40	978.32	2	115-145	Orinda
51-00-8	9	9/7/2000		1095.81	1806.71	682.11	2	20-40	Artificial Fill/Orinda
51-00-9	9	10/2/2000		1008.33	2177.85	698.16	2	5-10	Orinda
51-00-10	9	10/3/2000		988.59	2177.76	698.18	2	5-10	Orinda
69A-00-11	3	9/8/2000	9/19/2005	321.66	3943.67	977.05	2	19.5-39.5	Orinda
58-00-12	7	10/5/2000		326.88	2607.24	860.62	2	38-59	Orinda/Mixed Unit
51L-01-1A	9	7/23/2001		864.13	1878.36	710.04	2	4-9	Artificial Fill/Colluvium
51L-01-1B	9	7/23/2001		863.88	1878.37	710.04	2	15-30	Great Valley
51L-01-3	9	12/20/2001	9/2006	896.88	1893.03	709.54	2	34.5-49.5	Great Valley
51L-01-4	9	7/23/2001	9/2006	915.93	1884.49	709.87	2	30-45	Great Valley
51L-01-5A	9	7/16/2001		936.13	1908.95	709.96	2	18-33	Artificial Fill/Colluvium
51L-01-5B	9	7/16/2001		936.09	1908.62	709.94	2	48.5-63.5	Great Valley
51L-01-6	9	7/18/2001		911.02	1931.44	709.80	2	20-30	Artificial Fill/Colluvium
51L-01-7	9	7/17/2001		906.47	1931.41	709.76	2	60-75	Great Valley
51A-01-10A	9	10/3/2001	9/14/2005	814.28	1900.05	709.78	2	15-30	Great Valley
51A-01-11	9	9/28/2001		841.85	1941.48	709.74	2	30-45	Great Valley
51L-02-1	9	1/11/2002	8/25/2006	921.03	1871.48	709.74	2	20-30	Artificial Fill/Colluvium/Great Valley

Table 4 (Cont'd)
LBNL Monitoring Well Construction Details

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
Soil Gas Wells									
74-95-6	11	7/14/1995					1	15-20	San Pablo (?)
83-95-7	11	7/14/1995					1	25-30	San Pablo (?)
71-95-10	1	4/17/1995	9/15/2005				3/4"	9.9-10.4	Artificial Fill
							3/4"	20.1-20.6	Artificial Fill
							3/4"	32.7-33.2	Artificial Fill

Artificial Fill: soils placed during grading activities
Colluvium: Quaternary soil/colluvium
Alluvium: Quaternary alluvium
San Pablo (?): shallow marine sandstones tentatively assigned to the San Pablo Group
Orinda: Orinda Formation sediments
Great Valley: Upper Cretaceous sedimentary rocks
Moraga: Moraga Formation volcanics

Table 5-1
Bevalac Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	51-96-16				51-96-17			51-96-18			51-97-12	51-00-8	51B-93-18A	71B-99-3R			MWP-1
		Apr-08	May-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	Apr-08	Apr-08	May-08	May-08	Jun-08	Apr-08
Aromatic or Non-Halogenated Hydrocarbons																		
Benzene	1	1.7	1.4	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons		1.7	1.4	2	2													
Halogenated Hydrocarbons																		
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	1.5	<1	<1	1.3	1	<1	<1	11.7	33.2	26.6	4.9	4.2	6.9	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	1.6	6.7	4.7	7.2	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	33.6	2.8	10.9	35.1	1.3	1.4	<1	1.3	2	1.9	36.6	4.3	13.2	<1	31.4	11.4	<1
trans-1,2-Dichloroethene	10	10.5	2.2	6.5	11.2	<1	<1	<1	<1	<1	<1	4.5	<1	1.9	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	17.9	51.1	30.4	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	7.5	<1	<1	6	<1	<1	<1	7.7	22.7	19.1	3.6	<1	<1	<1	14.7	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	7.7	2.2	9.4	9.4	<1	<1	<1	<1	<1	<1	2.1	<1	1.5	<1	7	4.2	<1
Total Halogenated Hydrocarbons		60.8	7.2	26.8	63	2.3	1.4		40.2	115.7	82.7	58.9	8.5	23.5		53.1	15.6	
Total Concentration of VOCs		62.5	8.6	28.8	65	2.3	1.4		40.2	115.7	82.7	58.9	8.5	23.5		53.1	15.6	

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

Table 5-2
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB51-98-4	SB51L-98-1A	SB64-98-8				SB64-98-17			SB64-99-4		
		Apr-08	May-08	Apr-08	May-08	(D)*	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
n-Butylbenzene		<1	<1	<5	<5		<5	<1	<1	<1	<5	<1	<5
sec-Butylbenzene		<1	<1	<5	<5		<5	<1	<1	<1	<5	<1	<5
ter-Butylbenzene		<1	<1	<5	<5		<5	<1	<1	<1	<5	<1	<5
Chlorobenzene		<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Ethylbenzene	300	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Isopropylbenzene		<2	<2	<10	<10		<10	<2	<2	<2	<10	<2	<10
p-Isopropyltoluene		<1	<1	<5	<5		<5	<1	<1	<1	<5	<1	<5
Naphthalene		<2	<2	<10	<10		<10	<2	<2	<2	<10	<2	<10
n-Propylbenzene		<1	<1	<5	<5		<5	<1	<1	<1	<5	<1	<5
Toluene	150	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Xylenes, total	1750	<2	<2	<10	<10	<1	<10	<2	<2	<2	<10	<2	<10
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Bromomethane	80	<10	<10	<50	<50	<1	<50	<10	<10	<10	<50	<10	<50
Carbon Tetrachloride	0.5	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Chloroethane		<30	<30	<150	<150	<0.5	<150	<30	<30	<30	<150	<30	<150
Chloroform	80	<3	<3	<15	<15	<0.5	<15	<3	<3	<3	<15	<3	<15
Chloromethane		<10	<10	<50	<50	<0.5	<50	<10	<10	<10	<50	<10	<50
1,1-Dichloroethane	5	<1	7.4	167	146	130	186	43.4	56.6	38.7	366	197	267
1,2-Dichloroethane	0.5	<2	<2	<10	<10	1.6	<10	<2	<2	<2	<10	<2	<10
1,1-Dichloroethene	6	<1	<1	28.8	29.2	<0.5	36.8	4.7	5.5	4	33.9	13.2	23.4
cis-1,2-Dichloroethene	6	<1	77.4	7.1	<5	6	<5	1.3	<1	1.1	16.4	7.4	9.4
trans-1,2-Dichloroethene	10	<1	8.6	<5	<5	33	<5	<1	<1	<1	<5	<1	<5
1,2-Dichloropropane	5	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Methylene Chloride	5	<1	<1	<5	<5	<1	<5	<1	<1	<1	<5	<1	<5
1,1,1,2-Tetrachloroethane		<2	<2	<10	<10	<0.5	<10	<2	<2	<2	<10	<2	<10
1,1,2,2-Tetrachloroethane	1	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Tetrachloroethene	5	<1	1.8	39.7	42.8	51	71.4	<1	<1	<1	<5	1.8	<5
1,1,1-Trichloroethane	200	<1	<1	<5	<5	1.2	<5	<1	<1	<1	<5	<1	<5
1,1,2-Trichloroethane	5	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Trichloroethene	5	<1	46	70.4	61.6	86	88.7	2.1	2.5	1.4	32.3	13.8	16.3
Freon-113	1200	<1	<1	<5	<5	<0.5	<5	<1	<1	<1	<5	<1	<5
Vinyl Chloride	0.5	<1	<1	5.2	<5	5.5	<5	<1	<1	<1	14.1	1.6	<5
Total Halogenated Hydrocarbons			141.2	318.2	279.6	314.3	382.9	51.5	64.6	45.2	462.7	234.8	316.1
Total Concentration of VOCs			141.2	318.2	279.6	314.3	382.9	51.5	64.6	45.2	462.7	234.8	316.1

