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Lawrence Livermore National Security, LLC, Livermore, California 94551

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2007 Annual
Compliance Monitoring Report
Lawrence Livermore National Laboratory
Site 300

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March 31, 2008

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Environmental Restoration Department

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1. Introduction

This Compliance Monitoring Report (CMR) summarizes the Lawrence Livermore National Laboratory (LLNL) Site 300 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Action compliance monitoring activities performed during January through December 2007. The report is submitted in compliance with the Compliance Monitoring Plan (CMP)/Contingency Plan for Interim Remedies at Lawrence Livermore National Laboratory Site 300 (Ferry et al., 2002). As agreed to with the Regional Water Quality Control Board (RWQCB), the Central and Eastern General Services Area (GSA) monitoring data, which were collected in compliance with the GSA CMP (Rueth, 1998) and Eastern GSA post-shutdown monitoring requirements (Holtzapple, 2007) are also included in this report.

During the reporting period of January through December 2007, 9 million gallons of ground water and 53 million cubic feet of soil vapor were treated at Site 300, removing approximately 62 kilograms (kg) of volatile organic compounds (VOCs), 95 grams (g) of perchlorate, 910 kg of nitrate, 160 g of Research Department Explosive (RDX), and 2.9 g of a mixture of tetrabutyl orthosilicate (TBOS) and tetrakis (2-ethylbutyl) silane (TKEBS) (Table Summ-1).

Since remediation began in 1991, approximately 357 million gallons of ground water and over 319 million cubic feet of soil vapor have been treated, removing approximately 510 kg of VOCs, 700 g of perchlorate 5,300 kg of nitrate, 0.94 kg of RDX, and 9.4 kg of TBOS/TKEBs (Table Summ-2).

2. Extraction and Treatment System Monitoring and Ground and Surface Water Monitoring Programs

Section 2 presents the monitoring results for the Site 300 remediation systems, ground water monitoring network, and surface water sampling and analyses. These results are presented and discussed by operable unit (OU) as follows:

2.1. General Services Area OU 1
2.2. Building 834 OU 2
2.3. Pit 6 Landfill OU 3
2.4. High Explosive Process Area (HEPA) OU 4
2.5. Building 850 OU 5
2.6. Building 854 OU 6
2.7. Building 832 Canyon OU 7
2.8. Site-Wide OU 8 (Building 833, Building 801, Building 845, Building 851)

The locations of the Site 300 OUs are shown in Figure 2-1. The Pit 2, 8, and 9 Landfills (OU 8) are discussed in Section 3.

Total VOC isoconcentration contour maps were constructed by summing the results of the following VOCs: trichloroethene (TCE); tetrachloroethene (PCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); carbon tetrachloride; chloroform; 1,1-dichlorethane (1,1-DCA); 1,2-dichlorethane (1,2-DCA); 1,1-dichloroethene (1,1-DCE);

1,1,1-trichloroethane (1,1,1-TCA); trichlorofluoromethane (Freon 11); 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113); 1,1,2-trichloroethane (1,1,2-TCA); and vinyl chloride. The resultant sums were rounded to two significant figures before plotting on the maps.

Second semester 2007 data were used for primary contaminants of concern (COC) isoconcentration contour maps. The primary COC data were over-laid onto second semester extent of saturation so that the concentration data would agree temporally with the ground water level data. Secondary COC data were obtained from first semester 2007 sampling events, so these contours were over-laid onto first semester extent of saturation. As a result, in some cases the maximum concentration reported in the text for a particular COC might not agree with the posted value on the contour map because the maximum concentration sample was collected during the other semester.

At the request of the regulatory agencies, estimated hydraulic capture associated with extraction wells, and in the case of the HEPA OU, estimated areas of hydraulic influence associated with injection of treated ground water are presented in the 2007 Annual CMR. The capture zones are defined only for extraction and injection wells that were active at the time that the ground water elevations were measured during the second semester 2007. The capture zones presented in this report differ from those presented in the Site-Wide Remediation Evaluation Summary Report (Ferry et al., 2006), because the Site-Wide Remediation Evaluation Summary Report capture zones were estimated using computer models such as Winflow or FEFLOW, whereas the CMR capture zones are based primarily on the equipotentials of the 2007 ground water elevation contour maps. As a general rule the capture zones were extended to two upgradient ground water elevation contours. For cases where control is sparse, a Thiem solution for steady-state radial flow in the vicinity of a pumping well was used to control the ground water elevation contours. Hydraulic capture and injection zones are displayed on ground water elevation and primary COC maps for all OUs where active ground water remediation is occurring (i.e., OU 1, OU 2, OU 4, OU 6, and OU 7). Capture zones will be presented on secondary COC maps beginning with the 2008 Annual CMR.

Treatment facility operations and maintenance issues that occurred during the second semester of 2007 and influent and effluent analytical data collected during second semester 2007 are included in this report. Treatment facility pH, and dissolved oxygen data collected during the second semester of 2007 are presented in Appendix A. Ground and surface water monitoring analytical data and ground water elevation measurements for the entire calendar year 2007 are presented in Appendices B and C, respectively.

Table 2-1 lists the 12 monitor wells, 3 extraction wells, and 1 borehole installed during 2007. There were no borehole soil samples collected and analyzed during 2007.

2.1. General Services Area (GSA) OU 1

The GSA OU consists of the Eastern and Central GSA areas.

The source of contamination in the Eastern GSA is an abandoned debris burial trench that received craft shop debris. Leaching of solvents on the debris resulted in the release of contaminants to ground water.

A ground water extraction and treatment system (GWTS) operated in the Eastern GSA from 1991 to 2007 to remove VOCs from ground water. VOC-contaminated ground water was extracted from three wells (W-26R-03, W-25N01, and W-25N-24), located downgradient from the debris burial trenches, at a combined flow rate of 45 gallons per minute (gpm). The extracted ground water was treated in three 1,000-pound (lb) granular activated carbon units that removed VOCs through adsorption. The treated effluent water was discharged to nearby Corral Hollow Creek.

Remediation efforts in the Eastern GSA have successfully reduced concentrations of TCE and other VOCs in ground water to below their respective cleanup standards set in the GSA Record of Decision (ROD) (United States [U.S.] Department of Energy [DOE], 1997). The Eastern GSA ground water extraction and treatment system was shut off on February 15, 2007 with the U.S. Environmental Protection Agency (EPA), RWQCB, and California Department of Toxic Substances Control (DTSC) approval. As required by the GSA ROD, ground water monitoring is being conducted to determine if VOC concentrations rise or "rebound" above cleanup standards.

A map of the Eastern GSA, showing the locations of monitoring and extraction wells and the treatment facility is presented in Figure 2.1-1.

At the Central GSA, chlorinated solvents, mainly TCE, were used as degreasing agents in craft shops, such as Building 875. Rinse water from these degreasing operations was disposed of in dry wells. Typically, dry wells were gravel-filled holes about 3 to 4 feet (ft) deep and two ft in diameter. The Central GSA dry wells were used until 1982. In 1983 and 1984, these dry wells were decommissioned and excavated.

The Central GSA GWTS treats ground water for VOCs and began operation since 1992. Contaminated ground water is extracted from eight wells (W-7I, W-875-07, W-875-08, W-873-07, W-872-02, W-7O, W-7P, and W-7R) at an approximate combined flow rate of approximately 3.0 gpm. However, as described in Sections 2.1.1.2 and 2.7, the Central GSA GWTS began receiving partially treated water from the Building 830-Distal South (830-DISS) facility at the end of the first semester, increasing the flow rate to approximately 5.0 to 6.0 gpm. The current GWTS configuration includes particulate filtration, air stripping to remove VOCs from extracted water, and granular activated carbon (GAC) to treat vapor effluent from the air stripper. Treated ground water is discharged to the surrounding natural vegetation using misting towers. Treated vapors are discharged to the atmosphere under permit from the San Joaquin Valley Unified Air Pollution Control District.

The Central GSA soil vapor extraction and treatment system (SVTS) treats soil vapor for VOCs and began operation in the GSA adjacent to the Building 875 dry well contaminant source area in 1994. Four wells (W-875-07, W-875-08, W-7I, and W-875-10) were utilized to extract soil vapor at an approximate flow rate of 17.6 standard cubic feet per minute (scfm). Vapor extraction from W-7I was discontinued in November 2005 due to lack of vapor flow. Soil vapor extraction from the entire wellfield (W-7I, W-875-07, W-875-08, W-875-09, W-875-10, W-875-11, and W-875-15) was initiated in November 2007 after installation of individual vapor flow meters, increasing the total flow rate to approximately 32 scfm. Simultaneous ground water extraction in the vicinity lowers the elevation of the ground water surface and maximizes the volume of unsaturated soil influenced by vapor extraction. The current SVTS configuration includes a water knockout chamber, a rotary vane blower, and four 140-lb vapor-phase GAC columns arranged in series. Treated vapors are discharged to the atmosphere under permit from the San Joaquin Valley Unified Air Pollution Control District.

A map of the Central GSA, showing the locations of monitoring and extraction wells and treatment facilities is presented in Figure 2.1-2.

2.1.1. GSA Ground Water and Soil Vapor Extraction and Treatment System Operations and Monitoring

This section is organized into five subsections: facility performance assessment; operations and maintenance issues; receiving water monitoring; compliance summary; and sampling plan evaluation and modifications.

2.1.1.1. GSA Facility Performance Assessment

As discussed above, the Eastern GSA GWTS has been shut down since February 15, 2007. Subsequently, only the Central GSA treatment system data will be presented in this report. The monthly ground water and soil vapor discharge volumes and rates and operational hours are summarized in Table 2.1-1. The total volume of ground water and vapor extracted and treated and mass removed during the reporting period is presented in Table Summ-1. The cumulative volume of ground water and soil vapor treated and discharged and mass removed is summarized in Table Summ-2. Analytical results for influent and effluent samples are shown in Tables 2.1-2 and 2.1-3. The pH measurement results are presented in Appendix A.

2.1.1.2. GSA Operations and Maintenance Issues

There were no operations and maintenance issues at the Eastern GSA GWTS since it was shut down on February 15, 2007 because ground water cleanup standards have been achieved (see Section 2.1).

Continuous operations of the Central GSA GWTS and SVTS were interrupted by the following routine maintenance activities:

- The Central GSA GWTS was shut down from October 23rd to the 29th for maintenance to remove calcium carbonate buildup.
- The Central GSA SVTS was shut down from August 1st to November 7th while venturi flow meters were installed and to conduct VOC soil vapor rebound testing.
- The Central GSA GWTS and SVTS were shut down on December 12th due to a failed compressor and remained off for the rest of the reporting period.

2.1.1.3. GSA Compliance Summary

The Central GSA GWTS operated in compliance with the Substantive Requirements for Wastewater Discharge during the second semester 2007. The Central GSA SVTS system operated in compliance with the San Joaquin Valley Unified Air Pollution Control District permit limitations.

2.1.1.4. GSA Facility Sampling Plan Evaluation and Modifications

The Central GSA treatment facility sampling and analysis plan complies with Substantive Requirements and the GSA CMP (Rueth, 1998) monitoring requirements. The treatment facility sampling and analysis plan is presented in Table 2.1-4. The only modification made to the plan during the reporting period was the addition of nitrate monitoring due to the piping of Building 830-Distal South (830-DISS) effluent to the Central GSA for VOC treatment. The existing Central GSA extraction wells have very low nitrate concentrations, however, the 830-DISS effluent contains nitrates above 45 milligrams per liter (mg/L).

2.1.1.5. GSA Treatment Facility and Extraction Wellfield Modifications

As discussed previously, the Central GSA treatment facility was modified during 2007. The 830-DISS effluent was connected to the Central GSA GWTS for VOC treatment and subsequent discharge by misting.

The Central GSA SVTS wellfield was modified during 2007 by increasing the number of soil vapor extraction (SVE) extraction wells from three (W-875-07, W-875-08, and W-875-10) to utilizing the entire SVTS wellfield (W-7I, W-875-07, W-875-08, W-875-09, W-875-10, W-875-11, and W-875-15).

2.1.2. GSA Surface Water and Ground Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the Central GSA CMP and Eastern GSA post-shutdown monitoring requirements with the following exceptions; nineteen required analyses were not performed because there was insufficient water in the wells to collect the samples and two samples were inadvertently left off the sampling plan. The missed samples will be collected in early 2008. The sampling and analysis plans for ground water and surface water monitoring at the Central and Eastern GSA are presented in Tables 2.1-5 and 2.1-6, respectively. These tables also delineate and explain deviations from the sampling plan and indicate any additions made to the CMP. Analytical results are presented in Appendix B.

Ground water elevation contours and hydraulic capture zones for the extraction wells that were active during second semester for the Eastern and Central GSA are presented in Figures 2.1-3 and 2.1-4, respectively. Ground water elevation measurements are presented in Appendix C.

2.1.3. GSA Remediation Progress Analysis

This section is organized into four subsections: mass removal; analysis of contaminant distribution and concentration trends; remediation optimization evaluation; and performance issues.

2.1.3.1. GSA Mass Removal

The monthly ground water and soil vapor mass removal estimates are summarized in Table 2.1-7. The cumulative mass estimates are summarized in Table Summ-2.

2.1.3.2. GSA Contaminant Concentrations and Distribution

VOCs are the COCs in ground water at the Eastern GSA. VOCs are present at very low concentrations in ground water within Quaternary alluvial deposits (Qal) that directly overlie the $Tnbs_1$ bedrock. A total VOC isoconcentration contour map based on data collected during the second semester 2007 for this shallow Qal-$Tnbs_1$ hydrostratigraphic unit (HSU) is presented in Figure 2.1.5.

Since extraction and treatment began at the Eastern GSA in 1991, TCE concentrations in ground water have decreased from a historical maximum of 74 micrograms per liter (µg/L) to below analytical reporting limits (0.5 µg/L) in the majority of wells. Within the Qal-$Tnbs_1$ HSU, total VOC concentrations detected in samples during the second semester 2007 ranged from 5 µg/L (W-26R-01, November 2007) to <0.5 µg/L. The TCE concentration contributing to the total VOC concentration of 5 µg/L detected in the ground water sample collected in November 2007 from W-26R-01 was 4.5 µg/L. Total VOCs were not detected in ground water samples from wells in the $Tnbs_1$ during second semester 2007. Second semester 2007 data indicate that TCE and other VOCs remain below their drinking water MCL in all wells since the Eastern GSA GWTS was shutdown in February 2007.

VOCs are the COCs in ground water and soil vapor at the Central GSA. There are three primary HSUs in the Central GSA:

- Qt-$Tnsc_1$ HSU, a shallow water-bearing zone in the western portion of the Central GSA. This HSU includes saturated Qt deposits, and the $Tnbs_2$ sandstone and $Tnsc_1$ siltstone/claystone bedrock units that subcrop beneath the Qt.
- $Tnbs_1$ HSU, a deeper regional aquifer within the western portion of the Central GSA which consists of $Tnbs_1$ sandstone bedrock.
- Qal-$Tnbs_1$ HSU, a shallow water-bearing zone within the eastern portion of the Central GSA. In the eastern portion of the Central GSA (near the sewage treatment pond), Qt deposits and the $Tnbs_2$ and $Tnsc_1$ bedrock units are not present. Qal deposits directly overlie the shallow $Tnbs_1$ bedrock that comprises the Qal-$Tnbs_1$ HSU in this area.

A VOC plume exists within the Qt-$Tnsc_1$ and Qal-$Tnbs_1$ HSUs in the Central GSA. A total VOC isoconcentration contour map based on data collected during the second semester 2007 for these HSUs is presented in Figure 2.1.6. The total VOC contour map is shown with areas of hydraulic capture highlighted in blue that are based on ground water elevation data from October 2007. Extraction wells W-7O and W-7P do not show capture zones because these wells were not pumping at the time the ground water elevations were measured for the map shown in Figure 2.1-4 due to a lowering of the water table in their vicinity.

Within the Qt-$Tnsc_1$ and Qal-$Tnbs_1$ HSUs, total VOC concentrations during the second semester 2007 ranged from a maximum of 490 µg/L (W-875-08, November 2007) in the Building 875 dry well pad area to <0.5 µg/L. VOCs were not detected in ground water samples from wells in the deeper $Tnbs_1$ HSU that underlies the Qt-$Tnsc_1$ HSU. In the vicinity of the sewage treatment pond, where Qal deposits directly overlie the $Tnbs_1$ bedrock, VOCs (chloroform) were detected in a sample from one $Tnbs_1$ well, W-7E, at a concentration of 7.8 µg/L. Prior to remediation, the maximum total VOC concentration detected in Central GSA ground water was 272,000 µg/L (1992), compared to the second semester 2007 maximum of 490 µg/L. This decline in VOC concentrations exemplifies the effectiveness of the cleanup operations. Although the overall extent of ground water impacted by VOCs in the Central GSA has not changed significantly, no wells currently contain VOCs with concentrations greater than 1,000 µg/L as a result of active remediation efforts.

The Central GSA SVTS was shut down from August 1st to November 7th while venturi flow meters were installed in order to track vapor flow and VOC mass removal from individual vapor extraction wells. A TCE soil vapor concentration contour map is presented in Figure 2.1-7 and depicts the extent of TCE vapor on October 30, 2007, just prior to restart of the SVTS. The extent and magnitude of the vapor plume is larger than that depicted during the first semester 2007, due to the rebound of TCE vapor during the SVE shutdown period.

2.1.3.3. GSA Remediation Optimization Evaluation

By 2007, ground water extraction and treatment had reduced VOC concentrations in all Eastern GSA wells to below the GSA ROD ground water cleanup standards (MCLs) and TCE concentrations to below analytical reporting limits (0.5 µg/L) in the majority of wells. In January of 2007, DOE/LLNL proposed to initiate the "Requirements for Closeout" described in the Remedial Design document for the GSA OU (Rueth et al., 1998). These requirements specify that, "when VOC concentrations in ground water have been reduced to cleanup standards, the ground water extraction and treatment system will be shut off and placed on standby." The U.S. EPA, RWQCB, and DTSC approved this proposal and the Eastern GSA ground water extraction and treatment system was shut off and effluent discharge to Corral Hollow Creek was discontinued on February 15, 2007, thereby meeting the Substantive Requirements. As required by the GSA ROD, ground water monitoring is being conducted to determine if VOC concentrations rebound above cleanup standards. As of the end of second semester 2007, VOCs have not been detected in any Eastern GSA wells above cleanup standards. In the Eastern GSA Compliance Feasibility Report, submitted to regulatory agencies on July 15, 2007, DOE/LLNL evaluated onsite discharge options that could be implemented if VOC concentrations rebound above cleanup standards requiring that the Eastern GSA extraction and treatment system be restarted.

At the Central GSA, ground water extraction continues to adequately capture the highest concentrations in ground water, as shown by capture zones in Figure 2.1-4. One extraction well (W-7P) did not produce water during second semester 2007, and another (W-7O) only produced two gallons during October, the month represented by the capture zones; therefore, capture zones were not depicted for these two wells. Water production from these two wells declined due to a lowering of the water table resulting from a combination of long-term pumping and low rainfall. During second semester 2007, extraction well W-7R removed the majority of the ground water while well W-875-08, located in the dry well pad area, removed most of the VOC mass.

Soil vapor rebound was evaluated while the Central GSA SVTS was shut down from August 1st to November 7th for venturi flow meter installation. Just prior to shut down, TCE vapor concentrations in the SVE wells ranged from <0.005 (W-7I) to 0.5 parts per million on a volume-to-volume basis ($ppm_{v/v}$) (W-875-07) on July 23, 2007. After the SVTS was off for three months, TCE vapor concentrations rebounded ranging from 1.7 $ppm_{v/v}$ (W-875-08) to 26 $ppm_{v/v}$ (W-875-10) on October 30, 2007. The SVTS was re-started on November 7th with extraction from all seven SVE wells. One week after restart, TCE vapor concentrations declined significantly ranging from 0.15 $ppm_{v/v}$ (W-875-08) to 8.1 $ppm_{v/v}$ (W-7I) on November 14, 2007. All wells, with the exception of W-875-07 which remained stable at 7.8 $ppm_{v/v}$, showed declining TCE vapor concentrations after one week of soil vapor extraction. Based on individual well vapor flow monitoring for the last two months of the semester, SVE wells W-875-07, W-875-10, and W-875-11 accounted for approximately 78% (0.4 kg) of VOC mass removed in vapor. All SVE wells will continue to run throughout first semester 2008, and the SVE well configuration will be evaluated in the next CMR report.

2.1.3.4. GSA OU Remedy Performance Issues

There were no new issues that affect the performance of the cleanup remedy for the GSA OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.2. Building 834 OU 2

The Building 834 Complex has been used to test the stability of weapons and weapon components under various environmental conditions since the 1950s. Past spills, piping leaks, and septic system leachate at the Building 834 Complex have resulted in soil and ground water contamination with VOCs, TBOS/TKEBs, and nitrate. In addition, a former underground diesel storage tank released diesel to the subsurface. A map of Building 834 OU showing the locations of monitoring and extraction wells and treatment facilities is presented in Figure 2.2-1.

The Building 834 GWTS and SVTS began operation in 1995 and 1998, respectively. These systems are located in the main part of the Building 834 Complex, referred to as the Building 834 core area. The GWTS treats VOCs, and TBOS/TKEBs within the Tpsg HSU and the SVTS treats VOCs in the vadose zone. The area immediately to the southwest of the core area is the leachfield area and further to the south is the distal (T2) area. Due to the very low ground water yield from individual ground water extraction wells (<0.1 gpm), the GWTS and SVTS have been operated simultaneously in batch mode. Although the GWTS can be operated alone, the SVTS is not operational without ground water extraction due to the upconing of the ground water in the well that covers the well screen and prevents soil vapor flow.

The current extraction wellfield consists of 13 extraction wells for both ground water and soil vapor extraction. Ten extraction wells (W-834-B2, -B3, -D4, -D5, -D6, -D7, -D12, -D13, -J1, and -2001) are located within the core area and three (W-834-S1, -S12A, and -S13) in the leachfield portion of the distal area. Extraction well W-834-D5 is connected to the facility but has not been used for extraction since the facility was restarted in October 2004 because the capture area is identical to the capture area of extraction well W-834-D13. Ground water and soil vapor extraction well W-834-2001 was added to the system in March 2007. Extracted ground water from this well contains dissolved-phase diesel related to the former underground diesel storage tank. The GWTS extracts ground water at an approximate combined flow rate of approximately 0.25 gpm and the SVTS extracts soil vapor at a combined flow rate of 105 scfm. The current GWTS configuration includes floating hydrocarbon adsorption devices to remove the floating silicon oil, TBOS/TKEBs, and any floating diesel, followed by aqueous-phase GAC to remove VOCs and dissolved-phase TBOS/TKEBs and diesel from ground water. Nitrate-bearing treated effluent is then discharged via a misting tower over the landscape for uptake and utilization of the nitrate by indigenous grasses. The current SVTS configuration includes vapor-phase GAC for VOC removal. Treated vapors are discharged to the atmosphere under an air permit from the San Joaquin Valley Unified Air Pollution Control District.

2.2.1. Building 834 OU Ground Water and Soil Vapor Extraction and Treatment System Operations and Monitoring

This section is organized into four subsections: facility performance assessment; operations and maintenance issues; compliance summary; and sampling plan evaluation and modification.

2.2.1.1. Building 834 OU Facility Performance Assessment

The monthly ground water and soil vapor discharge volumes and rates and operational hours are summarized in Table 2.2-1. The total volume of ground water and vapor extracted and treated and mass removed during the reporting period is presented in Table Summ-1. The cumulative volume of ground water and soil vapor treated and discharged and mass removed is summarized in Table Summ-2.

Analytical results for influent and effluent samples are shown in Tables 2.2-2 through 2.2-5. The pH measurement results are presented in Appendix A.

2.2.1.2. Building 834 OU Operations and Maintenance Issues

Continuous operations of the Building 834 GWTS and SVTS were interrupted by the following routine maintenance activities:

- The Building 834 SVTS was shut down from June 28th to November 5th for routine replacement of the granular activated carbon treatment media.
- The Building 834 GWTS and SVTS were shutdown on December 10th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

2.2.1.3. Building 834 OU Compliance Summary

The Building 834 GWTS operated in compliance with the Substantive Requirements for Wastewater Discharge. The Building 834 SVTS operated in compliance with the San Joaquin Valley Unified Air Pollution Control District permit limitations. As mentioned previously, the SVTS was shut down for routine GAC change out.

2.2.1.4. Building 834 OU Facility Sampling Plan Evaluation and Modifications

The Building 834 treatment facility sampling and analysis plan complies with CMP monitoring requirements. The sampling and analysis plan is presented in Table 2.2-6. There were no modifications made to the plan during the reporting period.

2.2.1.5. Building 834 OU Treatment Facility and Extraction Wellfield Modifications

No modifications to the treatment facility or to the extraction wellfield occurred during this reporting period.

2.2.2. Building 834 OU Ground Water Monitoring

During this reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; eighty-five required analyses were not performed because there was insufficient water in the wells to collect the samples. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.2-7. This table also delineates and explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B.

Ground water elevation contours and hydraulic capture zones for the extraction wells that were active during second semester for the Tpsg HSU are presented in Figure 2.2-2. Ground water elevation contours for the Tps-Tnsc$_2$ HSU are posted in Figure 2.2-3. Ground water elevation measurements are presented in Appendix C.

2.2.3. Building 834 OU Remediation Progress Analysis

This section is organized into four subsections: mass removal, analysis of contaminant distribution and concentration trends, remediation optimization evaluation, and performance issues.

2.2.3.1. Building 834 OU Mass Removal

The monthly ground water and soil vapor mass removal estimates are summarized in Table 2.2-8. The cumulative mass estimates are summarized in Table Summ-2.

2.2.3.2. Building 834 OU Contaminant Concentrations and Distribution

At the Building 834 OU, VOCs are the primary COCs detected in ground water; TBOS/TKEBs and nitrate are the secondary COCs. These COCs have been identified in two shallow HSUs: 1) the Tpsg perched water-bearing gravel zone and 2) the underlying Tps-$Tnsc_2$ perching horizon.

Total VOC concentration data are contoured for the Tpsg HSU and posted for the Tps-$Tnsc_2$ HSU based on data collected during the second semester 2007 and are presented in Figures 2.2-4 and 2.2-5, respectively. Isoconcentration contour maps for the secondary COCs based on data collected during the first semester 2007 are presented in Figures 2.2-6 and 2.2-8 for the perched Tpsg HSU and in Figures 2.2-7 and 2.2-9 for the Tps-$Tnsc_2$ HSU.

2.2.3.2.1. Total VOCs Contaminant Concentrations and Distribution

The highest VOC concentrations continue to be detected in the Building 834 core area ground water. Total VOC concentrations have decreased from a pre-remediation maximum of 1,060,000 µg/L (Tpsg HSU well W-834-D3) in 1993 to a second semester 2007 concentration of 5,235 µg/L (August 2007) in this well. The maximum second semester 2007 total VOC concentration in the Tpsg HSU was 64,200 µg/L detected in a ground water sample collected from well W-834-C5 (August 2007). Although active remediation has significantly reduced VOC concentrations in the more permeable Tpsg HSU, VOCs in the underlying Tps-$Tnsc_2$ HSU now contain the maximum second semester 2007 total VOC concentration of 200,960 µg/L detected in a ground water sample collected from well W-834-A1 (August 2007). VOC ground water concentrations in the Tps-$Tnsc_2$ HSU in the core area exhibit relatively stable trends, with one well (W-834-U1) exhibiting a slightly decreasing trend.

Historical and 2007 total VOC concentrations in Tpsg and Tps-$Tnsc_2$ HSU ground water are lower in the leachfield and distal areas than in the core area. In the leachfield area, total VOC concentrations in the Tpsg HSU have decreased from a pre-remediation maximum of 179,200 µg/L (W-834-S1) in 1988 to a second semester 2007 concentration of 3,580 µg/L (November 2007) in this well. The maximum second semester 2007 total VOC concentration in the Tpsg HSU is 12,000 µg/L (W-834-2113, October 2007). The extent of VOCs in Tps-$Tnsc_2$ HSU ground water in the leachfield area is based on wells W-834-S8 and W-834-S9, which showed maximum second semester 2007 total VOC concentrations of 5,051 µg/L and 2,100 µg/L, respectively. VOC concentrations from leachfield area wells screened within the Tps-$Tnsc_2$ HSU show relatively stable trends.

In the distal area, total VOC concentrations in the Tpsg HSU have decreased from a historical maximum of 86,000 µg/L (W-834-T2A) in 1988 to a second semester 2007 concentration of 15,061 µg/L (August 2007) in this well. The maximum second semester 2007 total VOC concentration in the Tpsg HSU is 17,000 µg/L (W-834-2117, August 2007). The extent of VOCs in Tps-$Tnsc_2$ HSU ground water in the distal area is based on only one well, W-834-2119. The total VOC concentrations in W-834-2119 increased from 620 µg/L in April 2005 to 14,000 µg/L in August 2007, suggesting an upward trend. However the initial low total VOC concentration measured in this well was not representative because the low permeability Tps-$Tnsc_2$ HSU in the vicinity of this well had not equilibrated with its surroundings following air-rotary drilling activities.

Total VOCs remain below detection limits in the deep $Tnbs_1$ guard wells, W-834-T1 and W-834-T3.

While the overall extent of total VOCs in core and leachfield area ground water has not changed significantly, the extent of total VOCs with concentrations greater than 10,000 µg/L has decreased significantly since remediation began at Building 834. VOC concentrations and its extent in ground water are expected to continue to decrease over time as remediation progresses. The extraction well field will continue to be evaluated to continue to maximize areas of ground water capture. Total VOC trends in the underlying Tps-$Tnsc_2$ HSU in the core and leachfield areas remain relatively stable due to this HSU's low permeability and the fact that this zone is not undergoing active remediation. VOC concentrations and plume extent have remained relatively stable in the distal area primarily because ground water extraction and treatment have not yet been initiated in this area. *In situ* bioremediation is being evaluated in the distal T2 area as part of a long-term treatability test and the current status is described in Section 2.2.3.4. Ground water extraction will be considered if treatability test results indicate that *in situ* bioremediation is not a viable treatment method for VOCs or if VOC trends increase significantly in the underlying Tps-$Tnsc_2$ HSU.

TCE biodegradation continues within the core area where significant amounts of TBOS/TKEBs are present and serve as an electron donor for intrinsic *in situ* biodegradation. The primary byproduct of this biodegradation has historically been cis-1,2-DCE, although limited vinyl chloride has also been detected. Both cis-1,2-DCE and vinyl chloride were detected in core area ground water during second semester 2007. While low concentrations of the electron donor TBOS/TKEBs and the breakdown product cis-1,2-DCE have been periodically detected in some leachfield area wells, no vinyl chloride has ever been detected in this area. This indicates that some limited intrinsic biodegradation may be taking place in this area.

The SVTS was shut down from June 28^{th} to November 5^{th} for replacement of the granular activated carbon. The core area SVE wells were sampled one week after the system was restarted (November 13^{th}), with vapor concentrations ranging from 0.17 $ppm_{v/v}$ (W-834-D4 and W-834-J1) to 18.8 $ppm_{v/v}$ (W-834-B2). The leachfield area SVE wells were sampled on November 6^{th}, with vapor concentrations ranging from 0.59 $ppm_{v/v}$ (W-834-S12A) to 1.8 $ppm_{v/v}$ (W-834-S13). They were then sampled again one week later on November 13^{th} with vapor concentrations ranging from 1.8 $ppm_{v/v}$ (W-834-S13) to 5 $ppm_{v/v}$ (W-834-S12A). No significant vapor rebound was observed in either the core area or leachfield area SVE wells. In fact, many of the wells exhibited lower VOC concentrations after four months of shutdown. Vapor samples will be collected from these wells and reported in the next CMR to determine if the long-term trends exhibit decreasing or increasing vapor concentrations.

2.2.3.2.2. TBOS/TKEBs Contaminant Concentrations and Distribution

During 2007, the maximum TBOS/TKEBs ground water concentration detected in ground water samples in the Building 834 OU was 19,000 µg/L (W-834-D3, March 2007). The maximum historical TBOS/TKEBs concentration in the Building 834 OU was 7,300,000 µg/L in 1995 (W-834-D3). TBOS/TKEBs continues to be detected at high concentrations almost exclusively in the core area. Historically, floating product has been measured intermittently in some core area wells, however, no floating product was observed during second semester 2007. TBOS/TKEBs concentrations in Tpsg HSU wells in the leachfield and distal area were below reporting limits (<10 µg/L) during 2007.

Both the concentrations and extent of TBOS/TKEBs in ground water are greater in the Tpsg HSU than in the underlying Tps-$Tnsc_2$ HSU perching horizon. In 2007, TBOS/TKEBs was detected in only one Tps-$Tnsc_2$ HSU well at a concentration of 14 µg/L (W-834-1711, February 2007). TBOS continues to remain below reporting limits in the deep $Tnbs_1$ guard wells, W-834-T1 and W-834-T3.

2.2.3.2.3. Nitrate Contaminant Concentrations and Distribution

During 2007, nitrate was detected in samples in Tpsg and Tps-$Tnsc_2$ HSU ground water at concentrations exceeding the 45 mg/L MCL in the Building 834 core, leachfield, and distal areas. Nitrate concentrations in Tpsg HSU ground water ranged from a maximum of 280 mg/L (W-834-M1, February 2007) to less than the 0.5 mg/L reporting limit. Nitrate concentrations in Tps-$Tnsc_2$ HSU ground water ranged from a maximum of 94 mg/L (W-834-1711, February 2007) to less than the 0.5 mg/L reporting limit. While nitrate concentrations have decreased from a historical maximum of 749 mg/L in 2000 (W-834-K1A), the continuing high nitrate concentrations detected in 2007 indicate a continuing contribution from natural and anthropogenic sources related to the nearby septic system.

Both the concentrations and extent of nitrate in ground water are greater in the Tpsg HSU than in the underlying Tps-$Tnsc_2$ HSU perching horizon. Core area nitrate concentrations in the Tpsg HSU vary spatially and temporally related to denitrification associated with the intrinsic *in situ* biodegradation. The nitrate influent concentration to the treatment facility has fluctuated since the startup in October 2004 following facility and well field modifications. Concentrations have increased from 35 mg/L in October 2004 to 78 mg/L in April 2007 and then decreased to 54 mg/L in October 2007. The initial low concentration of 35 mg/L is believed to be due to an extended period of no active vapor or ground water extraction during the facility construction, which allowed for significant anaerobic denitrification in the core area. Likewise, the drop in October 2007 to 54 mg/L was due to three months of no SVE due to change out of the granular activated carbon.

Nitrate levels in the leachfield area are presumably due to a large anthropogenic component associated with the septic system. The source of elevated nitrate levels in the distal area is unknown and may be due to the septic system and/or natural sources present in the formation.

Nitrate was not detected in guard wells W-834-T1 and W-834-T3 during second semester 2007.

2.2.3.2.4. Other Contaminant Concentrations and Distribution

The extent of diesel fuel in ground water appears to be limited to an area near the previous location of an underground storage tank. During 2007, diesel fuel was detected in three wells, W-834-U1, W-834-S9, and W-834-2001 at concentrations of 340 µg/L, 130 µg/L, and 450,000 µg/L, respectively.

Benzene, toluene, ethylbenzene, and xylene (BTEX) monitoring was conducted in thirteen Building 834 OU wells during second semester 2007. Toluene, ethylbenzene, and xylene were detected in W-834-S12A at concentrations of 6.8 µg/L, 2.9 µg/L, and 19 µg/L, respectively. Historically, BTEX has been detected in several wells (up to ten), and are probably related to the underground storage tank.

In 2007, chromium samples were collected from six core area wells that were affected by improperly wired pressure transducers that produced electrical short circuits in 2000. Chromium concentrations were significantly below the 0.05 mg/L MCL in these wells.

In 2007, perchlorate samples were collected from fourteen wells, twelve of which were sampled for perchlorate for the first time. Perchlorate was detected in ground water from two wells: W-834-2118 at a concentration of 4 µg/L (August 2007) and W-834-S7 at concentrations of 8.8 µg/L (March 2007) and 9.9 µg/L (August 2007). Perchlorate samples will continue to be collected semi-annually from these two wells. The origin of perhclorate in this area is unknown.

2.2.3.3. Building 834 OU Remediation Optimization Evaluation

The GWTS was operational throughout the second semester 2007, except from December 10th to December 31st to prevent damage caused by freezing temperatures. The SVTS was shut down from June 28th to November 5th for GAC replacement. Contract renewal issues caused the carbon replacement time period to be longer than expected. During the second semester 2007, no modifications of the extraction wellfields for either the core area or the leachfield area were made.

Within the core area, ground water extraction continues to adequately capture the highest concentrations in ground water, as shown by capture zones in Figure 2.2-4. Two core area extraction wells (W-834-B2 and W-834-B3) did not produce water during August 2007, the month represented by the capture zones; therefore, capture zones were not depicted for these two wells. Water production from these two wells was affected by a combination of the absence of vacuum enhanced extraction and a lowering of the water table due to low rainfall.

Within the leachfield area, one extraction well (W-834-S13) did not produce water during August 2007, and another (W-834-S12A) only produced one gallon; therefore, capture zones were not depicted for these two wells. Water production from these two wells was also affected by a combination of the absence of vacuum enhanced extraction and a lowering of the water table due to low rainfall.

Due to the SVTS shut down, less VOC mass was removed from the vapor phase during second semester as compared to first semester 2007. The leachfield area wells (W-834-S1, W-834-S12A, and W-834-S13), which began operation in 2004, accounted for approximately 53% (0.69 kg) of VOC mass removed in vapor during the second semester 2007. The VOC mass removed from ground water during the second semester 2007 was 0.46 kg; 0.43 kg from the core area and 0.03 kg from the leachfield area. For comparison, 0.89 kg were removed during the first semester 2007. Pump and treat operations within fine-grained sediments found in the Tps-Tnsc$_2$ unit are expected to have poor effectiveness due to very low hydraulic and pneumatic conductivities. The use and feasibility of enhanced source area remediation techniques are still being considered to remediate the underlying perching horizon.

2.2.3.4. Treatability Studies

The T2 area bioremediation treatability study, which began in 2005, continued during second semester 2007. The overall objective of this test is to evaluate the feasibility of fluid injection (sodium lactate) for source area cleanup and bioaugmentation with dechlorinating bacteria (KB-1). The first phase of this study was a tracer experiment in which isotopically distinct water from the Hetch-Hetchy reservoir was injected into the Tpsg HSU. This experiment, which was completed in early 2006, indicated that travel times between wells in the T2 area was less than 1 year, under the conditions tested. Given this preliminary result, the second phase of the study was started in April 2007, in which approximately 20 gallons of sodium lactate syrup were added to well W-834-1824 to promote the reductive dechlorination of TCE. Hetch-Hetchy water has been injected continuously throughout the semester to speed up the travel of lactate through the Tpsg HSU. By the beginning of the second semester, neither the redox conditions required for TCE biodegradation (*e.g.*, decreasing oxidation reduction potentials, oxygen and nitrate concentrations), nor the isotopic signature of Hetch-Hetchy water, were observed in downgradient observation wells. Therefore, periodic (*e.g.*, approximately weekly) injection of sodium lactate was started in August 2007, resulting in approximately 150 gallons of sodium lactate added during the second semester. In September 2007, Hetch-Hetchy tracer was detected in wells W-834-1825 and W-834-T2 based on the stable isotopic signature of the ground water. Furthermore, in November 2007, cis-DCE concentrations increased in downgradient wells W-834-1825 and W-834-1833, and similarly in well W-834-T2 by December 2007, indicating the beginning of TCE biodegradation. However, the redox conditions in these wells remained aerobic throughout the semester, as indicated by persistent oxygen, nitrate, and sulfate concentrations. Taken together, these results suggest that TCE biodegradation is occurring in the immediate vicinity of injection well W-834-1824, but the redox conditions that allowed this biodegradation to occur have not yet arrived at the downgradient wells. Therefore, in the next semester, periodic (*e.g.*, weekly) lactate injection will be continued, to promote TCE biodegradation over a larger area.

2.2.3.5. Building 834 OU Remedy Performance Issues

There were no new issues that affect the performance of the cleanup remedy for the Building 834 OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.3. Pit 6 Landfill (Pit 6) OU 3

The Pit 6 Landfill covers an area of 2.6 acres near the southern boundary of Site 300. This landfill was used from 1964 to 1973 to bury waste in nine unlined debris trenches and animal pits. The buried waste, which includes laboratory equipment, craft shop debris, and biomedical waste is located on or adjacent to the Corral Hollow-Carnegie fault. Further to the east, the fault trends to the south of two nearby water-supply wells CARNRW1 and CARNRW2. These active water-supply wells are located about 1,000 ft east of the Pit 6 Landfill. They provide water for the nearby Carnegie State Vehicular Recreation Area and are monitored on a monthly basis.

The Pit 6 Landfill was capped and closed in 1997 under CERCLA to prevent further leaching of contaminants resulting from percolation of rainwater through the buried waste. The engineered, multi-layer cap is intended to prevent rainwater infiltration into the landfill, mitigate potential damage by burrowing animals and vegetation, prevent potential hazards from the collapse of void spaces in the buried waste, and prevent the potential flux of volatile organic compound vapors through the soil. Surface water flow onto the landfill is minimized by a diversion channel on the north-side and drainage channels on the east, west, and south sides of the engineered cap. A map of Pit 6 Landfill OU showing the locations of monitoring and water-supply wells is presented in Figure 2.3-1.

2.3.1. Pit 6 Landfill OU Surface Water and Ground Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring and post-closure requirements with the following exceptions; eighteen required analyses were not performed because there was insufficient water in the wells to collect the samples. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.3-1. Analytical results are presented in Appendix B.

A ground water elevation contour map is presented in Figure 2.3-2. Ground water elevation measurements are presented in Appendix C.

2.3.2. Pit 6 Landfill OU Remediation Progress Analysis

This section is organized into three subsections: analysis of contaminant distribution and concentration trends; remediation optimization evaluation; and performance issues.

2.3.2.1. Pit 6 Landfill OU Analysis of Contaminant Distribution and Concentration

At the Pit 6 Landfill OU, VOCs and tritium are the primary COCs detected in ground water. Perchlorate and nitrate are secondary COCs. These constituents have been identified within the $Qt\text{-}Tnbs_1$ HSU. The distribution of total VOCs and tritium in the $Qt\text{-}Tnbs_1$ HSU based on data collected during the second semester 2007 are contoured on Figures 2.3-3 and 2.3-4, respectively. Isoconcentration contour maps for the secondary COCs, based on data collected during the first semester 2007, are presented in Figures 2.3-5 and 2.3-6.

2.3.2.1.1. Total VOC Contaminant Concentrations and Distribution

TCE, cis-1,2-DCE, PCE, and chloroform were detected within the $Qt\text{-}Tnbs_1$ HSU during 2007. Total VOC concentrations during the second semester ranged from 9.8 μg/L (EP6-09, July 2007) to below the reporting limit (<0.5 μg/L).