Table 5-2 (Cont'd)
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB64-99-5			SB64-00-1			SB64-00-2			SB64-02-1A		
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<100	<100
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<100	<100
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<100	<100
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<100	<100
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<3000	<1500	<1500
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<300	<150	<150
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<500	<500
1,1-Dichloroethane	5	88.6	49.6	50.3	41.4	180	226	26.5	29.0	33.8	2,130	1,710	1,930
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<100	<100
1,1-Dichloroethene	6	42.7	30.2	23.3	4.6	14.2	19.5	117	116	131	262	190	245
cis-1,2-Dichloroethene	6	<1	<1	1.9	1.7	9.1	17.2	1.5	1.6	1.8	<100	<50	<50
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<100	<100
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Tetrachloroethene	5	4.6	2.6	2.9	<1	1.5	<1	15.6	17.6	18.1	141	93.1	124
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Trichloroethene	5	15.2	10.3	8.6	7.4	28.2	34.6	44.2	46.7	54.1	378	296	317
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<50	<50
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	9.8	<1	<1	<1	<100	<50	<50
Total Halogenated Hydrocarbons		151.1	92.7	87	55.1	233.0	307.1	204.8	210.9	238.8	2,911	2,289.1	2,616
Total Concentration of VOCs		151.1	92.7	87	55.1	233.0	307.1	204.8	210.9	238.8	2,911	2,289	2,616

Table 5-2 (Cont'd)
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB64-02-1B			SB64-02-1C			SB64-02-1D			SB64-02-1E		
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Chlorobenzene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<20	<2	<20	<20	<2	<20	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Naphthalene		<20	<2	<20	<20	<2	<20	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Toluene	150	<10	<1	<10	<10	<1	<10	<1	<1	<1	1.9	1.4	2.1
Xylenes, total	1750	<20	<2	<20	<20	<2	<20	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons											1.9	1.4	2.1
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Bromomethane	80	<100	<10	<100	<100	<10	<100	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Chloroethane		<300	<30	<300	<300	<30	<300	<30	<30	<30	<30	<30	<30
Chloroform	80	<30	<3	<30	<30	<3	<30	<3	<3	<3	<3	<3	<3
Chloromethane		<100	<10	<100	<100	<10	<100	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	353	513	369	931	920	985	85.2	92.8	93.1	45.1	48.4	68.8
1,2-Dichloroethane	0.5	<20	4.3	<20	<20	4.7	<20	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	55.5	86.6	55.9	88.9	81.2	79.4	17.3	20.8	18	10.8	14.7	15.5
cis-1,2-Dichloroethene	6	63.1	71.2	49.6	76.3	80.1	78.6	19.2	22.2	19.6	15.2	16.5	21.2
trans-1,2-Dichloroethene	10	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<10	<1	<10	<10	1.3	<10	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<20	<2	<20	<20	<2	<20	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	11.7	<10	<10	4.0	<10	1.5	2.4	1.5	1.4	1.6	<1
1,1,1-Trichloroethane	200	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Trichloroethene	5	58.8	86.6	51.8	13.7	22.6	13.6	8.3	10.6	8.9	9.3	8.4	10.7
Freon-113	1200	<10	<1	<10	<10	<1	<10	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	57.2	59.8	39.3	30.3	26.2	26	11.6	12.2	12.5	7.8	9.6	10.3
Total Halogenated Hydrocarbons		587.6	833.2	565.6	1,140.2	1,140.1	1,182.6	143.1	161	153.6	89.6	99.2	126.5
Total Concentration of VOCs		587.6	833.2	565.6	1,140	1,140	1,183	143.1	161	153.6	91.5	100.6	128.6

Table 5-2 (Cont'd)
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB64-02-1F		SB64-02-2A			SB64-02-2B			SB64-02-2C			SB64-02-2D
		Apr-08	May-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Toluene	150	3.4	2.7	<1	<1	<1	<10	<1	<10	1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
Total Aromatic Hydrocarbons		3.4	2.7							1			
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<100	<10	<100	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<300	<30	<300	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<30	<3	<30	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<100	<10	<100	<10	<10	<10	<10
1,1-Dichloroethane	5	72.9	214	100	89.8	100	954	920	989	95.7	103	106	77.7
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<20	3.8	<20	<2	<2	<2	<2
1,1-Dichloroethene	6	10.4	33.2	21.2	22.1	20.5	98.4	84	93.4	37.5	38.2	36.1	20.8
cis-1,2-Dichloroethene	6	23.9	75.8	17.1	19.5	16.1	13.4	13.1	<10	20.2	21.9	20.3	10.8
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Tetrachloroethene	5	<1	2.1	12.3	10.8	11.1	<10	1.7	<10	<1	<1	<1	2
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Trichloroethene	5	8.1	21.9	62	54.8	53	18.1	17.7	19.9	7.6	6.6	6.6	9.1
Freon-113	1200	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Vinyl Chloride	0.5	10.4	22.7	1.7	1.5	<1	<10	<1	<10	1.5	1.6	1.4	<1
Total Halogenated Hydrocarbons		125.7	369.7	214.3	198.5	200.7	1083.9	1,040.3	1102.3	162.5	171.3	170.4	120.4
Total Concentration of VOCs		129.1	372.4	214.3	198.5	200.7	1,084	1,040	1,102	163.5	171.3	170.4	120.4

Table 5-2 (Cont'd)
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB64-02-2D (cont'd)		SB64-02-2E			SB64-02-2F			SB64-03-1B			SB64-03-5	SB64-03-6
		May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	May-08	Apr-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	2.2	1.4	1.4	1.7	2.2	1.9	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons				2.2	1.4	1.4	1.7	2.2	1.9					
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	119	118	92.0	88.7	88.4	538	539	726	86.6	95.0	67.9	1.8	1.1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	3.2	3.0	3.3	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	31.4	30.3	27.4	25.1	27.2	47.5	49.7	46.5	5.4	5.8	2.7	2.7	1.6
cis-1,2-Dichloroethene	6	14.3	12.6	18.4	16.6	13.6	24.5	29.9	27.9	3.5	3.7	2.6	2.8	6.5
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	1.5	<1	1.8	1.5	<1	<1	<1	<1	<1	<1	<1	5.6	6.9
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	9.4	5.8	6.9	5.7	5.5	3.4	5.0	3.2	11.6	15.4	7.9	61.4	91.8
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	1.0	<1	1.1	1.5	1.7	2.9	3.9	4.2	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		176.6	166.7	147.6	139.1	136.4	619.5	630.5	811.1	107.1	119.9	81.1	74.3	107.9
Total Concentration of VOCs		176.6	166.7	149.8	140.5	137.8	621.2	632.7	813.0	107.1	119.9	81.1	74.3	107.9

Table 5-2 (Cont'd)
Bevalac Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB64-03-6 (cont'd)		SB64-05-4			SB71B-03-1			SB71B-03-2			SB71B-04-1		
		May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Non-Aromatic Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	1.5	2.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	2.8	3.4	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	10	14.5	<1	<1	<1	22.9	29.4	10.7	9.4	9.7	7.2	11.6	9.7	9.8
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<21	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	7.2	6.3	2.1	<1	1.9	<1	<1	<1	<1	<1	<2	22.3	15.6	14.9
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	110	117	2.2	<1	1.8	21.6	18.5	5.5	2	1.7	<1	9.7	8.2	8.2
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	5.1	5.3	2	1.8	2.6	1.7	<1	<1	<1
Total Halogenated Hydrocarbons		131.5	143.4	4.3		4.8	49.6	53.2	18.2	13.2	14	8.9	43.6	33.5	32.9
Total Concentration of VOCs		131.5	143.4	4.3		4.8	49.6	53.2	18.2	13.2	14	8.9	43.6	33.5	32.9

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis
(D) = Duplicate sample

Table 5-3
Bevalac Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	EW51-07-1	EW51-07-2	EW51A-06-1			EW51B-07-1			EW51B-07-2		
		May-08	May-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons												
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons												
Halogenated Non-Aromatic Hydrocarbons												
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	9.2	6	9.8	<1	<1	<1	<1	<1	<1
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	6	2.3	<1	<1	<1	11.7	11.3	11.3	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	5.1	<1	<1	<1	<1	19.3	19.8	21.5	<1	<1	<1
cis-1,2-Dichloroethene	6	114	<1	9.3	5.4	12.5	30.6	30.7	34.5	8.4	7.7	7.5
trans-1,2-Dichloroethene	10	5.2	<1	<1	<1	<1	<1	1.8	2.6	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	3.4	1.4	3.4	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	146	5.3	164	96.2	185	7	6.2	7.7	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	2.1	3.8	2.4	2.4	2.5
Total Halogenated Hydrocarbons		276.3	7.6	185.9	109	210.7	68.6	71.9	81.4	10.8	10.1	10
Total Concentration of VOCs		276.3	7.6	185.9	109	210.7	68.6	71.9	81.4	10.8	10.1	10

Table 5-3 (Cont'd)
Bevalac Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	EW51L-06-1			EW64-00-1			EW64-03-1			EW64-05-1		
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	1.5	1.5	1.9	5.5	8.4	8.3	42.3	31.7	1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	1.3	<1	1.5	2.5	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	7.6	6.9	7.7	<1	<1	<1	1.9	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	2.4	1.9	2.4	<1	<1	<1	2	2.2	2.1
1,1,1-Trichloroethane	200	<1	<1	<1	1.8	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	6.4	5.5	6.5	1.9	3	3.3	7.5	5.8	<1	3.5	2.9	2.2
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	1.6	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		15.5	13.9	17.7	12.9	13.3	15.5	54.2	37.5	1	5.5	5.1	4.3
Total Concentration of VOCs		15.5	13.9	17.7	12.9	13.3	15.5	54.2	37.5	1	5.5	5.1	4.3

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

Table 6-1
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	5-93-10			6-95-14[T]	7-92-19		7-94-3		7-95-22			7-95-23
		Apr-08	May-08	Jun-08	Apr-08	Apr-08	Jun-08	Apr-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<0.5	<1	<1	<1	1	1.4	2.4	3.7	4.3
Chloroform	80	<3	<3	<3	6.1	<3	<3	<3	3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<0.5	<1	<1	<1	1.6	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<0.5	<1	<1	3.2	7.9	<1	<1	1.8	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<0.5	<1	<1	5	3.9	<1	7.5	6.2	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<0.5	<1	<1	4.6	5.2	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	2.3	1.2	1.2	39.6	62.6	61.3	111	190	92.7
1,1,1-Trichloroethane	200	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	1.9	2.7	1.9	3.5	<1	<1	15.6	27.5	21.7	70.8	105	121
Freon-113	1200	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		1.9	2.7	1.9	11.9	1.2	1.2	68	112.7	84.4	191.7	306.7	218
Total Concentration of VOCs		1.9	2.7	1.9	11.9	1.2	1.2	68	112.7	84.4	191.7	306.7	218

Table 6-1 (Cont'd)
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	7-95-23 (cont'd)		7B-95-21			7B-95-24			7B-95-25	16-95-3	25-95-5		
		May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	May-08	Jun-08	Apr-08*	May-08*	Jun-08*
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1	<1	<1
Total Aromatic Hydrocarbons														
Halogenated Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.5	3.5	4.4	<1	<1	<1	1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	3.2	<0.5	<0.5	<0.5
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5
1,1-Dichloroethene	6	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	6	2.6	1.2	23.3	17.4	15.2	<1	2	<1	<1	<1	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	10	<1	<1	12.9	11.6	10	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Tetrachloroethene	5	101	107	291	217	128	37	31.8	20.3	<1	<1	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Trichloroethene	5	141	158	560	366	199	10.9	8.8	6.5	<1	11.9	<0.5	<0.5	<0.5
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Total Halogenated Hydrocarbons		248.1	270.6	888.3	612.0	352.2	48.9	42.6	26.8		15.1			
Total Concentration of VOCs		248.1	270.6	888.3	612.0	352.2	48.9	42.6	26.8		15.1			

Table 6-1 (Cont'd)
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	25-98-10			25A-98-1			25A-98-3			25A-98-7		
		Apr-08*	May-08*	Jun-08*	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5				<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene					<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene					<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene					<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Hydrocarbons													
Bromodichloromethane	80	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<0.5	<0.5	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<0.5	<0.5	<0.5	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<0.5	<0.5	<0.5	4.7	2	4.4	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<0.5	<0.5	<0.5	3.7	2.8	3.9	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<0.5	<0.5	<0.5	<1	<1	1.4	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<0.5	<0.5	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	1.4	<0.5	1.3	130	57.4	145	19.7	10.6	17.1	8.5	7.5	7.1
Freon-113	1200	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		1.4		1.3	138.4	62.2	154.7	19.7	10.6	17.1	8.5	7.5	7.1
Total Concentration of VOCs		1.4		1.3	138.4	62.2	154.7	19.7	10.6	17.1	8.5	7.5	7.1