TCE concentrations have decreased from the historical maximum of 250 μg/L at well K6-19 in 1988 to a maximum concentration of 9.8 μg/L in 2007 (EP6-09, July 2007). During 2007, cis-1,2-DCE was detected in ground water samples from only one Pit 6 Landfill OU well at a maximum concentration of 2.4 μg/L (K6-01S, April 2007). The 2006 maximum concentration of cis-1,2-DCE was 2.5 μg/L detected in a sample from the same well. The presence of cis-1,2-DCE, a degradation product of TCE, suggests that natural decomposition may be occurring. PCE was also detected in 2007 in ground water samples from one well at a maximum concentration of 1.7 μg/L (EP6-08, July 2007). The 2006 maximum concentration of PCE was 1.0 μg/L detected in samples from the same well. Chloroform was also detected in ground water samples from well EP6-08 at concentrations of 0.78 μg/L (July 2007) and 0.55 μg/L (August 2007). The July 2007 sample was qualified due to the presence of chloroform in the field blank. Chloroform has sporadically been detected in this well, the last incidence was in 1997 at a concentration of 3.4 μg/L.

VOCs were not detected in ground water samples collected in 2007 from guard wells W-PIT6-1819 and K6-17.

2.3.2.1.2. Tritium Contaminant Concentrations and Distribution

Tritium was detected above the 100 picoCuries per liter (pCi/L) background activity in ground water samples from several wells completed in the Qt-Tnbs$_1$ HSU both north of the fault and within the fault zone. Calendar year 2007 tritium activities in ground water sample ranged from 503 pCi/L (K6-19, July 2007) to below reporting limits (<100 pCi/L).

Well K6-36 was recently the location of the highest measured tritium activities (3,420 pCi/L in 2003) in ground water in the Pit 6 OU, but has been dry since October 2006. However, because the Qt-Tnbs$_1$ HSU is likely saturated below the well screen, the August 2006 tritium activity of 1,200 pCi/L was used to conservatively create the isoconcentration contours presented on Figure 2.3-4, and thus the 1,000 pCi/L contour is shown.

Tritium was sporadically detected in ground water from well W-PIT6-1819 that is used to define the downgradient extent of the tritium plume. It is located about 100 ft west of the Site 300 boundary with the Carnegie State Vehicle Recreation Area residence area and is about 200 ft west of the CARNRW1 and CARNRW2 water-supply wells (Figure 2.3-4). The February, April, and October 2007 ground water samples from well W-PIT6-1819 yielded tritium activities of 129 pCi/L, 295 pCi/L, and 173 pCi/L, respectively. The April 2007 sample was collected in duplicate and yielded <100 pCi/L. No tritium was detected in the July 2007 ground water sample. Tritium was also sporadically detected in ground water from this well in 2006. The maximum 2006 tritium activity measured at this well was 241 pCi/L.

Tritium activities were below 100 pCi/L in all the monthly ground water samples obtained from the four off-site CARNRW wells during 2007.

In summary, two samples (K6-24 [444 pCi/L, February 2007] and K6-19 [503 pCi/L, July 2007]) collected at the Pit 6 Landfill OU during 2007 exceeded the 400 pCi/L State Public Health Goal and no samples exceeded the MCL. Based on these analyses, the tritium plume appears to be relatively stable and tritium activities in ground water samples from monitoring wells within the plume are generally decreasing.

2.3.2.1.3. Perchlorate Contaminant Concentrations and Distribution

During 2007, the maximum concentration of perchlorate was detected in a ground water sample from well K6-18 (completed in the Qt-Tnbs$_1$ HSU within the fault zone) at 6.6 mg/L (February 2007). The State MCL for perchlorate is 6 µg/L. A duplicate sample collected from the well at the same time did not contain perchlorate above the 4 mg/L reporting limit. Perchlorate was not detected in the ground water samples collected from any of the other monitor wells or CARNRW water-supply wells during 2007. Perchlorate concentrations in ground water have been steadily decreasing from their historical maximum concentration of 65 µg/ detected in a ground water sample collected from well K6-19 in 1998.

2.3.2.1.4. Nitrate Contaminant Concentrations and Distribution

During 2007, nitrate was detected in ground water samples collected from wells completed within the Qt-Tnbs$_1$ HSU within and north of the fault zone. Nitrate was only detected in ground water above the 45 mg/L MCL in wells K6-23 (220 mg/L, March 2007) and K6-22 (200 mg/L, February 2007). During 2006, nitrate was only detected above the 45 mg/L MCL in a ground water sample from well K6-23 (200 mg/L, February 2006). Well K6-23 consistently yields ground water nitrate concentrations in excess of the MCL. Well K6-23 is located in close proximity to the Building 899 septic system, which may be a potential source of the nitrate at this location. The elevated nitrate appears to be localized near this building. The February 2007 result for K6-22 appears to be suspect based on historical data and will be investigated.

Nitrate was detected in the monthly ground water samples collected during August 2007 from the water-supply well CARNRW1 at a maximum concentration of 0.75 mg/L.

2.3.2.2. Pit 6 Landfill OU Remediation Optimization Evaluation

The remedy for tritium and VOCs, the primary COCs in ground water at the Pit 6 Landfill, as selected in the Site 300 Interim ROD, is Monitored Natural Attenuation (MNA). Ground water elevations and contaminants are monitored on a regular basis to: (1) evaluate the effectiveness of the natural attenuation remedy in reducing contaminant concentrations, and (2) detect any new chemical releases from the landfill. In general, all primary and secondary ground water COCs at the Pit 6 Landfill OU exhibit stable to decreasing trends and ground water elevations beneath the landfill remain well below the buried waste. Tritium activities in ground water continue to decrease toward background levels and remain far below the 20,000 pCi/L MCL. Maximum TCE concentrations in ground water remain above the 5 µg/L MCL in samples from only one well (EP6-09) and the concentrations and extent of VOCs in ground water are generally declining.

2.3.2.3. Pit 6 Landfill OU Performance Issues

There were no issues that affected the performance of the cleanup remedy for the Pit 6 Landfill OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.4. High Explosives Process Area (HEPA) OU 4

The HEPA has been used since the 1950s for the chemical formulation, mechanical pressing, and machining of high explosives (HE) compounds into shaped detonation charges. Surface spills from 1958 to 1986 resulted in the release of contaminants at the former Building 815 steam plant. Subsurface contamination is also attributed to HE waste water discharges to former unlined rinsewater lagoons. Another minor source of contamination in ground water resulted from leaking contaminated waste stored at the former Building 829 Waste Accumulation Area and from three former burn pits located near Building 829.

Six GWTSs operate in the HEPA: Building 815-Source (815-SRC), Building 815-Proximal (815-PRX), Building 815-Distal Site Boundary (815-DSB), Building 817-Source (817-SRC), Building 817-Proximal (817-PRX), and Building 829-Source (829-SRC). A map of the HEPA OU showing the locations of monitoring and extraction wells and treatment facilities is presented in Figure 2.4-1.

The 815-SRC GWTS began operation in September 2000 treating ground water for TCE, RDX, and perchlorate. Initially, the system extracted from one extraction well, W-815-02 and consisted of aqueous-phase GAC, an ion-exchange system, and an anaerobic bioreactor for nitrate destruction. The treated effluent was discharged to a misting system. The anaerobic bioreactor was decommissioned in 2003. In 2005, the wellfield was expanded to include extraction well, W-815-04 for a combined flow rate of approximately 1.5 gpm. The current GWTS configuration includes a Cuno filter to remove particulates, three aqueous-phase GAC canisters connected in series for TCE and RDX removal, and two ion-exchange columns containing SR-7 resin (also connected in series) for perchlorate removal. In 2005, the discharge method of misting was replaced by injection of the treated effluent into well W-815-1918 for *in situ* denitrification in the $Tnbs_2$ HSU.

The 815-PRX GWTS began operation in October 2002 treating ground water for TCE and perchlorate. Ground water is extracted from wells W-818-08 and W-818-09 at a combined flow rate of approximately 2 gpm. The current GWTS configuration includes a Cuno filter to remove particulates, two ion-exchange columns with SR-7 resin that are connected in series for perchlorate removal, and three aqueous-phase GAC (also connected in series) for TCE removal. In 2005, the discharge method of misting was replaced by injection of the treated effluent into well W-815-2134 where an *in situ* natural denitrification process reduces the nitrate to nitrogen in the $Tnbs_2$ HSU.

The 815-DSB GWTS began operation in September 1999 treating ground water for low concentrations (less than 10 µg/L) of TCE in ground water extracted near the Site 300 boundary. Ground water is extracted from wells W-35C-04 and W-6ER at a combined flow rate of approximately 4 gpm. The GWTS originally operated intermittently on solar-power until site power was installed in 2005 when 24-hour operations began. The treated effluent is discharged to an infiltration trench.

The 817-SRC GWTS began operation in September 2003 treating ground water for RDX and perchlorate. Well W-817-01 extracts ground water from a very low yield portion of the $Tnbs_2$ aquifer. It pumps ground water using solar power intermittently at flow rates ranging from 500 to 800 gallons per month. The current GWTS configuration includes two ion-exchange columns with SR-7 resin that are connected in series for perchlorate removal, a Cuno filter to remove particulates, and three aqueous-phase GAC (also connected in series) for RDX removal. Treated ground water is injected into upgradient injection well W-817-06A where an *in situ* natural denitrification process reduces the nitrate to nitrogen in the $Tnbs_2$ HSU.

The 817-PRX GWTS began operation in September 2005 treating ground water for VOCs, RDX, and perchlorate. Initially ground water was extracted from wells W-817-03 and W-817-04 at a combined flow rate of approximately 1.0 gpm, although the vast majority of ground water was extracted from W-817-03. In 2007, the extraction wellfield was expanded to include extraction well, W-817-2318. The current GWTS configuration includes a Cuno filter to remove particulates, two aqueous-phase GAC canisters connected in series for TCE and RDX removal, two ion-exchange columns containing SR-7 resin (also connected in series) for perchlorate removal, and a third aqueous-phase GAC canister completes the treatment chain. Treated ground water containing nitrate is injected into upgradient injection well W-817-2109 and W-817-02 that was added in 2007. The treated effluent is split between the two injection wells where an *in situ* denitrification process reduces the nitrate to nitrogen in the $Tnbs_2$ HSU. Recent changes to the extraction and injection wellfield for this facility are discussed in Section 2.4.1.5.

The 829-SRC GWTS began operation in August 2005 treating ground water for VOCs, nitrate, and perchlorate. Solar power is used to extract ground water from well W-829-06 at a flow rate of 0.2 gpm. The current GWTS configuration includes two ion-exchange columns containing SR-7 resin connected in series for perchlorate removal, a biotreatment unit to treat nitrate, and three aqueous phase GAC canisters (also connected in series) for VOC removal. However, the biotreatment unit has not been needed because all the nitrate has been adsorbed by the SR-7 resin to date. The SR-7 resin will be utilized for nitrate removal during the colder periods of the year while the biotreatment unit will be utilized during the warm periods. Treated effluent is injected into upgradient well W-829-08.

2.4.1. HEPA OU Ground Water Extraction and Treatment System Operations and Monitoring

This section is organized into four subsections: facility performance assessment; operations and maintenance issues; compliance summary; and sampling plan evaluation and modifications.

2.4.1.1. HEPA OU Facility Performance Assessment

The monthly ground water discharge volumes, extraction flow rates, and operational hours are summarized in Tables 2.4-1 through 2.4-6. The total volume of ground water extracted and treated and the total contaminant mass removed during this reporting period is presented in Table Summ-1. The total volume of ground water treated and discharged and the total contaminant mass removed are summarized in Table Summ-2.

Analytical results for influent and effluent samples are presented in Tables 2.4-7 through 2.4-9. The pH measurement results are presented in Appendix A.

2.4.1.2. HEPA OU Operations and Maintenance Issues

The 815-SRC operated continuously during the reporting period. Continuous operations of the 815-PRX, 815-DSB, 817-SRC, 817-PRX, and 829-SRC were interrupted by the following routine maintenance activities and equipment failures:

<u>815-PRX</u>

- The 815-PRX GWTS was restarted on June 11th upon removal of all glue related compounds.
- The 815-PRX GWTS was shut down from August 22nd to the 28th while the extraction wellfield pipeline broken by foraging wild pigs was repaired.
- The 815-PRX GWTS was shut down on December 12th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

<u>815-DSB</u>

- The 815-DSB GWTS extraction well W-6ER was off-line from September 18th to October 4th due to a software problem.

<u>817-SRC</u>

- The 817-SRC GWTS was shut down on December 13th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

<u>817-PRX</u>

- The 817-PRX GWTS extraction wellfield expansion activities were completed and the system was restarted on July 24th in manual mode for initial start-up samples. Due to access problems, the system only ran for one day without the new extraction well (W-817-2318) online. The system was again restarted on August 8th, however, W-817-2318 did not operate until August 13th. The pump in the extraction well W-817-2318 stopped working on September 5th.

- The 817-PRX GWTS ran intermittently due to power-supply issues from November 26th through December 4th. The SR-7 ion exchange resin was changed out on December 3rd prior to effluent compliance sampling on December 4th. The GWTS was then shut down on December 4th to prevent damage caused by freezing temperatures for the rest of the reporting period, and to address the power supply problem.

829-SRC

- The 829-Source GWTS was shut down on November 20th for change-out of the SR-7 resin and again on December 11th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

2.4.1.3. HEPA OU Compliance Summary

The 815-SRC, 815-PRX, 815-DSB, 817-SRC, 817-PRX, and 829-SRC GWTSs operated in compliance with the Substantive Requirements for Wastewater Discharge.

2.4.1.4. HEPA OU Facility Sampling Plan Evaluation and Modifications

The HEPA OU facility sampling and analysis plan complies with CMP monitoring requirements. The sampling and analysis plan is presented in Table 2.4-10.

2.4.1.5. HEPA OU Treatment Facility and Extraction Wellfield Modifications

During second semester 2007, the 817-PRX extraction wellfield was modified to include a new shallow ground water extraction well, W-817-2318. This extraction well will extract VOC- and perchlorate-contaminated ground water from the Tpsg-Tps HSU in the vicinity of Spring 5. In addition, a second injection well, W-817-02, was added to this facility to accommodate increased pumping from extraction well W-817-03 planned for early 2008. The treated effluent is split between W-817-02 and the original injection well, W-817-2109.

Due to the low yield from ground water extraction well W-817-04, extraction from this well was discontinued in December 2007. Well W-817-04 will serve as a VOC and perchlorate plume interior performance monitor well.

2.4.2. HEPA OU Ground Water and Surface Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; forty required analyses were not performed because there was insufficient water in the wells to collect the samples and four required analyses were not performed because of pump failure. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.4-11. This table also explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B.

Ground water elevation data are contoured for the $Tnbs_2$ HSU and are posted for the Tpsg and $Tnsc_{1b}$ (Building 829 area) HSUs as presented in Figures 2.4-2, 2.4-4 and 2.4-6. The ground water elevation contour maps also show hydraulic capture zones associated with active extraction wells and areas of hydraulic influence resulting from the injection of treated effluent into injection wells. Ground water elevation measurements are presented in Appendix C.

2.4.3. HEPA OU Remediation Progress Analysis

This section is organized into four sub-sections: mass removal; contaminant concentrations and distribution; remediation optimization evaluation; and performance issues.

2.4.3.1. HEPA OU Mass Removal

The monthly ground water mass removal estimates are summarized in Tables 2.4-12 through 2.4-17. Cumulative mass estimates are summarized in Table Summ-2.

2.4.3.2. HEPA OU Contaminant Concentrations and Distribution

At the HEPA OU, VOCs (mainly TCE) are the primary COCs detected in ground water; RDX, perchlorate, and nitrate are secondary COCs. Most ground water contamination at the HE Process Area is present in the $Tnbs_2$ HSU. Minor amounts of total VOCs, perchlorate, and nitrate contamination are present in perched ground water in the $Tnsc_{1b}$ HSU beneath the former Building 829 HE Burn Pit and Waste Accumulation Area, located in the northwest portion of the HE Process Area. Some TCE, RDX, and perchlorate have been detected in the Tpsg sands and gravels of the Tpsg-Tps HSU in the vicinity of Building 815. No contamination has been detected in the Tps portion of the Tpsg-Tps HSU, or the upper and lower $Tnbs_1$ HSUs in the HEPA OU.

Total VOC concentration data are contoured for $Tnbs_2$ and posted for Tpsg and $Tnsc_{1b}$ based on data collected during the second semester 2007 and are presented in Figures 2.4-3, 2.4-8, and 2.4-12. Isoconcentration contour maps for the secondary COCs based on data collected during the first semester 2007 are presented in Figures 2.4-4 through 2.4-6 for the Tpsg HSU, Figures 2.4-9 through 2.4-11 for the $Tnbs_2$ HSU, and Figure 2.4-12 for the $Tnsc_{1b}$ HSU. For collocated wells, the highest concentration was used for contouring.

2.4.3.2.1. Total VOC Contaminant Concentrations and Distribution

During the second semester 2007, the maximum VOCs concentration detected in ground water samples from $Tnbs_2$ wells was 46 µg/L (August 2007) in well W-818-11, located upgradient of 815-PRX treatment facility and downgradient of the 815-SRC treatment facility. The $Tnbs_2$ total VOC plume is detached from its source at Building 815 and the 815-PRX extraction wellfield captures the highest concentrations in this plume. The VOC concentrations in ground water in the $Tnbs_2$ HSU in the HEPA have decreased from a maximum historical concentration of 110 µg/L (W-818-08, May 1992). The plume has much the same shape and extent as in previous years, however the lateral extent appears larger due to the detection of VOC contamination in well W-830-2216, located upgradient of the 830-DISS GWTS. This contamination likely comes from Building 832 Canyon OU sources. This well was connected as an extraction well to 830-DISS in June 2007.

During this reporting period, trace VOC concentrations were detected above the 0.5 µg/L reporting limit in samples from $Tnbs_2$ guard wells W-815-2110 and W-815-2111, located near the site boundary. VOCs were not detected in samples taken from any of the other onsite or offsite HEPA $Tnbs_2$ guard wells. Trace VOC concentrations were detected in offsite water-supply well, GALLO1, at concentrations ranging from 0.53 µg/L to 0.7 µg/L. The 817-PRX and 815-DSB facilities were installed to prevent further migration of VOCs near the site boundary. Continuous operation of the 815-DSB facility appears to be mitigating further migration of

VOCs downgradient of this facility, however, VOCs continue to be detected in wells W-815-2110, W-815-2111, and GALLO1.

In the second semester 2007, VOCs were detected in ground water samples from 829-SRC ($Tnsc_{1b}$) extraction well W-829-06 (14 μg/L, July 2007 and 15 μg/L, October 2007). VOCs have never been detected in nearby monitoring well W-829-1940. Concentrations in well W-829-06 have decreased significantly from an historical maximum of 1,013 μg/L (August 1993).

VOCs, mainly TCE, have been detected in the Tpsg sands and gravels of the Tpsg-Tps HSU in the vicinity of Building 815. For the most part, VOC concentrations in this HSU have been steadily decreasing over time. In addition, the limited recharge to this zone has resulted in declining water levels resulting in insufficient water for sampling. The maximum second semester 2007 VOC concentration detected in ground water samples from Tpsg-Tps wells was 55 μg/L in recently installed 817-PRX extraction well W-817-2318. Tpsg-Tps well W-35C-05, located near the site boundary, remains below the 0.5 μg/L reporting limit.

During second semester 2007, total VOCs were detected in samples from Qal/WBR guard well W-880-02 at concentrations of 0.54 μg/L (July 2007) and 0.83 μg/L (October 2007). This well and well W-4AS have historically had sporadic trace detections of VOCs. VOC concentrations in Qal/WBR wells W-35C-06 and W-6ES, located near the site boundary, remain below the 0.5 μg/L reporting limit.

2.4.3.2.2. RDX Contaminant Concentrations and Distribution

During 2007, the maximum RDX concentration detected in ground water samples from $Tnbs_2$ wells was 69 μg/L (January 2007) in 815-SRC extraction well, W-815-04. Overall, RDX concentrations in the $Tnbs_2$ HSU have decreased from an historical maximum of 204 μg/L (July 1992) in 817-SRC extraction well W-817-01. The RDX concentration in W-817-01 in October 2007 had decreased to 51 μg/L. RDX concentrations decreases rapidly in the downgradient direction to below the 1 μg/L reporting limit just northwest of well W-818-08. Although the maximum concentration of RDX continues to decrease, the extent of RDX contamination in the $Tnbs_2$ HSU remains essentially the same as shown in previous reports. RDX was not detected in any of the $Tnbs_2$ guard wells or in any of the Tpsg and $Tnsc_{1b}$ wells in second semester 2007.

2.4.3.2.3. Perchlorate Contaminant Concentrations and Distribution

During 2007, the maximum perchlorate concentration detected in ground water samples from $Tnbs_2$ wells was 35 μg/L (January 2007) in 817-SRC extraction well, W-817-01. Perchlorate concentrations detected in samples from the $Tnbs_2$ HSU have decreased from an historical maximum of 50 μg/L (February 1998) in well W-817-01. Perchlorate was not detected in any of the $Tnbs_2$ guard wells in 2007. Perchlorate was detected in offsite water-supply well, GALLO1, at a concentration of 11 μg/L (March 2007). Subsequent samples have been below the reporting limit and the 11 μg/L is considered to be a false positive.

Perchlorate was detected in ground water samples taken from $Tnsc_{1b}$ extraction well W-829-06 at concentrations of 9.1 μg/L (July 2007) and 8.3 μg/L (October 2007). Concentrations have decreased from an historical maximum of 29 μg/L (December 2000) in well W-829-06.

The 2007 maximum perchlorate concentration detected in ground water samples from Tpsg wells was 15 µg/L in 817-PRX extraction well W-817-2318 (August 2007). Perchlorate was not detected in any Qal/WBR wells during the reporting period.

2.4.3.2.4. Nitrate Contaminant Concentrations and Distribution

During the second semester 2007, nitrate concentrations in samples from the $Tnbs_2$ HSU ranged from <0.1 mg/L in the vicinity of the Site 300 boundary to a maximum of 84 mg/L (October 2007) in well W-817-01. Nitrate was not detected above the 45 mg/L MCL in any of the $Tnbs_2$ guard wells during this reporting period.

The maximum nitrate concentration detected in a sample during second semester 2007 from the $Tnsc_{1b}$ HSU was 93 mg/L in extraction well W-829-06 (July 2007).

The second semester 2007 maximum nitrate concentration (130 mg/L, February 2007) in the HEPA OU occurred in Tpsg-Tps HSU well W-817-2318. Elevated nitrate at 640 mg/L was detected during first semester 2007 in Tpsg-Tps HSU well W-6CS. Because there are no known septic systems or other Site 300 operations related nitrate sources near this well, the elevated nitrate may be related to a pre-Site 300 sheep corral that was discovered on a historical photo of the area. All other nearby wells screened in this HSU have significantly lower nitrate concentrations by one to two orders-of-magnitude. All Qal/WBR wells have nitrate concentrations below the 45 mg/L MCL.

The nitrate concentrations detected in groundwater during the second semester of 2007 continue to support the interpretation that nitrate is being treated *in situ* by natural processes. Nitrate concentrations decrease significantly due to microbial denitrification near the Site 300 boundary where the $Tnbs_2$ is anoxic and under confined conditions. Nitrate concentrations are significantly lower than the 45 mg/L MCL in all wells near the site boundary.

2.4.3.3. HEPA OU Remediation Optimization Evaluation

The key to remediation optimization at the HEPA OU is to manage extraction wellfield flow rates to balance the influence of site boundary pumping with upgradient pumping in the source area. Based on the $Tnbs_2$ ground water elevation map and the total VOC isoconcentration map shown in Figures 2.4-4 and 2.4-5, the existing extraction wellfield captures the highest concentrations in the VOC plume in the vicinity of wells W-818-08 and W-818-09 (815-PRX) and captures the leading edge of the plume near the site boundary (815-DSB). Some lateral migration of the plume appears to be occurring downgradient of the 817-PRX GWTS. A study is underway to determine the most effective way to mitigate further migration of the leading edge of the VOC plume upgradient of water-supply well GALLO1. In early 2008, extraction from 817-PRX extraction well W-817-03 will be increased from 1 to 2.5 gpm to increase hydraulic capture of the VOC plume upgradient of GALLO1.

Based on the $Tnbs_2$ ground water elevation contour map and the RDX and perchlorate isoconcentration contour maps shown in Figures 2.4-4, 2.4-9, and 2.4-10, the 817-SRC and 817-PRX extraction wellfields adequately capture the highest secondary COC concentrations in this OU.

Although the overall extent of the primary and secondary COC plumes in the HEPA have not changed significantly, VOC and RDX concentrations within the plume interiors continue to decline from their historical maximums. These trends are due to a combination of natural attenuation mechanisms and remediation efforts in the source and proximal areas of this OU. RDX concentrations continue to exhibit decreasing trends since monitoring for this COC began in 1985. The 815-SRC extraction wells, W-815-02 and W-815-04, have the highest RDX concentrations and increased pumping from these wells should improve RDX remediation in the Building 815 source area.

Perchlorate concentrations in the $Tnbs_2$ HSU have steadily decreased since 1998 when monitoring for this COC began. The 817-SRC (W-817-01) and 817-PRX (W-817-03 and W-817-04) extraction wells have the highest perchlorate concentrations in this OU. As discussed above, extraction from W-817-04 was terminated due to very low yield and pumping from W-817-03 is scheduled to increase from 1 to 2.5 gpm in January 2008. The maximum perchlorate concentration should begin to decline in response to increased pumping in W-817-03 beginning in early 2008. Additionally, upgradient injection at 815-SRC, 817-SRC, 815-PRX, and 817-PRX will continue to enhance remediation by flushing contaminants toward the extraction wells as depicted in the estimated capture zones shown in Figure 2.4-8.

Continued full-time operation of the 815-DSB facility, continued increased pumping from W-818-08, and increased pumping from W-817-03 in early 2008 and the initiation of ground water injection at W-817-02 should improve long-term ground water yield and mass removal at this OU and further prevent contaminated ground water from reaching the Site 300 boundary. Close monitoring of VOC concentrations in the site boundary area will continue, especially in the vicinity of GALLO1.

2.4.3.4. HEPA OU Remedy Performance Issues

There were no new issues that affect the performance of the cleanup remedy for the HEPA OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.5. Building 850 OU 5

High explosives experiments have been conducted at the Building 850 Firing Table. Until 1989, gravels on the firing table surface were disposed of in several disposal pits in the northern portion of the site. In the past, infiltrating water mobilized chemicals from contaminated gravel and debris to underlying soil, bedrock, and ground water. However, since the practice of watering down the firing table following explosives tests was discontinued, the firing table no longer releases significant contamination to the subsurface. A map of the Building 850 OU showing the locations of monitoring wells is presented in Figure 2.5-1.

2.5.1. Building 850 OU Ground Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; twenty-eight required analyses were not performed because there was insufficient water in the wells to collect the samples, four required analyses were not performed because a bent casing prevented sample collection, and one sample was inadvertently not collected. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.5-1. This table also delineates and explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B.

Ground water elevation contour maps for the Qal/WBR and $Tnbs_1$/$Tnbs_0$ HSUs within the OU are presented in Figures 2.5-2 and 2.5-3, respectively. Ground water elevation measurements are presented in Appendix C.

2.5.2. Building 850 OU Remediation Progress Analysis

This section is organized into three subsections: analysis of contaminant distribution and concentration trends; remediation optimization evaluation; and performance issues.

2.5.2.1. Building 850 OU Contaminant Concentrations and Distribution

At the Building 850 OU, tritium is the primary COC detected in ground water; nitrate and depleted uranium are the secondary COCs. Perchlorate also exists in ground water. These constituents have been identified within the Qal/WBR and $Tnbs_1$/$Tnbs_0$ HSUs. The distribution of tritium in each HSU, based on data collected during the second semester 2007 is contoured on Figures 2.5-4 and 2.5-5, respectively. Isoconcentration contour maps for the secondary COCs and perchlorate, based on data collected during the first semester 2007, are presented in Figures 2.5-6 through 2.5-11.

2.5.2.1.1. Tritium Contaminant Concentrations and Distribution

The maximum 2007 tritium activity in ground water within the OU was 66,800 ± 6,700 pCi/L (June 2007) in a sample collected from well NC7-70, screened in both the Qal/WBR and $Tnbs_1$/$Tnbs_0$ bedrock HSUs located about 50 ft downgradient (east) of the Building 850 Firing Table. The highest tritium activities in ground water in the OU continue to be located immediately downgradient of the tritium source at the Building 850 Firing Table. The historical maximum of 560,000 pCi/L in well NC7-28 in 1985 has declined to 28,400 pC/L in 2007. The extent of the 20,000 pCi/L MCL ground water tritium activity contour in both the Qal/WBR and $Tnbs_1$/$Tnbs_0$ bedrock HSUs in Doall Ravine also continues to diminish.

Ground water tritium activities generally continue to decline or are below historic highs in most portions of the Building 850 plume. For example, in Elk Ravine and south of the Pit 2 Landfill, maximum tritium activities in ground water have been gradually decreasing since 2004. Tritium activities in ground water samples from wells located in the southern Elk Ravine have dropped slightly for the last few years and are well below the 20,000 pCi/L MCL for tritium in drinking water.

While the extent of tritium in ground water with activities above 400 pCi/L remains fairly stable, the extent of tritium with activities above the 100 pCi/L detection limit has increased from last year northeast of Pit 1. The extent of the 100 pCi/L tritium plume contour northeast of Pit 1 has increased slightly as activities in ground water samples from wells W-865-2005 and W-865-2121 increased from background activities (<100 pCi/L) in 2006 to 2007 maxima of 243 ± 62 pCi/L and 161 ± 58 pCi/L, respectively. In 2007, the extent of the tritium plume with activities above 100 pCi/L has also increased near Building 801 due to recent tritium activity measurements slightly in excess of background (Figure 2.5-5). Tritium activities in the June 2007 samples from wells K8-01 and K8-02B were 217 ± 101 pCi/L and 410 ± 70 pCi/L, respectively. However, tritium was not detected above the reporting limit (<100 pCi/L) in subsequent sampling events during 2007. The current measurements suggest that the extent of tritium is not increasing in this area.

2.5.2.1.2. Uranium Contaminant Concentrations and Distribution

Uranium was not detected above the 20 pCi/L State drinking water MCL in Building 850 OU ground water during 2007. However, atom ratios indicative of depleted uranium were identified in ground water samples collected from several wells completed in the Qal/WBR and $Tnbs_1/Tnbs_0$ HSUs in the Building 850 area during 2007. The natural atom ratio of $^{235}U/^{238}U$ is about 0.0072 ± 0.001. Atom ratios below this range indicate some addition of depleted uranium to the naturally-occurring uranium activity in the water. The maximum 2007 total uranium activity in the OU was 18 pCi/L in ground water samples from well NC7-28 (February, June, and December 2007), located immediately downgradient of Building 850 and from well NC7-29 (June 2007), screened in the $Tnbs_1/Tnbs_0$ HSUs and located southeast of Building 850. Samples from well NC7-28 have generally showed $^{235}U/^{238}U$ atom ratios indicating the presence of depleted uranium in the ground water while samples from NC7-29 have always showed natural uranium atom ratios. The historic maximum uranium activity in the OU is 19 pCi/L in 2006 ground water samples from well NC7-28. The distribution of ground water within the Qal/WBR and $Tnbs_1/Tnbs_0$ HSUs containing some added depleted uranium extends downgradient about 1,200 ft and 700 ft, respectively, from the Building 850 source area and has not changed from recent years.

Depleted uranium has also been detected in $Tnbs_1/Tnbs_0$ HSU ground water collected from wells NC2-05 and NC2-06A, located immediately north of the Building 802 area. The $^{235}U/^{238}U$ atom ratios in samples from these wells indicate that the vast majority of the uranium is natural in origin. The maximum total uranium activity detected in this area during 2007 was 4.3 pCi/L (NC2-05, June 2007). The historical maximum total uranium activity in this area was 12.1 pCi/L in the May 2005 sample from well NC2-05. The distribution of uranium in this area has not changed in recent years.

Ground water uranium data from several wells immediately downgradient of the Pit 2 Landfill also indicated the presence of some depleted uranium. These data are discussed in Section 3.1.1 of this report.

2.5.2.1.3. Nitrate Contaminant Concentrations and Distribution

The maximum 2007 nitrate concentration detected in ground water was 180 mg/L (NC7-29, June 2007). The previous historic maximum nitrate concentration was 140 mg/L, detected in 2005 and 2006 at well NC7-29. Historical data indicate that ground water nitrate concentrations in the two HSUs are limited in extent and relatively stable. Overall, the distribution and concentrations of nitrate in ground water are generally similar to those observed in previous years.

2.5.2.1.4. Perchlorate Contaminant Concentrations and Distribution

Perchlorate was first detected in ground water at Building 850 in 2003. Recent monitoring indicates the presence of perchlorate in Building 850 ground water at concentrations exceeding the 6 µg/L State MCL. The maximum 2007 perchlorate concentration detected in a ground water sample was 71 µg/L (NC7-28, February 2007). This well is completed in the Qal/WBR and $Tnbs_1/Tnbs_0$ HSUs and is immediately downgradient of Building 850. The historic maximum perchlorate concentration in the OU was 75.2 mg/L (NC7-28, May 2005). Perchlorate has also been detected at concentrations above the 6 µg/L MCL in ground water from wells east and south of Building 850, in western Doall Ravine, and east of Pit 1. Overall, the distribution and concentrations of perchlorate in ground water in both HSUs are nearly identical to those observed in 2006.

2.5.2.2. Building 850 OU Remediation Optimization Evaluation

MNA is the selected remedy for remediation of tritium in ground water emanating from the Building 850 area. MNA continues to be effective in reducing tritium activities in ground water. The highest tritium activities in ground water in the OU continue to be located immediately downgradient of the tritium sources at the Building 850 Firing Table and continue to decline. The extent of the 20,000 pCi/L tritium activity contours in both HSUs continues to diminish. The significant decreases in activities and extent of the Building 850 tritium plume with activities exceeding the MCL indicate that natural attenuation (radioactive decay and a decreasing source term) continues to be effective in reducing tritium activities in ground water. In general, ground water tritium activities continue to decline or are below historic highs throughout the Building 850 plume except northeast of Pit 1. Although ground water tritium activities in samples from two wells in the Building 801 area (K8-01 and K8-02B) were slightly above background activities for the first time during the first semester, they returned to background levels during the second semester.

The distribution of depleted uranium is similar to previous years and total uranium in ground water continues to be below the 20 pCi/L MCL in all wells in the Building 850 OU. The extent of total uranium activities in ground water proximal to Building 850, as well as in the suite of wells that sample ground water containing some depleted uranium, are similar to past years. The remediation strategy for uranium at Building 850 continues to be protective because: (1) total uranium activities in Building 850 ground water remain below the 20 pCi/L MCL, (2) the areal extent of depleted uranium has not changed during the period of monitoring, and (3) the temporal trends in $^{235}U/^{238}U$ atom ratios remain stable.

The extent and maximum concentrations of nitrate and perchlorate in ground water are also similar to those observed in previous years. An *in situ* perchlorate bioremediation treatability test is scheduled for 2008. The objective of this test will be to evaluate the efficacy of sodium lactate injection to reduce perchlorate ground water concentrations just downgradient the Building 850 Firing Table. Recently installed well W-850-2417 will serve as the lactate injection well and nearby down gradient well NC7-28 will serve as a performance monitor well for this test.

2.5.2.3. Building 850 OU Remedy Performance Issues

There were no issues that affect the performance of the cleanup remedy for the Building 850 OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.6. Building 854 OU 6

The Building 854 complex was used to test the stability of weapons and weapon components under various environmental conditions and mechanical and thermal stresses. A map of Building 854 OU showing the locations of monitoring and extraction wells and treatment facilities is presented in Figure 2.6-1.

Three GWTSs currently operate in the Building 854 OU; Building 854-Source (854-SRC) Building 854-Proximal (854-PRX), and Building 854-Distal (854-DIS). An SVTS also operates at 854-SRC.

The 854-SRC GWTS began operation in December 1999 treating ground water to remove VOCs and perchlorate. Ground water extraction was expanded in September 2006 from one well, W-854-02 extracting at a flow rate of approximately 1 gpm to include W-854-18A, W-854-17, and W-854-2218 extracting at an approximate combined flow rate of 2.5 to 3.0 gpm. The current GWTS configuration includes a particulate filtration system, two ion-exchange columns containing SR-7 resin connected in series for perchlorate removal, and three aqueous-phase GACs connected in series for VOC removal. Nitrate-bearing treated effluent is then discharged via a misting tower over the landscape for uptake and utilization of the nitrate by indigenous grasses.

An SVTS began operation at the 854-SRC in November 2005. Soil vapor is extracted from W-854-1834 at an approximate flow rate of 53 scfm. This is an on-going treatability test to evaluate SVE mass removal at the Building 854 source area. The objective of this test is to determine if soil vapor extraction is a viable technology for long-term VOC source mass removal. This system consists of vapor-phase GAC to remove VOCs from extracted soil vapor. Treated vapors are discharged to ambient air.

The 854-PRX GWTS began operation in November 2000 treating ground water to remove VOCs, nitrate, and perchlorate. Ground water is extracted at an approximate flow rate of 1 gpm from well W-854-03 located southeast of the Building 854 complex. The GWTS configuration includes two ion-exchange columns containing SR-7 resin connected in series for perchlorate removal, three aqueous-phase GACs connected in series for VOC removal, and above ground containerized wetland biotreatment for nitrate removal prior to being discharged into an infiltration trench. In 2007, the treatment system was modified to replace the solar power with site power to increase the volume of extracted ground water by operating the GWTS 24-hours a day.

The 854-DIS GWTS began operation in July 2006 treating ground water to remove VOCs and perchlorate. Ground water is extracted at an approximate flow rate of 1.2 gpm from well W-854-2139. The current GWTS configuration includes two SR-7 ion-exchange resin columns connected in series for perchlorate treatment followed by three aqueous-phase GACs connected in series for VOC removal prior to being discharged into an infiltration trench.

2.6.1. Building 854 OU Ground Water Treatment System Operations and Monitoring

This section is organized into five subsections: facility performance assessment; operations and maintenance issues; receiving water monitoring; compliance summary; and sampling plan evaluation and modifications.

2.6.1.1. Building 854 OU Facility Performance Assessment

The monthly ground water discharge volumes and rates and operational hours are summarized in Tables 2.6-1 through 2.6-3. The total volume of ground water treated and mass removed during the reporting period is presented in Table Summ-1. The cumulative volume of ground water treated and discharged and the mass removed are summarized in Table Summ-2.

Analytical results for influent and effluent samples are shown in Tables 2.6-4 and 2.6-5. The pH measurement results are presented in Appendix A.

2.6.1.2. Building 854 OU Operations and Maintenance Issues

Continuous operations of the 854-SRC, 854-PRX, and 854-DIS were interrupted by the following routine maintenance activities and equipment failures during the reporting period:

<u>854-SRC</u>

- The 854-SRC GWTS remained shutdown from July 3rd to November 5th while the control panel was retrofitted due to an interlock issue that prevented extraction wells W-854-17 and W-854-18A from operating when wells W-854-02 and W-854-2218 were offline. Well W-854-02 is offline because it is dry and well W-854-2218 is offline while a pump is replaced. The ion-exchange resins were also replaced on July 13th due to breakthrough on first resin column.
- The 854-SRC SVTS was taken offline on October 24th when October analytical results indicated the influent VOC concentrations had fallen below the detection limit (<0.2 $ppm_{v/v}$ total VOCs). The system will be left offline until early 2008 to evaluate VOC rebound.

<u>854-PRX</u>

- The 854-PRX GWTS was started up on June 5th following the change of the position of the SR-7 ion exchange resins to before the GAC. The GWTS was then shut down on June 8th due to an effluent detection of perchlorate. Perchlorate had been accumulating in these treatment units and upon movement of the SR-7 resin, the perchlorate was detected in the effluent. The 854-PRX GWTS was then operated in recirculation mode (no discharge to infiltration trench) through the ion exchange units to remove the perchlorate in the biotreatment tanks through July 9th, at which time it resumed normal operations.
- The 854-PRX GWTS was shut down on August 2nd to perform maintenance on the acetic acid pump for the containerized wetland units and remained offline until construction of the permanent electrical power to this facility was completed on September 24th. Start-up of the facility with 24-hr operations began on October 1st.
- The 854-PRX GWTS was offline from October 15th to the 23rd due to a failed well pump.
- The 854-PRX GWTS was shutdown on December 11th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

<u>854-DIS</u>

- The 854-DIS GWTS was shutdown on December 11th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period.

2.6.1.3. Building 854 OU Compliance Summary

The 854-DIS and 854-SRC GWTSs operated in compliance with the Substantive Requirements for Wastewater Discharge. The 854-SRC SVTS operated in compliance with the San Joaquin Valley Unified Air Pollution Control District permit limitations. As discussed in Section 2.6.1.2, perchlorate was detected above the maximum daily and monthly median discharge limits at the 854-PRX GWTS at 18 µg/L from a sample collected on June 6th. As discussed above, the system was shut down and all extracted water recirculated through the ion-exchange units until all perchlorate had been removed.

2.6.1.4. Building 854 OU Facility Sampling Plan Evaluation and Modifications

The Building 854 OU facility sampling and analysis plan complies with CMP monitoring requirements. The sampling and analysis plan is presented in Table 2.6-6. The only modifications made to the plans included additional monitoring conducted at 854-PRX to evaluate the nitrate and perchlorate concentrations.

2.6.1.5. Building 854 OU Treatment Facility and Extraction Wellfield Modifications

The 854-PRX GWTS was modified in 2007 to replace the solar power with site power to increase the volume of extracted ground water by operating the GWTS 24-hours a day. In addition, the SR-7 ion exchange resin was moved to the primary position in the treatment chain in June 2007. Start-up under continuous operations began on October 1, 2008.

There were no extraction wellfield modifications made in the OU during the reporting period.

2.6.2. Building 854 OU Ground Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions: thirteen required analyses were not performed because there was insufficient water in the wells to collect the samples. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.6-7. This table also delineates and explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B.

A ground water elevation contours for the $Tnbs_1/Tnsc_0$ HSU and hydraulic capture zones for the extraction wells that were active during second semester are presented in Figure 2.6-2. Ground water elevation measurements are presented in Appendix C.

2.6.3. Building 854 OU Remediation Progress Analysis

This section is organized into four subsections: mass removal; analysis of contaminant distribution and concentration trends; remediation optimization evaluation; and performance issues.

2.6.3.1. Building 854 OU Mass Removal

The monthly ground water mass removal estimates are summarized in Tables 2.6-8 through 2.6-10. The cumulative mass estimates are summarized in Table Summ-2.