Table 6-1 (Cont'd)
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	27-92-20			52-95-2B			52-98-9			52A-98-8B		
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	1.2	1.6	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	1.4	<1	1.4	<1	<1	<1	1.5	<1	3.1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	2.4	2.4	2.8	2.5	2.1	2	1.9	1.9	2.9	2.3	1.3	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		3.8	2.4	4.2	2.5	2.1	2	3.4	1.9	7.2	3.9	1.3	
Total Concentration of VOCs		3.8	2.4	4.2	2.5	2.1	2	3.4	1.9	7.2	3.9	1.3	

Table 6-1 (Cont'd)
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	52B-95-13	53-93-9			53-93-16-69'			53-96-1			58-96-11		
		Apr-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
Total Aromatic Hydrocarbons														
Halogenated Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
Carbon Tetrachloride	0.5	20.4	<1	<1	<1	1.6	2.4	1.6	3.4	1.5	3.1	19.7	5.9	11.5
Chloroform	80	10.7	<3	<3	3.3	<3	<3	<3	<3	<3	<3	<15	<15	<15
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.4	<5	<5	<5
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	1.6	<1	2.5	3.6	2.9	12	<5	11.2
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10	<10
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Tetrachloroethene	5	52.1	3.2	2.6	3.3	13.6	30.0	11.8	33.9	25.9	32.7	459	186	328
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<	<1	<1	<5	<5	<5
Trichloroethene	5	8.3	2.6	2.6	3.1	6.9	15.3	5.6	13.4	10.5	13.2	322	126	249
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Total Halogenated Hydrocarbons		91.5	5.8	5.2	9.7	22.1	49.3	19	53.2	41.5	53.3	812.7	317.9	599.7
Total Concentration of VOCs		91.5	5.8	5.2	9.7	22.1	49.3	19	53.2	41.5	53.3	812.7	317.9	599.7

Table 6-1 (Cont'd)
Old Town Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	58-00-12			MW90-2	MW91-8			MW91-9		
		Apr-08	May-08	Jun-08	May-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons											
Benzene	1	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons											
Halogenated Hydrocarbons											
Bromodichloromethane	80	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	204	261	217	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<150	<150	<150	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	86.4	86.5	77.8	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<100	<100	<100	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	4,680	5,120	4,090	2.5	<1	<1	1.2	5.2	4	4.8
1,1,1-Trichloroethane	200	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	3,060	4,200	3,270	<1	<1	1.7	1.7	1.8	1.5	1.6
Freon-113	1200	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<50	<50	<50	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		8,030.4	9,667.5	7,654.8	2.5		1.7	2.9	7	5.5	6.4
Total Concentration of VOCs		8,030	9,668	7,655	2.5		1.7	2.9	7	5.5	6.4

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis
[1]Treatment System Influent Line

Table 6-2
Old Town Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB5A-98-1	SB16-97-11	SB16-98-1	SB25A-96-3	SB27-96-1			SB53-96-3			
		May-08	Apr-08	Apr-08	Apr-08	Apr-08	May-08	Jun-08	Apr-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons												
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons												
Halogenated Non-Aromatic Hydrocarbons												
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	1.7	1.7	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	23.6	<1	<1	<1	<1	1.3	<1	<1
cis-1,2-Dichloroethene	6	<1	17.2	<1	4.2	<1	<1	<1	1.5	4.9	5	4.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	5.5	3.7	<1	<1	<1	<1	<1	5.6	102	98.1	76.3
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	3	109	<1	1.6	<1	4.4	34.6	36	27.7
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	1.4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		5.5	22.3	3	136.8		1.6		11.5	144.5	140.8	108.4
Total Concentration of VOCs		5.5	22.3	3	136.8		1.6		11.5	144.5	140.8	108.4

Table 6-2 (Cont'd)
Old Town Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB58-96-1	SB58-96-2	SB58-97-1	SB58-97-2		
		May-08	May-08	May-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons							
Benzene	1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons							
Halogenated Non-Aromatic Hydrocarbons							
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	0.5	<1	1.1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	1.5	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	9.1	3.4	<1	14.2	12.4	9.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	16.3	61.1	2.6	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1
Trichloroethene	5	26.6	38	<1	1.2	1.7	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		52	105.1	2.6	15.4	14.1	9.4
Total Concentration of VOCs		52	105.1	2.6	15.4	14.1	9.4

MCL: Maximum contaminant level for drinking water (determined by CDPH)

All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

Table 6-3
Old Town Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

		EW7-96-1			EW7-96-2			EW7-96-4R			EW7-03-1		
Constituent	MCL	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<10	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
n-Butylbenzene		<1	<10	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
sec-Butylbenzene		<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
ter-Butylbenzene		<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
1,4-Dichlorobenzene	5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Ethylbenzene	300	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Isopropylbenzene		<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
p-Isopropyltoluene		<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Naphthalene		<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
n-Propylbenzene		<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Toluene	150	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Xylenes, total	1750	<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Bromoform	80	<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
Carbon Tetrachloride	0.5	1.8	<1	<10	<1	<1	<1	<1	<1	<10	<5	1.8	<5
Chloromethane		<10	<10	<100	<10	<10	<10	<10	<10	<100	<50	<10	<50
Chloroform	80	<3	<3	<30	<3	<3	<3	<3	<3	<30	<15	<3	<15
1,1-Dichloroethane	5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
1,2-Dichloroethane	0.5	<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
1,1-Dichloroethene	6	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
cis-1,2-Dichloroethene	6	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
trans-1,2-Dichloroethene	10	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
1,2-Dichloropropane	5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Methylene Chloride	5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
1,1,1,2-Tetrachloroethane		<2	<2	<20	<2	<2	<2	<2	<2	<20	<10	<2	<10
1,1,2,2-Tetrachloroethane	1	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Tetrachloroethene	5	395	110	280	20.7	14.6	14.7	118	25.2	64.6	57.4	43.3	43.2
1,1,1-Trichloroethane	200	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
1,1,2-Trichloroethane	5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Trichloroethene	5	15.8	4.9	10.3	10.7	6.4	5.9	11.1	1.5	<10	25.2	24.6	23.3
Freon-113	1200	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Vinyl Chloride	0.5	<1	<1	<10	<1	<1	<1	<1	<1	<10	<5	<1	<5
Total Halogenated Hydrocarbons		412.6	114.9	290.3	31.4	21.0	20.6	129.1	26.7	64.6	82.6	69.7	66.5
Total Concentration of VOCs		412.6	114.9	290.3	31.4	21.0	20.6	129.1	26.7	64.6	82.6	69.7	66.5