2.6.3.2. Building 854 OU Contaminant Concentrations and Distribution

At the Building 854 OU, VOCs are the primary COCs detected in ground water and perchlorate and nitrate are the secondary COCs. These constituents have been identified primarily in the $Tnbs_1/Tnsc_0$ HSU. Total VOC isoconcentration data for the $Tnbs_1/Tnsc_0$ HSU based on data collected during the second semester 2007 are contoured and presented in Figure 2.6-3. Isoconcentration contour maps for the secondary COCs based on data collected during the first semester 2007 are presented in Figures 2.6-4 and 2.6-5. Hydraulic capture zones are presented on the $Tnbs_1/Tnsc_0$ HSU ground water elevation and total VOC maps (Figures 2.6-2 and 2.6-3). Due to operational issues (see Section 2.6.1.2), the two main 854-SRC ground water extraction wells were not operational at the time the water levels were measured for the ground water elevation map. The hydraulic capture zones shown on Figures 2.6-2 and 2.6-3 are based on pumping water levels from 854-PRX extraction well W-854-03 and 854-DIS extraction well W-854-2139 only.

2.6.3.2.1. Total VOC Contaminant Concentrations and Distribution

The maximum second semester 2007 concentration of total VOCs in $Tnbs_1/Tnsc_0$ HSU ground water was 78 µg/L (W-854-02, November 2007). TCE comprises all of the VOCs observed in ground water at Building 854, except for cis-1,2-DCE that is detected in wells W-854-17 and W-854-2139. The maximum cis-1,2-DCE ground water concentration detected during second semester 2007 was 7.2 µg/L (W-854-17, November 2007). Overall, total VOC concentrations in Building 854 ground water have decreased from an historical pre-remediation maximum of 2,900 µg/L in 1997 detected in 854-SRC extraction well W-854-02. The extent of the total VOC plume emanating from the Building 854 Complex is bounded to the south by a region where total VOC concentrations are below the 0.5 µg/L reporting limit. Downgradient and south of this region, a less extensive total VOC plume occurs in ground water in the vicinity of former water-supply Well 13. While the extent of total VOCs in Building 854 ground water with concentrations above the 0.5 µg/L reporting limit has remained relatively stable over time, since remediation has started: (1) the portion of the northern VOC plume with concentrations greater than 50 µg/L has decreased and is limited to the immediate vicinity of the source area, (2) the extent of the northern VOC plume with concentrations greater than 10 µg/L has decreased, and (3) the extent of the southern VOC plume with concentrations greater than 5 µg/L has decreased significantly in size.

2.6.3.2.2. Perchlorate Contaminant Concentrations and Distribution

The maximum 2007 perchlorate concentration detected in a ground water sample was 20 µg/L (W-854-1823, May 2007). The previous historical maximum concentration of 27 µg/L was detected in 2003. Overall, the distribution and concentrations of perchlorate in ground water in ground water are nearly identical to those observed last year.

2.6.3.2.3. Nitrate Contaminant Concentrations and Distribution

During the 2007, nitrate was detected above the 45 mg/L MCL in ground water samples from wells completed in the $Tnbs_1/Tnsc_0$, $Tnbs_1$, and Qal-$Tnbs_1$ HSUs. The 2007 and historical maximum nitrate concentration of 260 mg/L was detected in ground water samples from W-854-14 in May 2007 and June 2006, respectively. While the extent of nitrate in ground water has not changed significantly during the period of remediation, this could be the result of the ongoing contribution of nitrate from septic systems (i.e., Building 858 near W-854-14) and natural sources in the Neroly Formation bedrock. Geochemical data (nitrogen and oxygen isotopes) collected in the Building 854 OU as part of the Site 300 nitrate MNA study indicate that denitrification is taking place in Neroly Formation ground water.

2.6.3.3. Building 854 OU Remediation Optimization Evaluation

The expansion of the 854-SRC GWTS wellfield in 2006 has increased total volume of extracted water and mass removal, however, the facility was shut down for several months due to operational issues as discussed in Section 2.6.1.2. The increase in hydraulic capture and ramifications for long term cleanup will be evaluated and reported in future CMRs.

As stated previously, all construction activities for full time operation of 854-PRX were completed in September 2007, increasing overall extraction capacity and the extraction flow rate from W-854-03 to 1.5 gpm. Although the increase in flow rate from W-854-03 has resulted in increased drawdown, the stabilized pumping water level in this well remains more than 10 ft above the screen bottom indicating that it is capable of even higher long-term flow rates. However, increasing the flow at this facility may exceed the capacity of the nitrate biotreatment unit and the injection trench. Different treatment options, including the *in situ* treatment of nitrate in an upgradient injection well are being evaluated to increase hydraulic capture of the TCE plume in this area and enhance overall ground water cleanup efforts in this OU.

A soil vapor rebound test at 854-SRC began in early 2007. Pumping was suspended at SVE well W-854-1834 from January 24, 2007 to April 4, 2007. A sample collected from W-854-1834 on January 9, 2007, prior to suspending pumping, contained 1.2 $ppm_{v/v}$ of TCE. From April 4 to April 5, 2007, vapor was extracted from well W-854-1834 and influent concentrations of VOCs were monitored. The initial measured vapor TCE concentration upon commencing pumping was 2.1 $ppm_{v/v.}$ TCE concentrations stabilized in the 1.0 to 1.3 $ppm_{v/v}$ range, indicating that TCE vapor concentrations in the source area had not rebounded during suspension of pumping. The 854-SRC SVTS was taken offline on October 24th when October analytical results indicated the influent VOC concentrations had fallen below the detection limit (<0.2 $ppm_{v/v}$ total VOCs). The system will be left offline until mid-2008 to evaluate VOC rebound.

2.6.3.4. Building 854 OU Remedy Performance Issues

There were no new issues that affect the performance of the cleanup remedy for the Building 854 OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup. Future CMRs will depict hydraulic capture in the 854 source area related to pumping from the two main 854-SRC extraction wells and, if implemented, increased pumping at 854-PRX should increase hydraulic capture in the proximal area of this OU.

2.7. Building 832 Canyon OU 7

Building 832 Canyon facilities were used to test the stability of weapons and associated components under various environmental conditions. Contaminants were released from Buildings 830 and 832 through piping leaks and surface spills during testing activities at these buildings.

Three GWTSs and two SVTS operate in the Building 832 Canyon OU: Building 832-Source (832-SRC), Building 830-Source (830-SRC), and Building 830-Distal South (830-DISS). The 832-SRC and 830-SRC facilities extract and treat both ground water and soil vapor, while the 830-DISS facility extracts and treats ground water only. Modification to the 830-DISS GWTS took place during the first semester as described below. The original 830-PRXN extraction well, W-830-57 was connected to 830-SRC as part of the 830 SRC expansion described in Section 2.7.1.5.

A map of Building 832 OU showing the locations of monitoring and extraction wells and treatment facilities is presented in Figure 2.7-1.

The 832-SRC facility treats ground water for VOCs and perchlorate, and nitrate and soil vapor to remove VOCs. The GWTS and SVTS began operation in September and October 1999, respectively. Initially, ground water was extracted from nine wells at a combined total flow rate that initially ranged from 30 to 300 gallons per day (gpd). The total flow eventually dropped to 5 to 50 gpd due to lowering of the water table by pumping. In early 2005, the source area extraction wellfield was reduced to two wells (W-832-12 and W-832-15) operating with vacuum enhancement and a combined flow rate ranging from 60 to 220 gpd. In late 2005, the extraction wellfield was expanded to include three additional downgradient wells (W-832-01, W-832-10, and W-832-11). As a result, the combined flow rate increased to about 1,300 gpd, and VOC concentrations in facility influent increased four-fold. Well W-832-25 was connected to the facility in July 2006. Currently, ground water is extracted from wells W-832-01, W-832-10, W-832-11, W-832-12, W-832-15 and W-832-25 at an approximate combined flow rate of 0.5 gpm. Soil vapor is extracted from W-832-12 and W-832-15 at an approximate combined flow rate of approximately 3.0 scfm. The current GWTS configuration includes a Cuno filter for particulate filtration, two ion-exchange columns with SR-7 resin connected in series to remove perchlorate, and three aqueous-phase GAC units (also connected in series) to remove VOCs. Nitrate-bearing treated effluent is then discharged via a misting tower over the landscape for uptake and utilization of the nitrate by indigenous grasses. A positive displacement rotary lobe blower is used to create a vacuum at selected wellheads through a system of manifolded piping. The contaminated vapors are treated using three vapor-phase GAC units connected in series. Treated soil vapors are then discharged to the atmosphere under a permit from the San Joaquin Valley Unified Air Pollution Control District.

The 830-SRC facility treats ground water for VOCs and perchlorate and soil vapor for VOCs. The GWTS and SVTS began operation in February and May 2003, respectively. Ground water was extracted from four wells at a total flow rate ranging from 5 to 100 gpd. The 830-SRC extraction wellfield was expanded in 2006. Seven GWTS extraction wells (W-830-49, W-830-1829, W-830-2213, W-830-2214, W-830-57, W-830-60, and W-830-2215) were added to the original three (W-830-1807, W-830-19, and W-830-59). The expansion well testing began during 2006. The tests were completed and the expanded wellfield was in full operation during the first semester 2007. The current GWTS configuration includes a Cuno filter for particulate filtration, two ion-exchange columns with SR-7 resin connected in series to remove perchlorate, and three in series aqueous-phase GAC units to remove VOCs. Nitrate-bearing treated effluent is then discharged via a misting tower over the landscape for uptake and utilization of the nitrate by indigenous grasses. The 830-SRC soil vapor extraction wellfield was also expanded to include well W-830-49 in 2006. Soil vapor is extracted from wells W-830-1807 and W-830-49 using a liquid ring vacuum pump. The contaminated vapors are treated using three vapor-phase GAC units connected in series. Treated soil vapors are then discharged to the atmosphere under a permit from the San Joaquin Valley Unified Air Pollution Control District.

The 830-DISS GWTS began operation in July 2000, treating ground water to remove VOCs, perchlorate, and nitrate. Approximately 1 gpm of ground water was extracted from three wells (W-830-51, W-830-52, and W-830-53) using natural artesian pressure. The GWTS configuration consisted of a Cuno filter for particulate filtration, two aqueous-phase GAC units in series to remove VOCs, two in series ion-exchange columns with SR-7 resin to remove perchlorate, and three bioreactor units for nitrate reduction. These units were open-container wetland bioreactors containing microorganisms that use nitrate during cellular respiration. Acetic acid was added to the process stream as a carbon source. Treatment system effluent was discharged via a storm drain that discharges to the Corral Hollow alluvium. At the request of the

Regional Water Quality Control Board, the facility was modified during the first semester 2007 to cease surface water discharge. The modification included the addition of a fourth well, W-830-2216, to the extraction well field. Currently, extracted ground water flows through ion-exchange canisters to remove perchlorate at the 830-DISS location. The water is then piped to the Central GSA GWTS for VOC removal. Nitrate-bearing treated effluent is then discharged via a misting tower over the landscape for uptake and utilization of the nitrate by indigenous grasses.

2.7.1. Building 832 Canyon OU Ground Water and Soil Vapor Extraction and Treatment System Operations and Monitoring

This section is organized into four subsections: facility performance assessment; operations and maintenance issues; compliance summary; and sampling plan evaluation and modifications.

2.7.1.1. Building 832 Canyon OU Facility Performance Assessment

The monthly ground water and soil vapor discharge volumes, rates, and operational hours are summarized in Tables 2.7-1 through 2.7-3. The total volume of ground water and vapor extracted and treated and mass removed during the reporting period are presented in Table Summ-1. The cumulative volume of ground water and soil vapor treated and discharged and mass removed are summarized in Table Summ-2.

Analytical results for influent and effluent samples are shown in Tables 2.7-4 and 2.7-5. The pH measurement results are presented in Appendix A.

2.7.1.2. Building 832 Canyon OU Operations and Maintenance Issues

Continuous operations of 832-SRC, 830-SRC, and 830-DISS were interrupted by the following routine maintenance activities and equipment failures:

<u>832-SRC</u>

- The 832-SRC GWTS and SVTS were shut down from July 5th to July 17th due to detections of VOCs in the effluent samples from the GWTS.
- The 832-SRC GWTS was shutdown on August 26th because a grassfire damaged the misting tower. The tower was repaired and the facility restarted on August 27th.
- The 832-SRC GWTS extraction wells W-832-01, W-832-10, W-832-11, and W-832-25 were shut down on December 10th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period. The GWTS continues to operate using extraction wells W-832-12 and W-832-15.

<u>830-SRC</u>

- The 830-SRC GWTS and SVTS were shut down from July 5th to July 9th due to detections of trichloroethene in the effluent samples from the GWTS.
- The 830-SRC extraction wells located in the lower canyon were shut down on October 4th due to an electrical problem at the transfer tank. An initial repair was made on October 12th, and the lower canyon wells began operating on October 15th. Due to continued problems, the wells operated intermittently until the system was redesigned with different switches, and all extracted water was collected in batch tank to reduce back-pressure on the system. All wells began pumping on October 25th.

- The 830-SRC GWTS extraction wells W-830-19, W-830-49, W-830-59, W-830-1829, W-830-2213, and W-830-2214 were shut down on December 10th to prevent damage caused by freezing temperatures and remained off for the rest of the reporting period. The treatment system continued to operate using extraction wells W-830-1807, W-830-2215, W-830-57, and W-830-60. The SVTS continued to operate using extraction well W-830-1807 while W-830-49 was shutdown for freeze protection.

830-DISS

- Because ground water pumped from 830-DISS GWTS effluent is piped to the Central GSA facility for VOC treatment, the Building 830-DISS GWTS was shut down from October 23rd to October 29th while the Central GSA GWTS was offline for maintenance as described in Section 2.1.1.2. In addition, 830-DISS was offline from December 12th through the end of the reporting period due to the compressor failure at Central GSA.

2.7.1.3. Building 832 Canyon OU Compliance Summary

The 830-SRC and 830-DISS GWTSs operated in compliance with Substantive Requirements during the reporting period. The 830-SRC and 832-SRC SVTS operated in compliance with the San Joaquin Valley Unified Air Pollution Control District permit limitations. As mentioned above, VOCs were detected in an effluent sample collected from 832-SRC on July 2nd. The VOCs included TCE at 11.6 µg/L, cis-1,2-DCE at 1.8 µg/L, and chloroform at 0.69 µg/L. Since no VOCs were detected in an influent sample collected from the 3rd GAC canister on the same day, it was considered a possible false positive. The effluent was re-sampled on July 5th, and the system was immediately shut down for evaluation. VOCs were again detected in the effluent sample (TCE at 14.9 µg/L, cis-1,2-DCE at 3.0 µg/L, and chloroform at 1.3 µg/L). Evidently, the 2nd GAC canister had been changed out the last week of June due to rust problems, which is why no VOCs were detected at the influent to the 3rd GAC. However, the 3rd GAC canister must have already been saturated, leading to the release of VOCs. Therefore, the 2nd canister was moved to the primary position, and two new canisters of GAC were put in the 2nd and 3rd positions. Following the change-out, the system was restarted and three additional effluent samples were collected. No VOCs were detected in any of these samples. Although out of compliance for discharge over the daily limits of 5 µg/L, 832-SRC did operate within the monthly median limit of 0.5 µg/L. At the 830-SRC GWTS, the analytical laboratory reported a detection of TCE at 43 µg/L in the effluent sample collected on July 2nd. However, no VOCs were detected in any intermediate port samples. In addition, no VOCs were detected in the influent sample submitted. The effluent was re-sampled on July 5th for evaluation. No VOCs were detected in the effluent re-sample. It was concluded that the influent and effluent samples collected on July 2nd were switched, either at the analytical laboratory or at the time of sample collection.

2.7.1.4. Building 832 Canyon OU Facility Sampling Plan Evaluation and Modifications

The Building 832 Canyon OU treatment facility sampling and analysis plan complies with CMP monitoring requirements. The sampling and analysis plan is presented in Table 2.7-6. The only modifications made to the plan during the reporting period included additional samples collected at the 832-SRC and 830-SRC GWTSs for breakthrough evaluation and to remain within compliance due to the discharges at 832-SRC.

2.7.1.5. Building 832 Canyon OU Treatment Facility and Extraction Wellfield Modifications

As discussed in the First Semester 2007 CMR (Dibley et al., 2007b), the 830-DISS GWTS was modified in June 2007. The 830-DISS GAC canisters and biotreatment unit for VOC and nitrate treatment, respectively, were removed leaving only the ion-exchange resin in place for perchlorate treatment. The $Tnsc_{1b}$ HSU passive artesian ground water extraction wells formerly connected to this facility and the new $Tnbs_2$ HSU ground water extraction well W-830-2216 are now connected to Central GSA for VOC treatment after perchlorate removal at 830-DISS. Nitrate treatment is now done via misting from the Central GSA GWTS. The modified system was started on June 26, 2007.

The 830-SRC wellfield was also modified in 2007. The 830-SRC extraction well W-830-2213 was converted to a performance monitor well because the water table in the vicinity of this well has dropped along with the well yield. This well is now used to track remediation progress in the $Tnsc_{1b}$ HSU just down gradient of the Building 830 source area.

There were no other treatment facility or wellfield modifications in the OU during 2007.

2.7.2. Building 832 Canyon OU Ground Water Monitoring

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; fifty-seven required analyses were not performed because there was insufficient water in the wells to collect the samples and three required analyses were not collected due to treatment system construction activities. The sampling and analysis plan for ground water and surface water monitoring is presented in Table 2.7-7. This table explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B.

Ground water elevation data are posted for the Qal/WBR and $Tnsc_{1a}$ and contoured for $Tnsc_{1b}$ and Upper $Tnbs_1$ HSUs as presented in Figures 2.7-2, 2.7-4, 2.7-3, and 2.7-5, respectively. The ground water elevation maps also show hydraulic capture zones for the extraction wells that were active during second semester. Ground water elevation measurements are presented in Appendix C.

2.7.3. Building 832 Canyon OU Remediation Progress Analysis

This section is organized into four subsections: mass removal; contaminant concentrations and distribution; remediation optimization evaluation; and performance issues.

2.7.3.1. Building 832 Canyon OU Mass Removal

The monthly ground water and soil vapor mass removal estimates are summarized in Tables 2.7-8 through 2.7-10. The cumulative mass estimates are summarized in Table Summ-2.

2.7.3.2. Building 832 Canyon OU Contaminant Concentrations and Distribution

At the Building 832 Canyon OU, VOCs (mainly TCE) are the primary COCs detected in ground water. Perchlorate and nitrate are the secondary COCs. These constituents have been identified primarily in the $Tnsc_{1a}$, $Tnsc_{1b}$ and Qal/WBR HSUs. Total VOCs have also been detected at low concentrations in the $Tnbs_2$ and Upper $Tnbs_1$ HSUs. Total VOC isoconcentration data are posted for the Qal/WBR and $Tnsc_{1a}$ and contoured for the $Tnsc_{1b}$ and Upper $Tnbs_1$ HSUs as presented in Figures 2.7-6, 2.7-8, 2.7-7, and 2.7-9, respectively. Hydraulic capture zones are presented on the $Tnbsc_{1b}$ and Upper $Tnbs_1$ HSU ground water elevation and total VOC maps. Post-only maps and concentration maps for the secondary COCs are presented in Figures 2.7-10 through 2.7-17. The secondary COC maps are based on data collected during first semester 2007. For collocated wells, the highest concentration was used for contouring.

2.7.3.2.1. Total VOC Contaminant Concentrations and Distribution

Total VOC concentrations in Qal/WBR HSU ground water have decreased from a historical maximum of 10,000 µg/L to a maximum of 940 µg/L in second semester 2007. Historically, ground water samples from wells located in the Building 830 source area, have contained the highest total VOC concentrations in this HSU. Total VOC concentrations in ground water samples from Qal/WBR HSU guard wells located near the Site 300 boundary in the Building 832 Canyon OU continue to be very low (<1 µg/L) to non-detectable (<0.5 µg/L) and have decreased from an historical maximum of 1.9 µg/L in 2000 to a maximum of 0.8 µg/L in 2007.

A significant reduction in total VOC concentrations in both ground water and vapor has been achieved in the Building 832 source area since remediation began in 1999. Total VOC concentrations in wells screened across both the Qal/WBR and $Tnsc_{1b}$ HSUs in this source area have decreased from a historical maximum of 1,800 µg/L in 1998 to a maximum total VOC concentration of 54 µg/L in 2007. During the second semester 2007 VOC samples were not collected from Qal/WBR and $Tnsc_{1b}$ HSU wells in the Building 832 source area because the water table has declined below the screen bottom in these wells. Total VOC concentrations in soil vapor have decreased from a historical maximum of 1.8 $ppm_{v/v}$ in September 2001 to a maximum of 0.79 $ppm_{v/v}$ during second semester 2007. Analysis is ongoing to ensure that these vapor concentrations are representative of subsurface conditions and to determine whether the vapor extraction system in this source area meets shut off criteria.

A significant reduction in total VOC concentrations in ground water has also been achieved in the Building 830 source area since remediation began in 2000. Total VOC concentrations in $Tnsc_{1b}$ HSU ground water in and near this source area have decreased from a historical maximum of 13,000 µg/L in 2003 to a maximum total VOC concentration of 4,200 µg/L in 2007. Total VOC concentrations in $Tnsc_{1b}$ HSU artesian wells W-830-51, -52, and -53, located further downgradient of the Building 830 source area, have also decreased from an historical maximum of 170 µg/L in 2002 to a maximum of 59 µg/L in second quarter 2007. Total VOC concentrations in ground water samples from $Tnsc_{1b}$ HSU guard wells remain below the 0.5 µg/L reporting limit during the second semester 2007 and the leading edge of the $Tnsc_{1b}$ VOC plume with concentrations above the 0.5 µg/L reporting limit remains within the Site 300 boundaries.

Total VOC concentrations in $Tnsc_{1a}$ HSU ground water have also decreased since remediation began from a historical maximum of 4,500 µg/L in 1997 to a maximum of 470 µg/L during second semester 2007. A new $Tnsc_{1a}$ performance monitor well, W-830-2311, was installed in April 2007 near the southern end of the Building 832 Canyon to evaluate the downgradient extent of VOCs in this HSU. Ground water samples collected from this well in September and December of 2007 exhibited significantly different results. The September 2007 ground water sample contained <1 µg/L of RDX, 23 µg/L of TCE, and 1.0 µg/L of benzene, while the December ground water sample contained 460 µg/L of RDX, 2.8 µg/L of TCE, and 8.8 µg/L of benzene. The well will be purged of 3 casing volumes prior to sampling in early 2008 and the results will be reported in the first semester 2008 CMR.

Total VOC concentrations in Upper $Tnbs_1$ HSU ground water have decreased since remediation began from a historical maximum of 100 µg/L in 1998 to a maximum of 38 µg/L during second semester 2007. Total VOC trends in two Upper $Tnbs_1$ performance monitor wells (W-830-18 and W-830-26) exhibited slight increases from below 10 µg/L in 2006 to 20 µg/L in 2007 most likely due to their proximity to Upper $Tnbs_1$ extraction wells W-830-57 and W-830-2215. Total VOCs were not detected above the 0.5 µg/L reporting limit in Upper $Tnbs_1$ guard wells W-830-20 and W-832-2112 during the second semester 2007. Well W-830-15, located further downgradient near the southern end of the Building 832 Canyon remains below the reporting limit for VOCs.

2.7.3.2.2. Perchlorate Concentrations and Distribution

The maximum perchlorate ground water concentration in the Qal/WBR HSU during 2007 was 22 µg/L (February 2007) in 832-SRC extraction well W-832-13. This well is used to constrain plume concentrations in both the Qal/WBR and $Tnsc_{1b}$ HSUs due to the location of its screened interval across the two HSUs. The highest historical perchlorate concentration in this HSU was 51 µg/L (W-830-34, December 1998). The perchlorate concentration in this well is now below the reporting limit (<4 µg/L). Perchlorate was not detected above the 4 µg/L reporting limit in Qal/WBR guard wells W-35B-01 and W-880-02.

During the second semester 2007, the maximum perchlorate ground water concentration in the $Tnsc_{1b}$ HSU was 6.5 µg/L (July 2007) in a sample from 830-SRC extraction well W-830-59. Historically, the 832-SRC extraction well W-832-11 has contained the highest perchlorate concentration in this HSU (20 µg/L, September 2005). This well contained 9 µg/L perchlorate in a sample collected in February 2007. Perchlorate was not detected above the 4 µg/L reporting limit in $Tnsc_{1b}$ guard wells W-4C, W-814-04, W-830-16, W-830-1730, W-830-1831, and W-880-03 during second semester 2007.

The maximum perchlorate ground water concentration in the $Tnsc_{1a}$ HSU was 9.2 µg/L (August 2007) in 832-SRC extraction well W-832-25. This well was connected to 832-SRC in July 2006 and has historically contained the highest perchlorate concentration in this HSU (13 µg/L, February 1999).

Perchlorate was not detected above the reporting limit of 4 µg/L from any ground water samples taken from the Upper $Tnbs_1$ HSU during the reporting period.

2.7.3.2.3. Nitrate Concentrations and Distribution

In general, nitrate concentrations continue to exhibit high concentrations in the vicinity of the Building 832 and 830 source areas and remain low to below the reporting limit (<0.5 mg/L) in the downgradient, deeper parts of all HSUs in this OU. Nitrate ground water concentrations detected in samples from the Qal/WBR HSU during 2007 ranged from <1 mg/L (guard wells W-35B-01 and W-880-02, February and January 2007, respectively) to 110 mg/L (SVI-830-035, January 2007).

Nitrate ground water concentrations detected in samples from the $Tnsc_{1b}$ HSU ranged from <0.5 mg/L to 160 mg/L (W-830-49, July 2007). A sample from well W-830-49 contained the highest historical nitrate concentration in this HSU (501 mg/L, June 1998). Nitrate concentrations in the $Tnsc_{1b}$ guard wells range from <0.5 mg/L to 2.5 mg/L, well below the 45 mg/L MCL.

During 2007 the maximum nitrate ground water concentration detected in samples from the $Tnsc_{1a}$ HSU was 75 mg/L (W-832-25, August 2007). Nitrate ground water concentrations detected in samples from the Upper $Tnbs_1$ ranged from <0.5 mg/L to 9.5 mg/L (W-830-60, July 2007).

Nitrate ground water concentrations in guard wells W-880-02, W-830-20, and W-832-2112 were not detected above the reporting limit. A trace detection (0.64 mg/L) of nitrate was detected in guard well W-35B-01 in July 2007. The very low concentrations or, more typically, the absence of detectable nitrate in these site boundary guard wells is consistent with the interpretation that nitrate is naturally attenuating *in situ*.

2.7.3.3. Building 832 Canyon OU Remediation Optimization Evaluation

Ground water and soil vapor extraction well field modification and optimization were conducted during 2007 to prevent offsite plume migration, reduce source area concentrations, and increase mass removal. The expanded 832-SRC and 830-SRC extraction wellfields were designed to increase hydraulic capture, while preventing the downward migration of contaminants into deeper HSUs or laterally toward the site boundary and Site 300 water–supply Well 20. One year after the 830-SRC wellfield was expanded, influent flow and mass removal rates have increased significantly. A similar increase in flow and mass removal was observed at the 832-SRC treatment facility in response to the addition of additional downgradient extraction wells W-832-01, W-832-10, and W-832-11.

Ground water yield continues to be low from the 832-SRC extraction wells and hydraulic capture is difficult to assess because these wells cannot maintain continuous operation. The low yield is due to a combination of low hydraulic conductivity geologic materials, dewatering, and limited recharge.

COC concentrations in the Building 832 and Building 832 source areas generally exhibit decreasing trends. Maximum total VOC concentrations have decreased significantly in the $Tnsc_{1b}$ and Qal/WBR HSUs. COC concentrations in the distal area have remained relatively constant.

Due to declining water levels during the second semester 2007 and reduced yield, $Tnsc_{1b}$ HSU extraction wells W-830-19, W-830-1829, and W-830-2213 did not operate sufficiently to determine hydraulic capture zones on Figure 2.7-7. Ground water extraction from these wells is expected to resume in early 2008. The extent of hydraulic capture associated with the $Tnsc_{1b}$ HSU extraction wells, although limited, targets the highest VOC plume concentrations emanating from the two source areas (Figure 2-7-7). Steep terrain and unstable canyon bottom soil conditions have limited the installation of extraction wells in this OU. Hydraulic capture associated with Upper $Tnbs_1$ extraction wells also target the highest VOC concentrations in this HSU. Continued decreases in COC concentrations downgradient from the 832-SRC and 830-SRC extraction wellfields and the continued absence of COCs in guard wells further supports the validity of this extraction wellfield.

Total VOC concentrations of up to 460 µg/L (July 2007) and 440 µg/L (October 2007) were detected in ground water samples collected in the second semester from recently installed $Tnsc_{1a}$ HSU 830-SRC expansion well W-830-2214. This well is located just downgradient of the highest total VOC concentrations in the overlying $Tnsc_{1b}$ HSU. This well has more than 10 ft of available drawdown when pumping at 1 gpm. Pumping may be increased in the future to increase hydraulic capture of VOCs in this area.

Low concentrations of TCE and PCE have been detected in Upper $Tnbs_1$ well W-830-1832 located upgradient of Site 300 water-supply well, Well 20. In response to increased pumping and hydraulic capture associated with increased pumping in the $Tnsc_{1b}$ and Upper $Tnbs_1$ HSUs as a result of the 830-SRC extraction wellfield expansion, VOC concentrations have declined. Upper $Tnbs_1$ guard well, W-832-2112, located downgradient (southwest) of well W-830-1832, and upgradient of water-supply Well 20 continues to be devoid of all Building 832 Canyon COCs.

As extraction from the 832-SRC, 830-SRC and 830-DISS extraction wells continues, it is expected that concentrations in all HSUs will continue to decline and the extent of the highest total VOC contour will be further reduced. Although the shape and extent of the Upper $Tnbs_1$ total VOC plume remains stable, this plume is expected to decrease in extent with continued pumping. Total VOC concentration trends in the Upper $Tnbs_1$ continue to be carefully monitored due to the potential influence of pumping from water-supply Well 20 and backup water-supply Well 18.

2.7.3.4. Building 832 Canyon OU Remedy Performance Issues

There were no new issues that affect the performance of the cleanup remedy for the Building 832 Canyon OU during this reporting period. The remedy continues to be effective and protective of human health and the environment, and to make progress toward cleanup.

2.8. Site 300 Site-Wide OU 8

The Site 300 Site-Wide OU is comprised of release sites at which no significant ground water contamination and no unacceptable risk to human health or the environment are present. For this reason, a monitoring-only interim remedy was selected for the release sites in the Interim Site-Wide Record of Decision (U.S. DOE, 2001). The monitoring conducted during the reporting period for these release sites is discussed below.

2.8.1. Building 801 and Pit 8 Landfill

At Building 801, VOCs are the primary COCs detected in ground water. Perchlorate and nitrate are the secondary COCs. There are no COCs in ground water at the Pit 8 Landfill. A map showing the locations of monitor wells, ground water elevations, approximate ground water flow direction, perchlorate, nitrate, and total VOC concentrations in the $Tnbs_1$ HSU for the Building 801/Pit 8 Landfill area is presented in Figure 2.8-1. Wells K8-01 and K8-03B monitor Building 801 contaminant releases while wells K8-02B, K8-04, and K8-05 are detection monitoring wells for the Pit 8 Landfill. Detection monitoring of this landfill, which is discussed in Section 3.2, is conducted to determine if releases have occurred.

Minor VOC contamination is present in the subsurface as a result of discharges of waste fluid to a dry well adjacent to Building 801D from the late 1950s to 1984. During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-1. This table delineates any additions made to the CMP. Analytical results are presented in Appendix B. Ground water elevation measurements are presented in Appendix C.

During 2007, the maximum total VOCs concentration detected in ground water samples from wells in the Building 801/Pit 8 Landfill area was 6.9 µg/L (K8-01, November 2007). This total VOC concentration was composed of 4.4 µg/L of TCE and 2.5 µg/L of 1,2-DCA. Total VOC concentrations detected in ground water samples collected from wells downgradient of Building 801 have decreased from a historical maximum of 10 µg/L at K8-01 in 1990.

During 2007, perchlorate was not detected in ground water samples above the 4 µg/L reporting limit from any of the Building 801/Pit 8 monitor wells.

Nitrate concentrations in ground water in the Building 801/Pit 8 Landfill area have been fairly stable over time. During 2007, concentrations in samples from wells K8-01 and K8-04 were above the 45 mg/L MCL. The 2007 maximum nitrate concentration detected in ground water samples from wells in the Building 801/Pit 8 Landfill area was 58 mg/L (K8-04, June 2007). The historical nitrate concentration of 64 mg/L was detected in ground water samples collected from K8-01 in 2002. Overall, nitrate concentrations in ground water at the Building 801/Pit 8 Landfill generally are similar to previous years.

As discussed in Section 2.5.2.1.1, tritium activities in the June 2007 samples from wells K8-01 and K8-02B were 217 ± 101 pCi/L and 410 ± 70 pCi/L, respectively. However, tritium was not detected above the reporting limit (<100 pCi/L) in subsequent sampling events during 2007. The current measurements suggest that the extent of tritium from Building 850 is not increasing in this area.

Detection monitoring for the Pit 8 Landfill during 2007 did not detected HE compounds above reporting limits. Fluoride, metals, uranium isotopes, and thorium-232 concentrations/activities in samples from the detection monitoring wells were at background concentrations. Uranium atom ratios were natural.

2.8.2. Building 833

VOCs are the primary COC in ground water at Building 833. Spills and rinsewater disposal at Building 833 resulted in minor VOC contamination of perched ground water in the Tpsg HSU. A map showing the locations of monitoring wells, ground water elevations and total VOC concentrations in the Tpsg HSU is presented in Figure 2.8-2.

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; five required analyses were not performed because there was insufficient water in the wells to collect the samples. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-2. This table delineates any additions made to the CMP. Analytical results are presented in Appendix B. Ground water elevation measurements are presented in Appendix C.

The Tpsg HSU is a shallow, highly ephemeral perched water-bearing zone. During heavy rainfall events, this HSU may become saturated, but quarterly monitoring of the wells from 1993 to 2004 has shown little evidence of saturation. When saturated, monitoring conducted from 1993 to 2007 has shown a decline in total VOC concentrations in Tpsg HSU ground water from an historical maximum concentration of 2,100 µg/L in 1992 (W-833-03). During 2007, only one Tpsg well (W-833-12) contained sufficient water from which to collect a ground water sample. The samples contained 10 µg/L of total VOCs (all TCE). VOCs were not detected in 2007 samples from $Tnbs_1$ HSU monitoring well W-833-30, indicating that VOC contamination continues to be confined to the shallow Tpsg perched water-bearing zone.

2.8.3. Building 845 Firing Table and Pit 9 Landfill

Leaching from Building 845 Firing Table debris resulted in minor contamination of subsurface soil with depleted uranium and HMX detected in samples collected from boreholes drilled in 1989. There are no COCs in ground water at Building 845 and the Pit 9 Landfill, as no ground water contamination has been detected. A map showing the locations of monitoring wells, ground water elevations, and approximate hydraulic gradient direction in the $Tnsc_0$ HSU are presented in Figure 2.8-3. The monitoring wells near the Pit 9 Landfill are screened in the lower Neroly Formation $Tnsc_0$ HSU. Detection monitoring of the Pit 9 landfill, which is discussed in Section 3.3, is conducted to determine any releases to ground water.

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-3. This table delineates any additions made to the CMP. Analytical results are presented in Appendix B. Ground water elevation measurements are presented in Appendix C.

Detection monitoring for the Pit 9 Landfill during 2007 did not detected HE compounds, VOCs, nitrate, or perchlorate above reporting limits. Fluoride, metals, uranium isotopes, and thorium-232 concentrations/activities in samples from the detection monitoring wells were at or below background concentrations. Uranium atom ratios were natural. Tritium was detected in the July 2007 ground water sample from K9-01 just above the reporting limit (112 ± 57 pCi/L). No tritium was detected in subsequent samples from this well.

There continues to be no contamination detected in ground water in the Building 845 and Pit 9 Landfill area.

2.8.4. Building 851 Firing Table

At the Building 851 Firing Table, uranium and tritium are the primary and secondary COCs detected in ground water, respectively. High explosives experiments at the Building 851 Firing Table resulted in minor VOC and RDX contamination in soil and low activities of uranium with a measurable depleted uranium component in ground water. A map showing the locations of monitoring wells, ground water elevations, total uranium activities, and $^{235}U/^{238}U$ atom ratios are presented in Figure 2.8-4. Wells W-851-05, W-851-06, and W-851-07 are completed in the Tmss HSU. Well W-851-08 is completed in the overlying $Tnsc_0$ HSU.

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-4. This table delineates any additions made to the CMP. Analytical results are presented in Appendix B. Ground water elevation meaurements are presented in Appendix C.

The 2007 maximum total uranium activity of 0.82 pCi/L detected in a ground water sample from W-851-08 (December 2007) is only a fraction of the 20 pCi/L State MCL, and represents a decrease from the historical maximum uranium activity of 1.5 pCi/L detected in the Building 851 area in 2005 (W-851-08). The atom ratio of $^{235}U/^{238}U$ in the 2007 samples from wells W-851-06 and W-851-08 indicated the addition of some depleted uranium. The samples from wells W-851-05 and W-851-07 contained only natural uranium. Overall, uranium activity in ground water is similar to previous years and remains well below the Federal and State MCL.

During 2007, tritium activities were only detected above the 100 pCi/L reporting limit in a ground water sample from monitoring well W-851-07 (199 ± 59 pCi/L, June 2007). This result is very slightly above background. The maximum tritium activity detected in Building 851 ground water was 3,790 pCi/L in late 1998 (W-851-08).

3. Detection Monitoring, Inspection, and Maintenance Program for the Pits 2, 8, and 9 Landfills

The Pit 2, 8, and 9 Landfills received firing table debris from the 1950s to the 1970s. At present, there is no evidence of contaminant releases to ground water from any of these three landfills, except for low activities of depleted uranium at the Pit 2 Landfill, and no unacceptable risk or hazard to human or ecological receptors has been identified. The Detection Monitoring Program is designed to detect any future releases of contaminants from these landfills. This section presents the results for the Pit 2, 8, and 9 Landfills ground water detection monitoring network, and any landfill inspections or maintenance that was conducted during the reporting period.

3.1. Pit 2 Landfill

3.1.1. Contaminant Detection Monitoring Results

During 2007, ground water monitoring was conducted in accordance with the CMP monitoring requirements with the following exceptions; seventeen required analyses were not performed because there was insufficient water in the wells to collect the samples. The sampling and analysis plan for ground water monitoring is presented in Table 3.1-1. This table explains deviations from the sampling plan and indicates any additions made to the CMP. Analytical results are presented in Appendix B. A map showing the locations of monitoring wells and Pit 2 Landfill is presented in Figure 2.5-1.

The ground water elevation contour maps that include the Pit 2 Landfill are presented in Figures 2.5-2 and 2.5-3. Depth to ground water within the $Tnbs_1/Tnbs_0$ HSU was measured at 50 ft to 55 ft beneath the Pit 2 Landfill. Ground water elevation measurements are presented in Appendix C.

A map of the 2007 distribution of ground water tritium activity within the $Tnbs_1/Tnbs_0$ HSU and including the Pit 2 Landfill is presented in Figure 2.5-5. Tritium was detected below the 20,000 pCi/L MCL during the second semester in samples from all the Pit 2 wells. The maximum 2007 tritium activity within the $Tnbs_1/Tnbs_0$ HSU in the area immediately south of the Pit 2 Landfill was 7,820 ± 860 pCi/L (NC2-08, March 2007). Tritium activities in this area continue to decline. The historic maximum activity was detected in the August 1986 sample from well K2-01C (49,100 pCi/L). The overall distribution of ground water tritium activities in the Pit 2 Landfill area appears to primarily be a result of transport of the Building 850 tritium plume into the Pit 2 Landfill area. Data indicate that tritium activities in ground water immediately downgradient of the landfill are decreasing and are currently a fraction of the historic maximum.

Uranium activities detected in $Tnbs_1/Tnbs_0$ HSU ground water samples from the Pit 2 Landfill monitor wells are all historically below the State MCL of 20 pCi/L. The maximum

2007 uranium activity detected in a ground water sample from this area was 9.9 pCi/L (K2-01C, April 2007). The detection of depleted uranium in the ground water samples from wells K2-01C, W-PIT2-1934, and W-PIT2-1935 indicates that low activities of depleted uranium have been added to the naturally-occurring uranium in the ground water by the Pit 2 Landfill. A uranium activity of 9.1 pCi/L was detected in the March 2007 ground water sample collected from new $Tnbs_1/Tnbs_0$ well W-PIT2-2304. This sample also contained some depleted uranium. Recently installed Qal wells W-PIT2-2301, W-PIT2-2302, and W-PIT2-2303 were dry.

The release of uranium from Pit 2 may have been the result of the discharge of potable water that was used to maintain a wetland habitat for red-legged frogs (a Federally-listed endangered species) within a drainage channel that extends along the northern and eastern margin of the Pit 2 Landfill. This discharge was discontinued in 2005. Since the discharge was discontinued, total uranium activities detected in Pit 2 Landfill detection monitor wells have decreased from an historical maximum of 17.4 pCi/L in 2004.

During 2007, perchlorate was detected in the June 2007 sample from $Tnbs_1/Tnbs_0$ HSU well NC2-08 at a maximum Pit 2 area concentration of 5.9 µg/L. During 2007, ground water samples from two of the other Pit 2 wells (K2-01C and W-PIT2-2304) also contained perchlorate in excess of the 4 µg/L reporting limit, but below the 6 µg/L State MCL.

No other constituents, including VOCs, nitrate, HE compounds, metals and fluoride that were monitored during 2007 at the Pit 2 landfill as part of the Detection Monitoring Program were detected in $Tnbs_1/Tnbs_0$ HSU ground water above regulatory limits.

3.1.2. Sampling and Analysis Plan Modifications

The sampling and analysis plan for the Pit 2 Landfill ground water Detection Monitoring Program are presented in Table 3.1-1. There were no modifications made to the plan.

3.1.3. Landfill Inspection Results

The Pit 2 Landfill was inspected quarterly during 2007. Animal burrows were observed.

3.1.4. Annual Subsidence Monitoring Results

Annual subsidence monitoring was conducted during the second semester 2007 and none was found.

3.1.5. Maintenance

Some maintenance of the pit cover, including filling of animal burrows, was conducted during the second semester 2007.

3.2. Pit 8 Landfill

3.2.1. Contaminant Detection Monitoring Results

Ground water elevations, nitrate, perchlorate, and total VOC concentrations in $Tnbs_1/Tnbs_0$ HSU ground water are presented in Figure 2.8-1. During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-1. This table delineates any additions made to the CMP. Analytical results are presented in Appendix B. Ground water elevation measurements are presented in Appendix C.