Table 6-3 (Cont'd)
Old Town Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	EW7-03-2			EW7-03-3			EW7-06-1			EW7C-04-2		
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	3.6	3.7	3.4	18.1	19.2	20	<1	<1	<1	2.1	2.4	2.4
Chloromethane		<10	<10	<10	<100	<10	<100	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<30	<3	<30	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<10	3.3	<10	1.2	<1	1.7	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<10	9.6	<10	4.8	<1	13.1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	169	131	127	820	851	837	400	27.8	842	10.6	12.2	13.5
1,1,1-Trichloroethane	200	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Trichloroethene	5	70.6	50.8	49.3	377	354	342	61.8	6.6	164	2.5	2.3	2.7
Freon-113	1200	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<10	<1	<10	<1	<1	2.9	<1	<1	<1
Total Halogenated Hydrocarbons		243.2	185.5	179.7	1,215.1	1,237.1	1,199	467.8	34.4	1023.7	15.2	16.9	18.6
Total Concentration of VOCs		243.2	185.5	179.7	1,215	1,237	1,199	467.8	34.4	1,024	15.2	16.9	18.6

Table 6-3 (Cont'd)
Old Town Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	EW25A-02-1			EW53-04-2			EW58-98-1[T]	EW58-98-2[T]	EW58E-98-1	EW58E-98-2	EW58E-98-3
		Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08	Apr-08*	Apr-08*	May-08	May-08	May-08
Aromatic or Non-Halogenated Hydrocarbons												
Benzene	1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1			<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1			<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1			<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1			<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2			<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1			<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2			<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1			<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<1	<1	<2	<2	<2
Total Aromatic Hydrocarbons												
Halogenated Non-Aromatic Hydrocarbons												
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	2.9	3	7
Chloromethane		<10	<10	<10	<10	<10	<10	<0.5	<0.5	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	<0.5	<0.5	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	0.73	<0.5	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	0.7	<0.5	<1	<1	1.4
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	1.3	1.7	<0.5	3.5	5.1	8.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<0.5	<0.5	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	2.3	2.1	2.3	1.3	<0.5	94.4	84.6	172
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Trichloroethene	5	4.8	2.9	3.7	2.5	2.3	2.9	2.5	<0.5	73	77.5	145
Freon-113	1200	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1
Total Halogenated Hydrocarbons		4.8	2.9	3.7	4.8	4.4	6.5	6.93		173.8	170.2	333.8
Total Concentration of VOCs		4.8	2.9	3.7	4.8	4.4	6.5	6.9		173.8	170.2	333.8

Table 6-3 (Cont'd)
Old Town Area Extraction Well Sampling Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

		EW58E-98-4	EW58E-98-5	EW58E-98-6	EW58E-98-7	EW58E-98-8	EW58-02-1			EW58-07-1		
Constituent	MCL	May-08	May-08	May-08	May-08	May-08	Apr-08	May-08	Jun-08	Apr-08	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons												
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons												
Halogenated Non-Aromatic Hydrocarbons												
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	1.5	<1	<1	<1	1.7	1.2	1	2	1.9	1.4
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	9.2	8.4	9.4
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	1.3	<1	1.1	17.4	15.6	14.4
cis-1,2-Dichloroethene	6	2.4	6.4	4.1	1.7	6.2	5.1	4.2	4.7	10	9.3	9.9
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<1	<2	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	7.8	42.2	8.5	3.3	25.8	99.2	69.7	74.9	35.2	26.3	25.7
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	1.6	1.6	1.6
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	27.9	64	19.3	8.1	29.5	35.1	26.1	28.3	28.8	25.1	24.5
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		38.1	114.1	31.9	13.1	61.5	142.4	101.2	110	104.2	88.2	86.9
Total Concentration of VOCs		38.1	114.1	31.9	13.1	61.5	142.4	101.2	110	104.2	88.2	86.9

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis
[1] Treatment system influent samples

Table 6-4
Old Town Area Sampling Results from Other Locations
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	MP7-99-1BR			MP7-99-2BR			
		Apr-08	May-08	Jun-08	Apr-08	(D)*	May-08	Jun-08
Aromatic or Non-Halogenated Hydrocarbons								
Benzene	1	<5	<5	<5	<10	<0.5	<10	<10
n-Butylbenzene		<5	<5	<5	<10		<10	<10
sec-Butylbenzene		<5	<5	<5	<10		<10	<10
ter-Butylbenzene		<5	<5	<5	<10		<10	<10
Ethylbenzene	300	<5	<5	<5	<10	<0.5	<10	<10
Isopropylbenzene		<10	<10	<10	<20		<20	<20
p-Isopropyltoluene		<5	<5	<5	<10		<10	<10
Naphthalene		<10	<10	<10	<20		<20	<20
n-Propylbenzene		<5	<5	<5	<10		<10	<10
Toluene	150	<5	<5	<5	<10	<0.5	<10	<10
1,2,4-Trimethylbenzene		<5	<5	<5	<10		<10	<10
1,3,5-Trimethylbenzene		<5	<5	<5	<10		<10	<10
Xylenes, total	1750	<10	<10	<10	<20	<1	<20	<20
Total Aromatic Hydrocarbons								
Halogenated Non-Aromatic Hydrocarbons								
Bromodichloromethane	80	<5	<5	<5	<10	<0.5	<10	<10
Carbon Tetrachloride	0.5	10.6	14.4	16.6	29.1	26	23.6	17.4
Chloroform	80	<15	<15	<15	<30	<0.5	<30	<30
1,1-Dichloroethane	5	<5	<5	<5	<10	<0.5	<10	<10
1,2-Dichloroethane	0.5	<10	<10	<10	<20	<0.5	<20	<20
1,1-Dichloroethene	6	<5	<5	<5	<10	<0.5	<10	<10
cis-1,2-Dichloroethene	6	<5	<5	<5	<10	1.4	<10	<10
trans-1,2-Dichloroethene	10	<5	<5	<5	<10	<0.5	<10	<10
1,2-Dichloropropane	5	<5	<5	<5	<10	<0.5	<10	<10
Methylene Chloride	5	<5	<5	<5	<10	<1	<10	<10
1,1,1,2-Tetrachloroethane		<10	<10	<10	<20	0.64	<20	<20
1,1,2,2-Tetrachloroethane	1	<5	<5	<5	<10	<0.5	<10	<10
Tetrachloroethene	5	242	318	348	874	740	792	574
1,1,1-Trichloroethane	200	<5	<5	<5	<10	<0.5	<10	<10
1,1,2-Trichloroethane	5	<5	<5	<5	<10	<0.5	<10	<10
Trichloroethene	5	183	229	288	205	180	162	126
Freon-113	1200	<5	<5	<5	<10	<0.5	<10	<10
Vinyl Chloride	0.5	<5	<5	<5	<10	<0.5	<10	<10
Total Halogenated Hydrocarbons		435.6	561.4	652.6	1,108.1	948.04	977.6	717.4
Total Concentration of VOCs		435.6	561.4	652.6	1,108	948	977.6	717.4