Historical and current VOC data indicate that VOCs detected in ground water in the Pit 8 Landfill area are the result of releases from the former Building 801 dry well, which have migrated downgradient from Building 801 to beneath the landfill. The highest concentrations of total VOCs continue to be observed at upgradient well K8-01, where concentrations detected in samples collected during 2007 were 6.2 µg/L (June 2007) and 6.9 µg/L (November 2007). The presence of total VOCs in ground water samples from well K8-04, immediately downgradient of Pit 8, at a maximum concentration of 1.4 µg/L (November 2007) appears to be a continuation of the VOC plume originating at the Building 801D dry well and is not due to a release from the Pit 8 Landfill. During 2007, 1,2-DCA was the only contaminant detected above MCLs (0.5 µg/L) at a maximum concentration of 2.5 µg/L at K8-01, upgradient of Pit 8.

Nitrate was elevated above the 45 mg/L MCL in 2007 samples from two wells, K8-01 and K8-04, collected in June 2007, at concentrations of 49 mg/L and 58 mg/L, respectively.

Recent tritium activities measured in ground water samples from two of the four wells sampled in the Pit 8 area are slightly in excess of background (Figure 2.5-5). Tritium activities in the June 2007 samples from wells K8-01 and K8-02B were 217 ± 101 pCi/L and 410 ± 70 pCi/L, respectively. These wells are upgradient of Pit 8. However, tritium was not detected above the reporting limit (<100 pCi/L) in subsequent sampling events. The current measurements suggest that the extent of tritium from Building 850 is not increasing in this area.

Fluoride, metals, uranium isotopes, and thorium-232 concentrations/activities in samples collected in 2007 wells upgradient and downgradient of Pit 8 were at or below background concentrations and below regulatory limits. Uranium atom ratios were natural.

Thus, except for VOCs (1,2-DCA), no constituents that were monitored during 2007 as part of the Detection Monitoring Program were detected in $Tnbs_1/Tnbs_0$ HSU ground water from wells upgradient or downgradient of Pit 8 in excess of regulatory limits.

3.2.2. Sampling and Analysis Plan Modifications

The sampling and analysis plan for the Pit 8 Landfill ground water Detection Monitoring Program are presented in Table 2.8-1. There were no modifications made to the plan.

3.2.3. Landfill Inspection Results

The Pit 8 Landfill was inspected quarterly during 2007. Animal burrows were observed.

3.2.4. Annual Subsidence Monitoring Results

Annual subsidence monitoring was conducted during the second semester 2007 and none was found.

3.2.5. Maintenance

Some maintenance of the pit cover, including filling of animal burrows, was conducted during the second semester 2007.

3.3. Pit 9 Landfill

3.3.1. Contaminant Detection Monitoring Results

During the reporting period, ground water monitoring was conducted in accordance with the CMP monitoring requirements. The sampling and analysis plan for ground water monitoring is presented in Table 2.8-3. Analytical results are presented in Appendix B. All constituents including tritium, HE compounds, VOCs, fluoride, metals, uranium isotopes, and thorium-232 concentrations/activities in samples collected in 2007 wells upgradient and downgradient of Pit 9 were at or below background concentrations and below regulatory limits. Uranium atom ratios were natural.

A map that includes the locations of monitoring wells, Pit 9, ground water elevations is presented in Figure 2.8-3. During 2007, depth to ground water was approximately 110 ft beneath the Pit 9 Landfill. There were no significant changes in ground water elevations from previous semesters. Ground water elevation measurements are presented in Appendix C.

3.3.2. Sampling and Analysis Plan Modifications

The sampling and analysis plan for the Pit 9 Landfill ground water Detection Monitoring Program are presented in Table 2.8-3. There were no modifications made to the plan.

3.3.3. Landfill Inspection Results

The Pit 9 Landfill was inspected quarterly during 2007. No problems were observed.

3.3.4. Annual Subsidence Monitoring Results

Annual subsidence monitoring was conducted during the second semester 2007 and none was found.

3.3.5. Maintenance

Some maintenance of the pit cover, including filling of animal burrows, was conducted during the second semester 2007.

4. Risk and Hazard Management Program

The goal of the Site 300 Risk and Hazard Management Program is to protect human health and the environment by controlling exposure to contaminants during remediation. Risk and hazard management is conducted in areas of Site 300 where the exposure point risk exceeded 1×10^{-6} or the hazard index exceeded 1 in the baseline risk assessment.

4.1. Human Health Risk and Hazard Management

The CMP requires that the risk and hazard associated with volatile contaminants in the subsurface migrating upward into indoor and outdoor ambient air and being inhaled by workers be re-evaluated annually using current data. The following risk evaluations will be performed and reported in the annual report:

- Indoor Ambient Air in Building 834D
- Indoor Ambient Air in Building 830

- Indoor Ambient Air in Building 833
- Ambient Air Near Spring 3
- Ambient Air Near Spring 5
- Ambient Air Near Spring 7

The risk and hazard management is complete when the estimated risk is below 10^{-6} and the hazard index is below 1 for two consecutive years. The risk and hazard management is complete and will no longer be evaluated for the following:

- Outdoor Ambient Air Near Building 834D (2003 and 2004)
- Outdoor Ambient Air Near Building 815 (2003 and 2004)
- Outdoor Ambient Air in Building 854F (2003 and 2004)
- Outdoor Ambient Air Near Building 830 (2003 and 2004)
- Indoor Ambient Air Near Building 832F (2003 and 2004, building demolished in 2005)
- Indoor Ambient Air in Building 854F (building demolished in 2005)
- Indoor Ambient Air in Building 854A (2005 and 2007)

Institutional controls, such as restricting access to or activities in areas of elevated risk, remained in place during 2007 to prevent unacceptable exposure to contaminants during remediation for those buildings and areas that continue to show an unacceptable risk and/or hazard.

4.1.1. Vapor Intrusion Inhalation Risk Evaluation

Inhalation risk and hazard resulting from transport of VOC vapors from ground water to the building foundations and subsequently into indoor ambient air was estimated using the Johnson-Ettinger Model (US.EPA, 2002). The model results were updated to reflect the chemical-specific toxicity criteria referenced in the "Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air" (DTSC, 2005).

The following conservative methodology is used in developing the input values for each model. A representative soil column was developed combining the borehole geology information from wells and boreholes that are within a 100 ft radius of the modeled building or site. The resulting soil column was simplified into three strata as input to the Johnson-Ettinger Model by conservatively selecting the most permeable soil types for each stratum. The highest observed ground water elevation at the site was used as the source depth. The highest observed VOC ground water concentration in a well located in close proximity to the building or site being modeled was selected as the source concentration. If the VOC of interest was not detected in any nearby wells, then the highest detection limit was used as the source concentration. For the Johnson-Ettinger Model, site-specific building dimensions were used.

The individual chemical risk, hazard index, and cumulative risk values estimated for the indoor ambient air are reported in Table 4.1-1 for those buildings that were evaluated in 2007. Generally the concentrations of VOCs in wells show a declining trend, specifically in areas where there are ground water and soil vapor treatment systems in operation.

As shown in Table 4.1-1, the estimated risk in 2007 remained above 10^{-6} and/or hazard quotient above 1 for the indoor ambient air exposure pathway evaluated at Buildings 834D and 830. The building occupancy restrictions, engineered controls, monitoring, and annual risk evaluations will continue for these buildings in accordance with the CMP for the Interim

Remedies at LLNL Site 300. During 2007, active remediation using ground water and soil vapor extraction continued at both locations.

In 2007, the risk evaluation for Building 833 for indoor ambient air showed no human health risk for this exposure pathway. "No Risk" is defined as an individual and cumulative excess cancer risk below 10^{-6} and a hazard quotient below 1. The 2006 evaluation for Building 833 also resulted in no human health risk.

According to the procedures outlined in Section 6.1.1 and 6.1.2 of the CMP, the risk and hazard management for Building 833 would be considered complete as the estimated risk has remained below 10^{-6} and the hazard quotient has remained below 1 for two consecutive years. However, since the last ground water sample from this well was collected in 2000 and the nearby wells have remained dry, the risk and hazard evaluation for Building 833 will continue until representative ground water samples are collected and no human health risk for this pathway remains using more recent data.

4.1.2. Spring Ambient Air Inhalation Risk Evaluation

The CMP requires annual sampling of outdoor air above contaminated surface water, when surface water is present to determine VOC concentrations and reevaluate risk. Springs 3, 5, and 7 were evaluated during first semester 2007. No surface water or green hydrophilic vegetation were present at Springs 5 and 7 during first semester 2007, therefore no ambient air VOC sampling was performed. Ambient air samples were collected over Spring 3 and the results were reported in the First Semester 2007 CMR (Dibley et al., 2007b). TCE was detected in air samples above the ambient air Preliminary Remediation Goal, therefore risk to onsite workers is still present. No workers currently inhabit the area around Spring 3 except during semiannual sampling.

These springs will be monitored for the presence of surface water or green hydrophilic vegetation in 2008 and air samples will be collected if present.

4.2. Ecological Risk and Hazard Management

4.2.1. Polychlorinated biphenyl (PCBs), Dioxins, and Furans in Surface Soil at 850

Due to the presence of PCBs, dioxins, and furans in the surface soil at Building 850, ecological field surveys are conducted to determine the presence of important burrowing species. Figure 4.2.1 shows the ecological survey area for the Building 850 Firing Table. As reported on in the 2004, 2005 and 2006 Annual CMRs, wildlife surveys have revealed the presence of the Western burrowing owl in the area adjacent to the Building 850 Firing Table. The Western burrowing owl is a Federal and State species of concern (California Department of Fish and Game, 2004), and therefore fit the description of important burrowing species as presented in the CMP. A preliminary exposure analysis for the Western burrowing owl to estimate hazard to cadmium and PCBs was completed and reported on in the First Semester 2004 CMR. Results suggest cadmium is unlikely to pose a hazard to burrowing owls nesting in the vicinity of Building 850. However, concentrations of Arochlor 1254 in the soil at Building 850 may pose a hazard to burrowing owls nesting in the area, as the hazard quotient exceeds 1.

In 2007, surveys for Western burrowing owl were performed on the slopes behind (west of) the Building 850 Firing Table and in the valley north of the building on March 23, April 23, May 30, and June 4, 2007. No burrowing owl pairs were observed in the area immediately west of Building 850 during the surveys. Five breeding pairs of owls were found occupying dens in the northern valley area. The closest owl pair to the facility was roughly 300 meters to the north-northeast. Figure 4.2.2 shows the current and historic nesting locations of burrowing owls observed throughout Site 300.

In 2007, a survey for California tiger salamanders was conducted on the slopes behind (west of) the Building 850 Firing Table on February 26, 2007. Survey efforts were focused in this area because the largest concentration of ground squirrel burrows within the study area are found to the west of Route 4 and the California tiger salamander breeding pools closest to Building 850 (i.e., Ambrosino pool) are located to the west and north of the building. The survey was conducted starting approximately two hours after sunset. The temperature was 62 degrees Fahrenheit and there was light precipitation. These surveys included walking transects through the area and visually surveying the entrances of burrows for California tiger salamanders using hand held flashlights. No California tiger salamanders were observed in the Building 850 area during this survey, although California tiger salamanders were observed in burrows at other Site 300 locations during that night.

Surveys for California tiger salamanders at the nearest breeding pool (Mitigation Pond), approximately 1000 meters to the northwest, were conducted on February 15, February 21, and March 29, 2007. Successful breeding attempts (presence of eggs and/or larvae) by tiger salamanders were recorded at the pool on each survey night.

California tiger salamanders have been observed up to 2 kilometers (km) from breeding pools (U.S. Fish and Wildlife Service, 2004). The Building 850 study area is located with 1.2 km of Ambrosino pool, a known breeding site for California tiger salamanders, and within 0.7 meters of the Mitigation Pond, a seasonal pool constructed in 2005, which has also been used for successful breeding. Although California tiger salamanders are known to move up to 2 km from breeding ponds, research conducted by Trenham (2001) suggests that most (95%) California tiger salamanders use breeding habitat within 173 meters of breeding ponds. Our survey results support this research. Although California tiger salamanders can utilize the Building 850 area as upland habitat, the largest concentration of California tiger salamanders is likely to be closer to breeding ponds.

Various remedial options are currently under consideration for the Building 850 area. Surveys for Western burrowing owls and California tiger salamanders will continue during 2008 in the area surrounding Building 850. These will include driving surveys, as well as surveys of the burrow systems located in the Building 850 survey area.

5. Data Management Program

The management of data collected during 2007 was subject to the standard Environmental Restoration Department (ERD) data management process and standard operating procedures (Goodrich and Wimborough, 2006). This process tracks sample and analytical information from the initial sampling plan through data storage in a relational database. As part of the standard procedures for data quality, this process includes chain-of-custody tracking, electronic and hard copy analytical results receipt, strict data validation and verification, data quality control procedures, and data retrieval and presentation. The use of this system promotes and provides a consistent data set of known quality. Quality assurance and quality control are performed uniformly on all data.

5.1. Modifications to Existing Procedures

During the first semester of 2007, the relational database that is used to maintain the data for the CMR was further refined by the addition of more relational constraints. Additional verifications were added to the applications used to manage the sample planning and chain of custody tracking. Many other minor refinements were implemented to improve chain of custodies, data entry, and querying abilities during both the first and second semesters of 2007. Existing standard operating procedures are being modified to reflect the changes necessitated by the normalization to the Oracle database.

5.2. New Procedures

The Site 300 CMR sampling and analysis plan was developed based upon the negotiated sampling locations and frequencies. The software tools used to create and execute the sampling plan were completely rewritten in 2007 to take advantage of the normalized locations and added relational constraints in the new database. Since then, several tools have been refined to improve the creation of sampling plans, labels, and chains of custody and field tracking forms. Tools for tracking sampling and receipt of analytical data have also been improved. The documentation of the new procedures is in process.

6. Quality Assurance/Quality Control Program

LLNL conducted all compliance monitoring in accordance with the approved Quality Assurance Project Plan (QAPP) (Dibley, 1999) requirements for planning, performing, documenting, and verifying the quality of activities and data. The QAPP was prepared for CERCLA compliance and ensures that the precision, accuracy, completeness, and representativeness of project data are known and are of acceptable quality. The QAPP is used in conjunction with the LLNL ERD Standard Operating Procedures (SOPs), Operations and Maintenance Manuals (O&Ms), workplans, and Site Safety Plans. Modifications to existing LLNL quality assurance/quality control (QA/QC) procedures, new QA/QC procedures that were implemented during this reporting period, self-assessments, quality issues and corrective actions, and analytical and field quality control are discussed in Sections 6.1 through 6.6.

6.1. Modifications to Existing Procedures

Chapters 2 and 5 of the LLNL Livermore Site and Site 300 Environmental Restoration Project Standard Operating Procedures are in the revision process. These chapters cover ground water sampling procedures and data management procedures, respectively. To date, revisions have been made to SOP 2.1: Pre-sample Purging of Wells, SOP 2.2: Field Measurements on Surface and Ground Waters, SOP 2.3: Sampling Monitor Wells with Bladder and Electric Submersible Pumps, and Specific-Depth Grab Sampling Devices, SOP 2.4: Sampling Monitor Wells with a Bailer, SOP 2.5: Surface Water Sampling, SOP 2.6: Sampling for Volatile Organic Compounds, SOP 2.7: Pre-sample Purging and Sampling of Low-Yielding Monitor Wells, SOP 2.8: Installation of Dedicated Sampling Devices, SOP 2.9: Sampling for Tritium in Ground

Water, SOP 2.10: Well Disinfection and Coliform Bacteria Sampling, SOP 2.12: Ground Water Monitor Well and Equipment Maintenance, SOP 2.13: Barcad Sampling, SOP 5.1: Data Management Printed Analytical Result Receipt and Processing, SOP 5.3: Data Management Electronic Analytical Result Receipt and Processing for Sample and Analysis Data, SOP 5.4: Data Management Hand Entry of Analytical Results, SOP 5.8: Field Logbook Control, SOP 5.10: Data Management Receipt and Processing of Lithologic Data by Electronic Transfer, SOP 5.14: Issuing New Parameter Codes, and SOP 5.15: Livermore Site Routine Groundwater Sampling Plan Preparation. Two of the procedures in Chapter 4 are also in the revision process: SOP 4.1: General Instructions for Field Personnel and SOP 4.3: Sample Containers and Preservation.

6.2. New Procedures

There were no new procedures written during this reporting period. Operations and Maintenance (O&M) Manuals: Volume VIII: O&M Manual for Treatment Facility at Building 830 (TF830), Volume XIII: O&M Manual for Miniature Treatment Units (MTUs), Granular Activated Carbon Treatment Unit (GTUs), and Solar Treatment Units (STUs) were approved and released. Volume XIV: O&M Manual for Vapor Treatment Facilities is in the review process. The Operations and Maintenance Manual, Volume XVI: O&M Manual for Treatment System at the Pit 7 Complex is being developed.

6.3. Self-assessments

ERD performs formal and informal self-assessments on an annual or triennial frequency. These assessments are used to evaluate work activities to QA procedures; management practices, and the integration of Environmental Safety and Health (ES&H) programmatic requirements. External regulatory agencies also perform frequent walkabouts during ERD work activities. During this reporting period, there were a total of eighteen assessments and walkabouts performed for the ERD Site 300 work activities. Issues and deficiencies observed during the assessments are tracked from inception to resolution using the institutional Issues Tracking System (ITS). To date, all ERD work related issues and deficiencies have been successfully corrected and closed-out in the Issues Tacking System.

A newly developed assessment program titled, “QA/QC Program for Ground Water Sampling Activities” was implemented by the ERD in July 2007 to evaluate ground water sample collection activities. Routine ground water sample collection activities were assessed in April and May of 2007.

6.4. Quality Issues and Corrective Actions

Quality improvement, nonconformance, and corrective action reporting is documented using the Quality Improvement Form (QIF). A total of nine QIFs were processed during this reporting period. The corrective actions suggested in three of the QIFs have been implemented and the remaining QIFs are in process. The majority of the QIFs were generated to address analytical laboratory issues. One analytical laboratory issue in particular was false positives associated with perchlorate analyses of treatment facility effluent samples. The analysis of perchlorate can become problematic when common anions such as chloride, sulfate, and bicarbonate cause interferences that may result in false positives for the analyte. As a corrective action, the contract analytical laboratory will automatically re-analyze any treatment facility effluent sample where perchlorate has been positively identified in an effort to alleviate the reporting of false positives.

6.5. Analytical Quality Control

Data review, validation, and verification are conducted on 100% of the incoming analytical data. Contract analytical laboratories are contractually required to provide internal quality control (QC) checks in the form of method blanks, laboratory control samples, matrix spikes, and matrix spike or sample duplicate results with every analysis. During validation the analytical QC data and associated QC acceptance criteria (control limits) are reviewed. Data qualifier flags may be assigned to analytical data based on the results of this review. For example, data will be qualified as rejected when there was a serious deficiency in the ability to analyze the sample and meet QC criteria and the presence or absence of the analyte cannot be verified. Data qualifier flags and their definitions are listed in the Acronyms and Abbreviations in the Tables section of this report. The qualifier flags, when they exist, appear next to the analytical data presented in the treatment facility compliance tables and in Appendix B of this report. Because rejected data are not used for decision-making, the rejected analytical data is not displayed in the tables, only the "R" flag is presented. During this reporting period a significant number of "R" flags were assigned due to QC data not being reported with the analytical data results. These "R" flags were removed after the appropriate QC data was received from the laboratory and determined by the QC Chemist to be valid.

6.6. Field Quality Control

Quality control is implemented during the sample collection process in the field. Ten percent of samples are collocated (5% intralaboratory and 5% interlaboratory). Field blanks and trip blanks are used to identify contamination that may occur during sample collection, transportation, or handling of samples at the analytical laboratory. Equipment blanks are used to determine the effectiveness of decontamination processes of portable equipment used for purging and/or sample collection. There were no cross-contamination issues indicated by trip blank, field blank, or equipment blank analyses during this reporting period. However, there were positive detections in some of the field blank water samples. There are currently two water sources being used for field blank samples. One of the sources was tested and determined to be free of contaminants. This particular source will be the sole source utilized for field blank water.