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis
(D) = Duplicate sample

Table 7-1
Support Services Area Groundwater Monitoring Well Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	69-97-8 Apr-08	69-97-8 May-08	69-97-8 Jun-08
Aromatic or Non-Halogenated Hydrocarbons				
Benzene	1	<1	<1	<1
n-Butylbenzene		<1	<1	<1
sec-Butylbenzene		<1	<1	<1
ter-Butylbenzene		<1	<1	<1
Ethylbenzene	300	<1	<1	<1
Isopropylbenzene		<2	<2	<2
p-Isopropyltoluene		<1	<1	<1
Naphthalene		<2	<2	<2
n-Propylbenzene		<1	<1	<1
Toluene	150	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1
Xylenes, total	1750	<2	<2	<2
Total Aromatic Hydrocarbons				
Halogenated Non-Aromatic Hydrocarbons				
Carbon Tetrachloride	0.5	<1	<1	<1
Chloroform	80	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1
cis-1,2-Dichloroethene	6	7	5.5	5.8
trans-1,2-Dichloroethene	10	<1	<1	<1
Methylene Chloride	5	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1
Trichloroethene	5	<1	<1	<1
Freon-113	1200	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1
Total Halogenated Hydrocarbons		7	5.5	5.8
Total Concentration of VOCs		7	5.5	5.8

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
< = Less than Quantitation Limit

Table 7-2
Support Services Area Temporary Groundwater Sampling Point Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	SB69A-99-1 Apr-08	SB69A-99-1 May-08	SB69A-99-1 Jun-08
Aromatic or Non-Halogenated Hydrocarbons				
Benzene	1	<1	1.1	1.1
n-Butylbenzene		<1	<1	<1
sec-Butylbenzene		<1	<1	<1
ter-Butylbenzene		<1	<1	<1
Chlorobenzene		<1	<1	<1
Ethylbenzene	300	<1	<1	<1
Isopropylbenzene		<2	<2	<2
p-Isopropyltoluene		<1	<1	<1
Naphthalene		<2	<2	<2
n-Propylbenzene		<1	<1	<1
Toluene	150	<1	<1	<1
Xylenes, total	1750	<2	<2	<2
Total Aromatic Hydrocarbons			1.1	1.1
Halogenated Non-Aromatic Hydrocarbons				
Bromodichloromethane	80	<1	<1	<1
Carbon Tetrachloride	0.5	<1	<1	<1
Chloroethane		<30	<30	<30
Chloroform	80	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1
cis-1,2-Dichloroethene	6	1.6	<1	2.4
trans-1,2-Dichloroethene	10	<1	<1	<1
Methylene Chloride	5	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2
Tetrachloroethene	5	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1
Trichloroethene	5	<1	<1	<1
Freon-113	1200	<1	<1	<1
Vinyl Chloride	0.5	4.3	3.6	3.8
Total Halogenated Hydrocarbons		5.9	3.6	6.2
Total Concentration of VOCs		5.9	4.7	7.3

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
< = Less than Quantitation Limit

Table 8
Hydrauger Monitoring Results
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	51-01-01 Apr-08*	51-01-01 (D)*	51-01-02 Apr-08*	51-01-03 Apr-08*	51-01-03 (D)*	51-01-04 Apr-08*
Aromatic or Non-Halogenated Hydrocarbons							
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene							
sec-Butylbenzene							
ter-Butylbenzene							
Chlorobenzene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene							
p-Isopropyltoluene							
Methyl tert-Butyl Ether	13						
Naphthalene							
n-Propylbenzene							
Toluene	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes, total	1750	<1	<1	<1	<1	<1	<1
Total Aromatic Hydrocarbons							
Halogenated Non-Aromatic Hydrocarbons							
Bromodichloromethane	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	80	12	13	<0.5	<0.5	<0.5	<0.5
Chloroethane		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	6	<0.5	<0.5	0.99	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	6	<0.5	<0.5	<0.5	1.2	1.2	1.3
trans-1,2-Dichloroethene	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene Chloride	5	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	1.3	1.3	1.3
1,1,1-Trichloroethane	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	2.6	0.89	0.85	1.2
Freon-11		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Freon-113	1200	2.5	2.4	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Halogenated Hydrocarbons		14.5	15.4	3.59	3.39	3.35	3.8
Total Concentration of VOCs		14.5	15.4	3.6	3.4	3.4	3.8

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis
(D) = Duplicate sample

Table 9
Volatile Organic Compounds Detected in Groundwater Above MCLs
EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

	Halogenated VOCs									Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1
Building 71 VOC Plume - Building 71B Lobe										
MW71B-99-3R				31.4			14.7	7.0		
SB71B-03-1				29.4			21.6	5.3		
SB71B-03-2				9.7				2.6		
SB71B-04-1				11.6		22.3	9.7			
Building 51/64 VOC Plume										
MW51-96-16				35.1	11.2		7.5	9.4		2
MW51-96-18	33.2		6.7			51.1	22.7			
MW51-97-12			7.2	36.6				2.1		
MW51B-93-18A	6.9			13.2				1.5		
SB64-98-8	186	1.6	36.8	7.1	33	71.4	88.7	5.5		
SB64-98-17	56.6									
SB64-99-4	366		33.9	16.4			32.3	14.1		
SB64-99-5	88.6		42.7				15.2			
SB64-00-1	226		19.5	17.2			34.6	9.8		
SB64-00-2	33.8		131			18.1	54.1			
SB64-02-1A	2130		262			141	378			
SB64-02-1B	513	4.3	86.6	71.2		11.7	86.6	59.8		
SB64-02-1C	985	4.7	88.9	80.1			22.6	30.3		
SB64-02-1D	93.1		20.8	22.2			10.6	12.5		
SB64-02-1E	68.8		15.5	21.2			10.7	10.3		
SB64-02-1F	214		33.2	75.8			21.9	22.7		
SB64-02-2A	100		22.1	19.5		12.3	62	1.7		
SB64-02-2B	989	3.8	98.4	13.4			19.9			

Table 9 (Cont'd)
Volatile Organic Compounds Detected in Groundwater Above MCLs
EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

	Halogenated VOCs									Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1
SB64-02-2C	106		38.2	21.9			7.6	1.6		
SB64-02-2D	119		31.4	14.3			9.4	1		
SB64-02-2E	92		27.4	18.4			6.9	1.7		
SB64-02-2F	726	3.3	49.7	29.9			5	4.2		
SB64-03-1B	95						15.4			
SB64-03-5						5.6	61.4			
SB64-03-6				14.5		7.2	117			
EW51-07-1	6			114			146			
EW51-07-2							5.3			
EW51B-07-1	11.7		21.5	34.5			7.7	3.8		
EW51B-07-2				8.4				2.5		
EW64-00-1	8.4									
EW64-03-1	42.3						7.5			
Building 51L Plume										
SB51L-98-1A	7.4			77.4			46			
EW51A-06-1				12.5			185		9.8	
EW51L-06-1				7.7			6.5	1.6		
Old Town VOC Plume - Building 7 Lobe										
MW7-94-3			7.9			62.6	27.5		1	
MW7-95-22				7.5		190	105		3.7	
MW7-95-23						107	158		4.4	
MW7B-95-21				23.3	12.9	291	560			
MW7B-95-24						37	10.9		1	
MW52B-95-13						52.1	8.3		20.4	

Table 9 (Cont'd)
Volatile Organic Compounds Detected in Groundwater Above MCLs
EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

	Halogenated VOCs									Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1
MW53-93-16-69'						30	15.3		2.4	
MW53-96-1						33.9	13.4		3.4	
MW58-96-11				12		459	322		19.7	
MW58-00-12				86.5		5120	4200		261	
SB53-96-3						102	36		1.7	
SB58-96-1				9.1		16.3	26.6			
SB58-96-2						61.1	38		1.1	
SB58-97-2				14.2						
EW7-96-1						395	15.8		1.8	
EW7-96-2						20.7	10.7			
EW7-96-4R						118	11.1			
EW7-03-1						57.4	25.2		1.8	
EW7-03-2						169	70.6		3.7	
EW7-03-3				9.6		851	377		20	
EW7-06-1				13.1		842	164	2.9		
EW7C-04-2						13.5			2.4	
EW58E-98-1						94.4	73		2.9	
EW58E-98-2						84.6	77.5		3	
EW58E-98-3				8.4		172	145		7	
EW58E-98-4						7.8	27.9			
EW58E-98-5				6.4		42.2	64		1.5	
EW58E-98-6						8.5	19.3			
EW58E-98-7							8.1			
EW58E-98-8				6.2		25.8	29.5			

Table 9 (Cont'd)
Volatile Organic Compounds Detected in Groundwater Above MCLs
EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

	Halogenated VOCs									Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1
EW58-02-1						99.2	35.1		1.7	
EW58-07-1	9.4		17.4	10		35.2	28.8		2	
MP7-99-1BR						348	288		16.6	
MP7-99-2BR						874	205		29.1	
Old Town VOC Plume - Building 25A Lobe										
MW16-95-3							11.9			
MW25A-98-1							145			
MW25A-98-3							19.7			
MW25A-98-7							8.5			
SB16-97-11				17.2				1.4		
SB25A-96-3			23.6				109			
Old Town VOC Plume - Building 52 Lobe										
MW91-9						5.2				
SB5A-98-1						5.5				
Building 69 Area of Groundwater Contamination										
MW69-97-8				7						
SB69A-99-1								4.3		1.1

MCL: Maximum contaminant level for drinking water (determined by CDPH)

Note: Where duplicate or split samples were collected, or more than one sample was collected during the quarter, the maximum deceted concentrations is shown.

Table 10
Groundwater Monitoring Results
Tritium- Modified Method E906
July 2007 through June 2008
(concentrations in pCi/L)

Area	Well No.	FY2007 Qtr 4 July-Sept	FY2008 Qtr 1 Oct-Dec	FY2008 Qtr 2 Jan-Mar	FY2008 Qtr 3 Apr-Jun
Groundwater Monitoring Wells					
1	71-95-9	373		387	
3	75B-92-24	1,370		673	
	75-97-5	15,600 15,400 (D)		15,600	
	75-97-7	652		349	
	75-98-14	5,510		5,430	
	75-99-6	5,280		3,980	
4	76-93-6	2,550		2,540	
	78-97-20			1,040	
5	MWP-9	<300			
	MWP-10	<300			
	77-94-6	6,160		6,230	
	77-97-9			6,390	
	77-97-11	4,000		3,780	
	31-97-17	1,330		1,210	
	31-98-17	<300	<300	<300	<300
Temporary Groundwater Sampling Points					
3	SB69A-99-1	544		527	
	SB69A-00-1	<300			
	SB75-02-1	1,020		1,050	
	SB75A-02-1A	730		761	
	SB75A-02-1B	<300			
5	SB31-02-1	1,260		1,230	
	SB31-02-2	1,120		1,040	
	SB31-02-4	2,000			
	SB31-02-5	1,970			
	SB31-02-6	582		562	
	SB31-02-7	<300			
	SB31-03-1	2,110			
	SB31-03-2	2,790			
	SB31-03-4	1,680			
	SB77-02-1	<300			

Table 10 (Cont'd)
Groundwater Monitoring Results
Tritium- Modified Method E906
July 2007 through June 2008
(concentrations in pCi/L)

Area	Well No.	FY2007 Qtr 4 July-Sept	FY2008 Qtr 1 Oct-Dec	FY2008 Qtr 2 Jan-Mar	FY2008 Qtr 3 Apr-Jun
Slope Stability/Indicator Facilities					
5	SSW17-130	835		575	
	SSW19-130	689		398	
	SSW20-130	1,320		943	
	SSW21-130	<300		<300	
Hydraugers					
5	77-02-05		1,700		
	77-03-02		<300		
	77-03-03		<300		
	77-04-11		<300		
Quality Assurance Samples					
Field Blank				<300 <300 <300	

Maximum contaminant level (MCL) for drinking water for tritium determined by CDPH = 20,000 pCi/L

All samples were analyzed by Eberline

	= Not Sampled
<	= Less than minimum detectable activity (MDA)

(D) = Duplicate sample

Table 11
Soil Sampling Results
Tritium- Modified Method E906
3rd Quarter FY 2008*
(concentration in pCi/g)

Location	Sample ID	Depth (ft)	Date	Lab	
Building 75 NTLF	SSNTLF-08-1-0.5'	0.5	6/19/08	Eberline	<0.2
	SSNTLF-08-1-2.5'	2.5			<0.2
	SSNTLF-08-1-4'	4			<0.2
	SSNTLF-08-2-0.5'	0.5			<0.2
	SSNTLF-08-2-2.5'	2.5			<0.2
	SSNTLF-08-2-4'	4			<0.2
	SSNTLF-08-3-0.5'	0.5	6/18/08		<0.2
	SSNTLF-08-3-2.5'	2.5			<0.2
	SSNTLF-08-3-4'	4			<0.2
	SSNTLF-08-4-0.5'	0.5	6/17/08		<0.2
	SSNTLF-08-4-2.5'	2.5			<0.2
	SSNTLF-08-4-4'	4	6/18/08		<0.2
	SSNTLF-08-5-0.5'	0.5	7/1/08		<0.2
	SSNTLF-08-5-0.5'	0.5	(S)	Paragon	<0.2
	SSNTLF-08-5-2.5'	2.5	7/1/08	Eberline	<0.2
	SSNTLF-08-5-4'	4			<0.2
	SSNTLF-08-6-0.5'	0.5	7/1/08		<0.2
	SSNTLF-08-6-0.5'	0.5	(D)		<0.2
	SSNTLF-08-6-2.5'	2.5	7/1/08		<0.2
	SSNTLF-08-6-4'	4			<0.2
	SSNTLF-08-7-0.5'	0.5	6/10/08		<0.2
	SSNTLF-08-7-2.5'	2.5			<0.2
	SSNTLF-08-7-4'	4	6/11/08		<0.2
	SSNTLF-08-8-0.5'	0.5	9/5/08	Eberline	<0.2
	SSNTLF-08-8-0.5'	0.5	(S)	Paragon	<0.2
	SSNTLF-08-8-2.5'	2.5	9/5/08	Eberline	<0.2
	SSNTLF-08-8-4'	4			<0.2
	SSNTLF-08-9-0.5'	0.5	9/4/08		<0.2
	SSNTLF-08-9-2.5'	2.5			<0.2
	SSNTLF-08-9-4'	4			<0.2
	SSNTLF-08-10-0.5'	0.5	8/25/08	Eberline	3.22
	SSNTLF-08-10-2.5'	2.5			0.495
	SSNTLF-08-10-4'	4			0.87
	SSNTLF-08-11-0.5'	0.5	9/5/08	Eberline	<0.2
	SSNTLF-08-11-0.5'	0.5	(S)	Paragon	<0.2
	SSNTLF-08-11-2.5'	2.5	9/5/08	Eberline	<0.2
	SSNTLF-08-11-4'	4			<0.2
	SSNTLF-08-12-0.5'	0.5	8/26/08	Eberline	<0.2
	SSNTLF-08-12-2.5'	2.5			<0.2
	SSNTLF-08-12-4'	4			<0.2

Table 11 (Cont'd)
Soil Sampling Results
Tritium- Modified Method E906
3rd Quarter FY 2008*
(concentration in pCi/g)

Location	Sample ID	Depth (ft)	Date	Lab	
Building 75 NTLF	SSNTLF-08-13-0.5'	0.5	6/30/08	Eberline	<0.2
	SSNTLF-08-13-2.5'	2.5			<0.2
	SSNTLF-08-13-4'	4			<0.2
	SSNTLF-08-14-0.5'	0.5	6/23/08		<0.2
	SSNTLF-08-14-2.5'	2.5			0.34
	SSNTLF-08-14-4'	4	6/24/08		0.379
	SSNTLF-08-15-0.5'	0.5	8/25/08		0.249
	SSNTLF-08-15-2.5'	2.5			0.225
	SSNTLF-08-15-4'	4			<0.2
	SSNTLF-08-16-0.5'	0.5	8/26/08		<0.2
	SSNTLF-08-16-2.5'	2.5			<0.2
	SSNTLF-08-16-4'	4			<0.2
	SSNTLF-08-17-0.5'	0.5			<0.2
	SSNTLF-08-17-2.5'	2.5			0.469
	SSNTLF-08-17-4'	4			0.207
	SSNTLF-08-18-0.5'	0.5	7/1/08		<0.2
	SSNTLF-08-18-2.5'	2.5			<0.2
	SSNTLF-08-18-4'	4			<0.2
Building 85	SS85-08-1-0.5'	0.5	6/20/08		<0.2
	SS85-08-1-3'	3			<0.2
	SS85-08-2-0.5'	0.5	6/24/08	Eberline	<0.2
	SS85-08-2-0.5'	0.5	(S)	Paragon	<0.2
	SS85-08-2-3'	3	6/24/08	Eberline	<0.2
	SS85-08-3-0.5'	0.5	6/20/08		<0.2
	SS85-08-3-0.5'	0.5	(D)		<0.2
	SS85-08-3-3'	3	6/23/08		<0.2
	SS85-08-4-0.5'	0.5	6/17/08		<0.2
	SS85-08-4-3'	3			<0.2
	SS85-08-5-0.5'	0.5	6/23/08		<0.2
	SS85-08-5-3'	3			<0.2
	SS85-08-6-0.5'	0.5	6/12/08		<0.2
	SS85-08-6-3'	3	6/13/08		<0.2

Eberline = Analysis by Eberline Services
Paragon = Analysis by Paragon Analytics
< = Less than minimum detectable activity (MDA)
* Includes fourth quarter data for completeness.

(D) = Duplicate sample
(S) = Split sample
NTLF= National Tritium Labeling Facility

Table 12
Hydrochemical Indicator Parameters Sampling Results
3rd Quarter FY 2008

Parameter	Units	Optimum Range in Concentration	Building 51/64 Groundwater Solvent Plume				Building 69A Area of Groundwater		Building 71B Plume			
			MW51-96-16		MW51-96-17		SB69A-99-1		SB71B-03-1		SB71B-03-2	
			Apr-08	Jun-08	Apr-08	Jun-08	Apr-08	Jun-08	Apr-08	Jun-08	Apr-08	Jun-08
Ethane (C_2H_6)	µg/L	>10	0.11		<0.025		0.04		0.11		0.074	
Ethene (C_2H_4)		>10	8.7		<0.025		3.2		0.93		2	
Methane (CH_4)		>500	**10,000**		0.82		**5,900**		**580**		**4,000**	
Volatile Fatty Acids (VFAs)	mg/L	>0.1	**59.8**		**1.2**		**0.58**		**0.91**		**0.77**	
Nitrate (NO_3^-)	mg/L	<1	**<0.5**	**<0.5**	**<0.5**	**0.81**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Sulfate (SO_4^{2-})	mg/L	<20	**<1**	**4.1**	**19**	21	**<1**	**<1**	22	**19**	**19**	**16**
Sulfide (H_2S)	mg/L	>1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ferrous Iron (Fe^{2+})	mg/L	>1	**2.8**	**4.4**	ND	ND	**4.1**	**3.2**	**1**	0.8	0.8	**1.2**
Dissolved Oxygen (DO)	mg/L	<0.5	**0.11**	**0.07**	**0.28**	0.56	**0.05**	**0.04**	0.62	0.55	**0.48**	**0.37**
pH	pH units	5 to 9	**6.67**	**6.71**	**7.69**	**7.72**	**6.52**	**6.67**	**6.97**	**7.02**	**7.04**	**7.1**
Temperature	°C	>20	16	16.8	16.2	17.1	19.3	19.6	15.6	15.8	15.6	15.7
Nitrite (NO_2^-)	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Dioxide (CO_2)	ppm	> 2 times background	11.2	11	15	17	11.2	11.6	15	13.5	14	12.2

< indicates that analyte was not detected above method reporting limit noted.
Boldface type indicates that analytes were within optimum range for biodegradation.

ND indicates analyte was not detected by instrument.
[ ] = Not Sampled

Table 13
Groundwater Quality Control Samples
Volatile Organic Compounds - EPA Method 8260
3rd Quarter FY 2008
(concentrations in µg/L)

Constituent	MCL	Equipment (Rinseate) Blanks											Trip Blanks									
		Apr-08	Apr-08	Apr-08	Apr-08	May-08	May-08	May-08	May-08	Jun-08	Jun-08	Jun-08	Apr-08	Apr-08	Apr-08*	Apr-08	May-08	May-08	May-08	Jun-08	Jun-08	Jun-08
Aromatic and Non-Halogenated Hydrocarbons																						
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons																						
Halogenated Non-Aromatic Hydrocarbons																						
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.5	<3	<3	<3	<3	<3	<3	<3
Dibromochloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons																						
Total Concentration of VOCs																						

MCL: Maximum contaminant level for drinking water (determined by CDPH)
All analyses by LBNL EML unless otherwise noted
* = Analysis by BC Laboratories

< = Less than Quantitation Limit
= Compound not included in analysis