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Figures

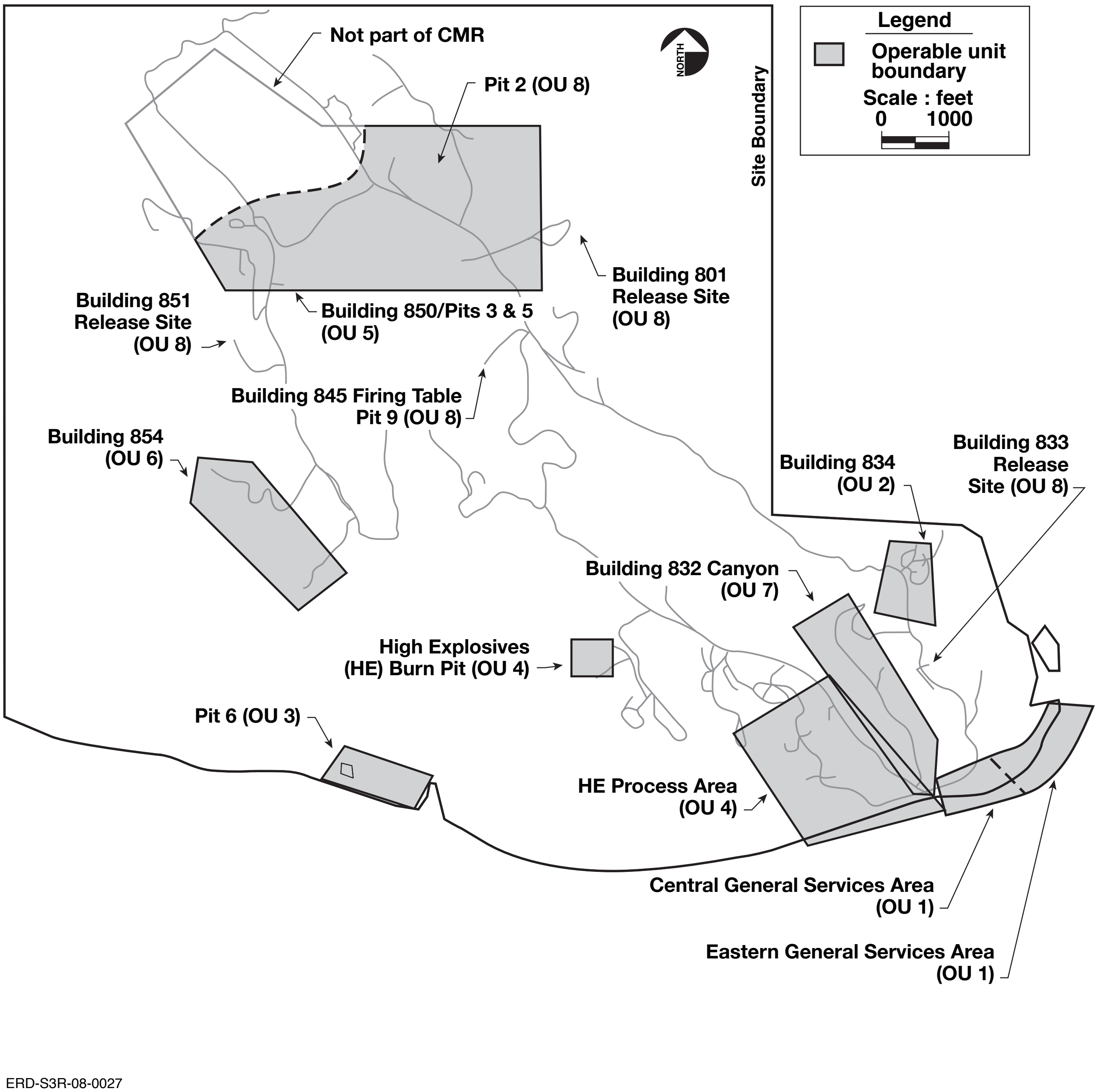


Figure 2-1. Site 300 map showing OU locations.

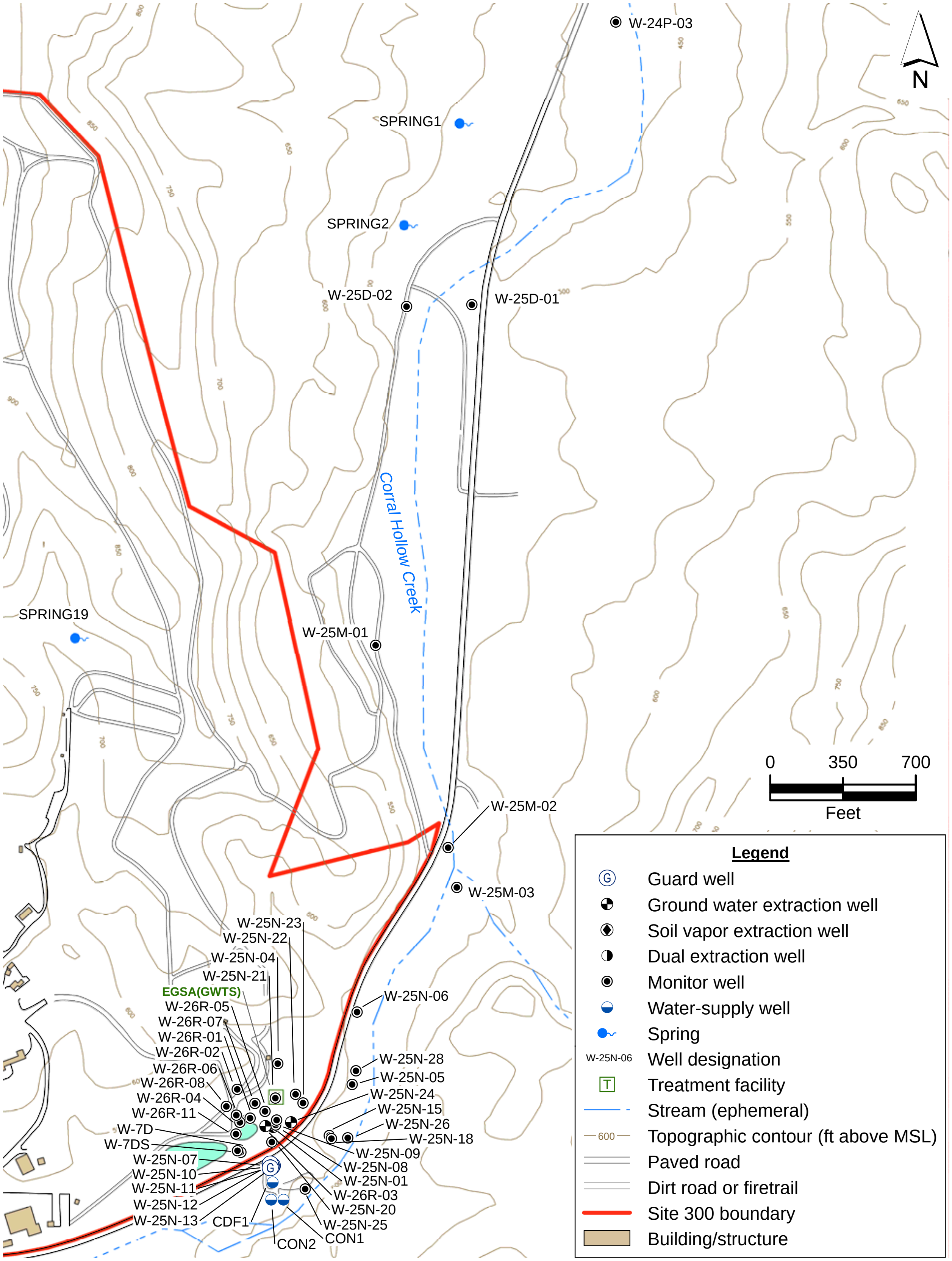


Figure 2.1-1. Eastern General Services Area OU site map showing monitor, extraction and water-supply wells, and treatment facilities.

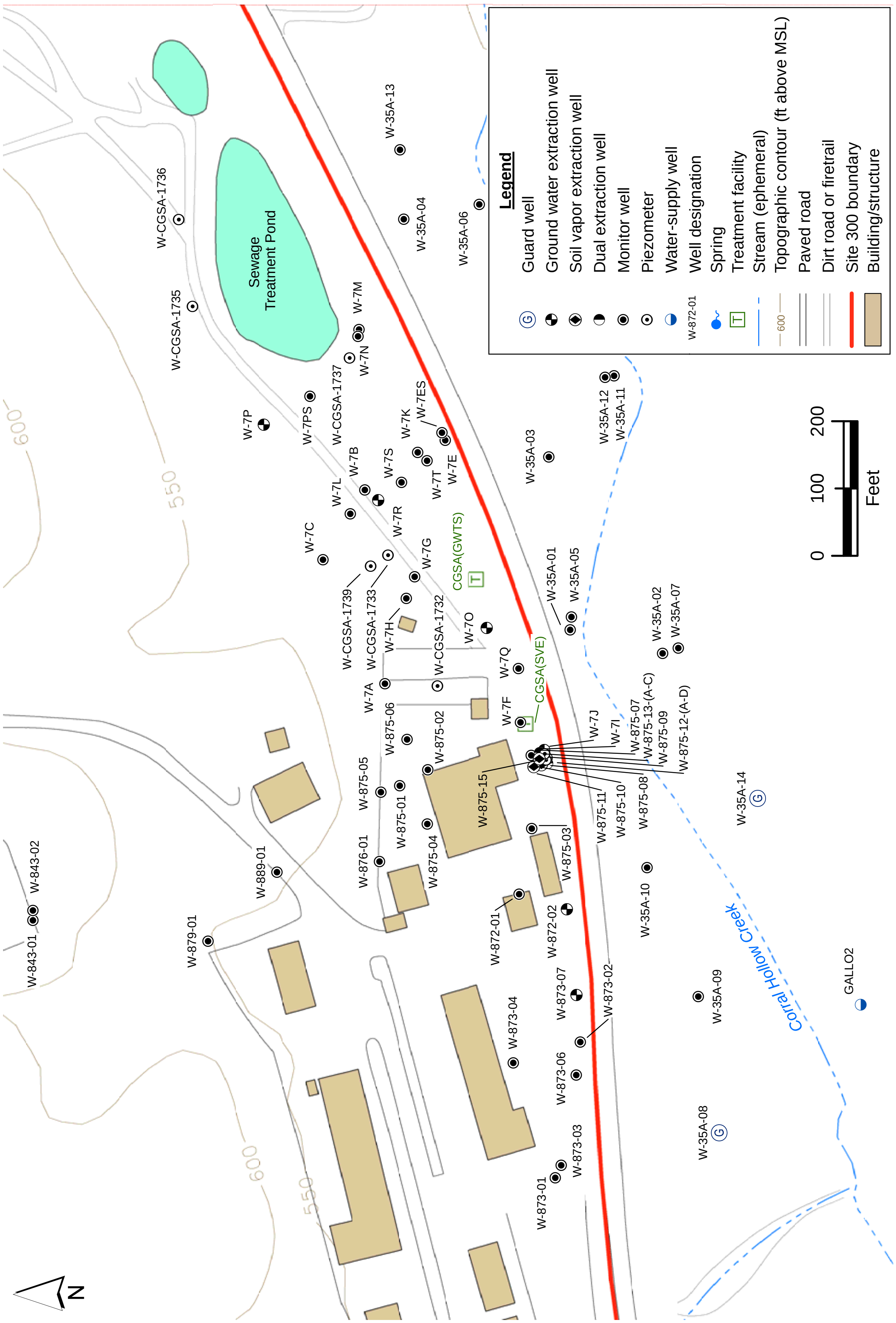


Figure 2.1-2. Central General Services Area OU site map showing monitor, extraction and water-supply wells, and treatment facilities.

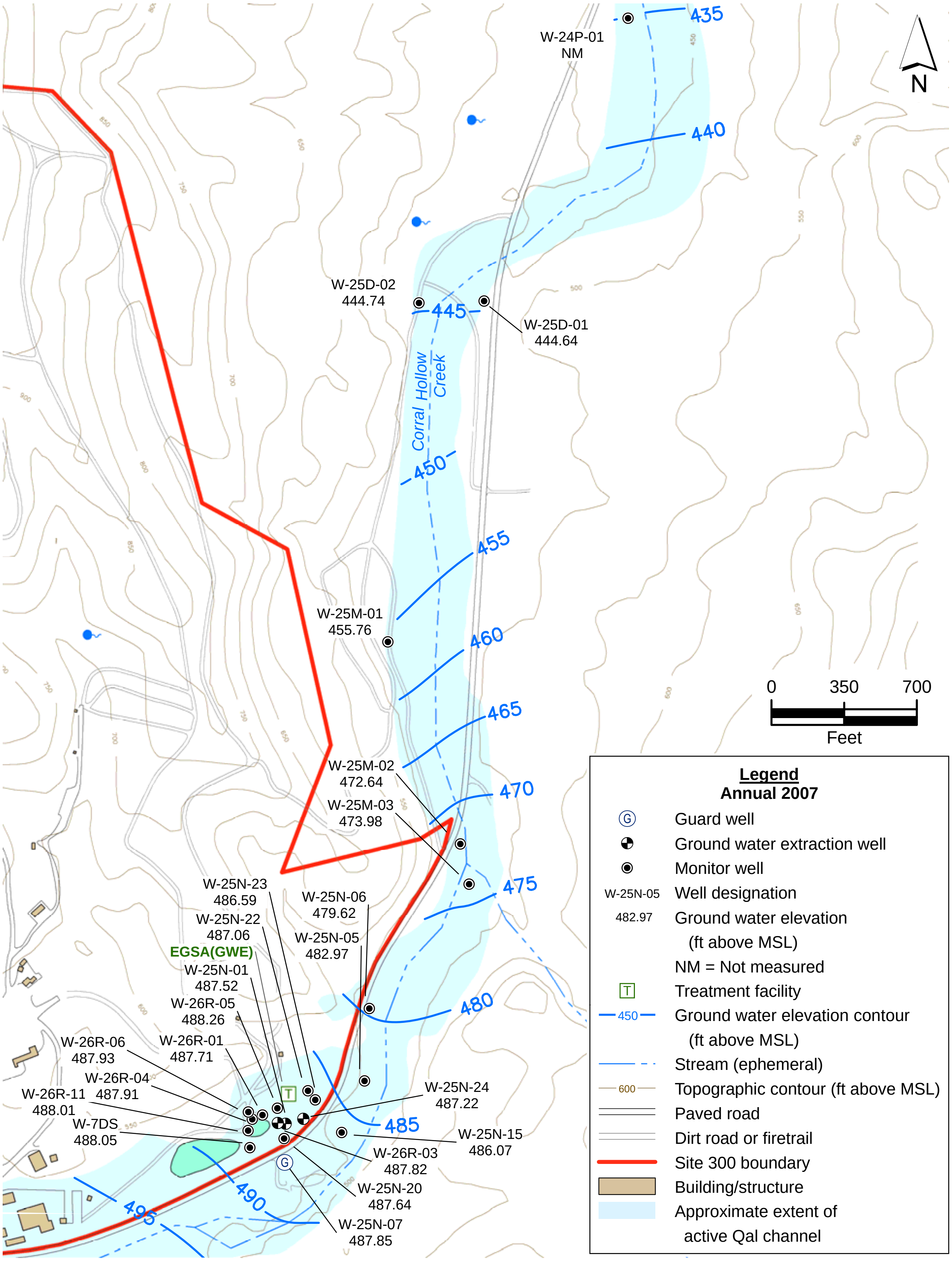


Figure 2.1-3. Eastern General Services Area OU ground water potentiometric surface map for the Qal-Tnbs$_1$ HSU.

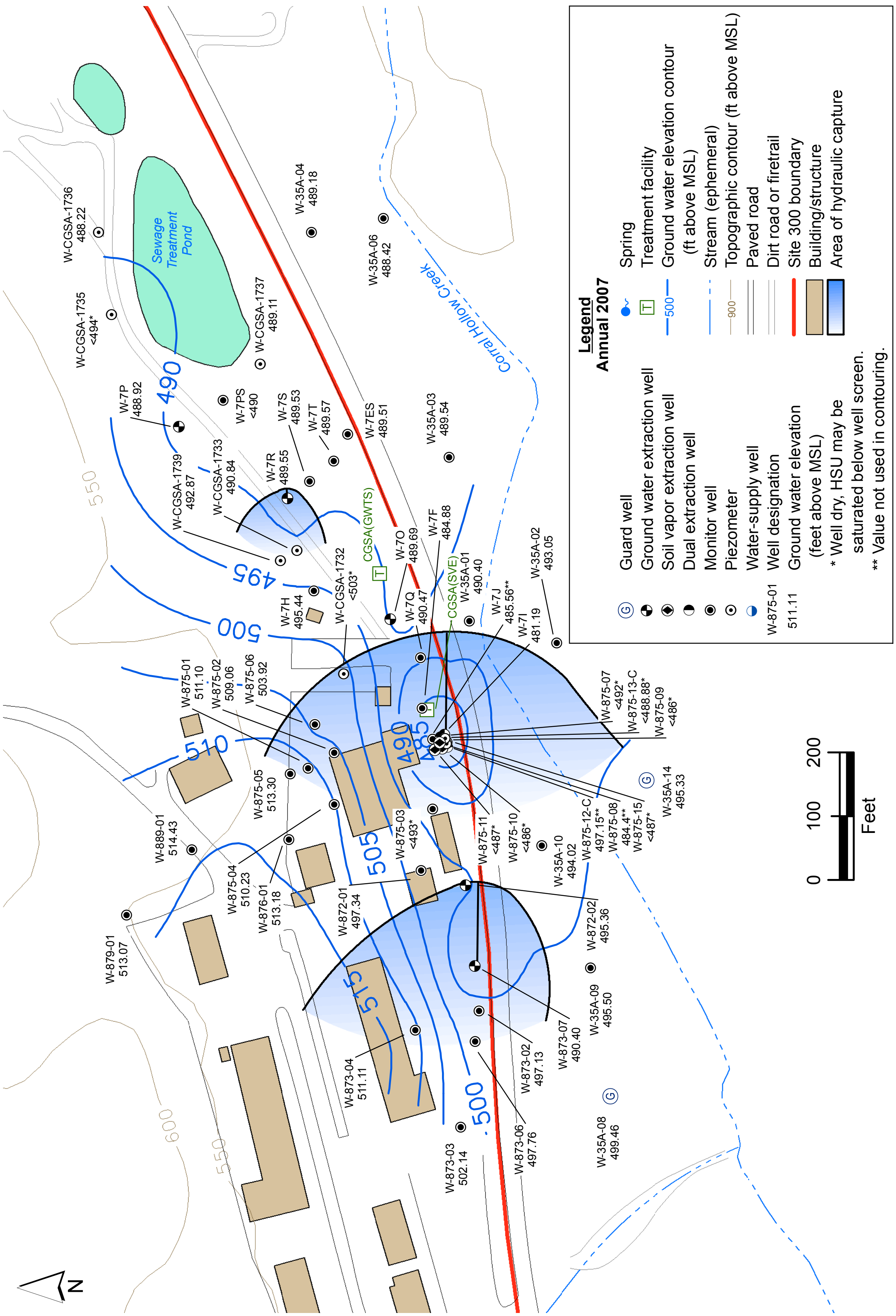


Figure 2.1-4. Central General Services Area OU ground water potentiometric surface map for the Qt-Tnsc$_1$ and Qal-Tnbs$_1$ HSUs.

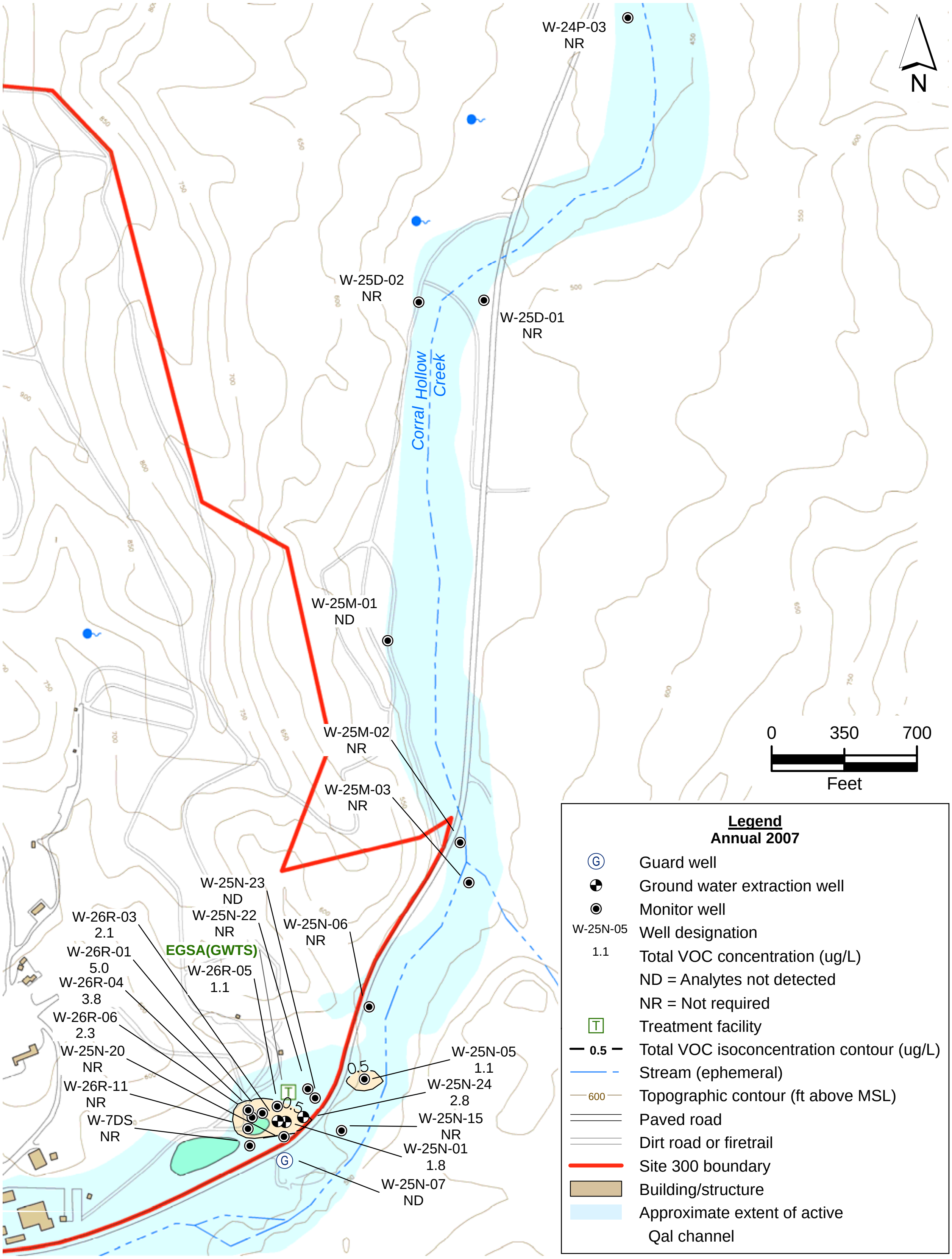


Figure 2.1-5. Eastern General Services Area OU total VOC isoconcentration contour map for the Qal-Tnbs$_1$ HSU.

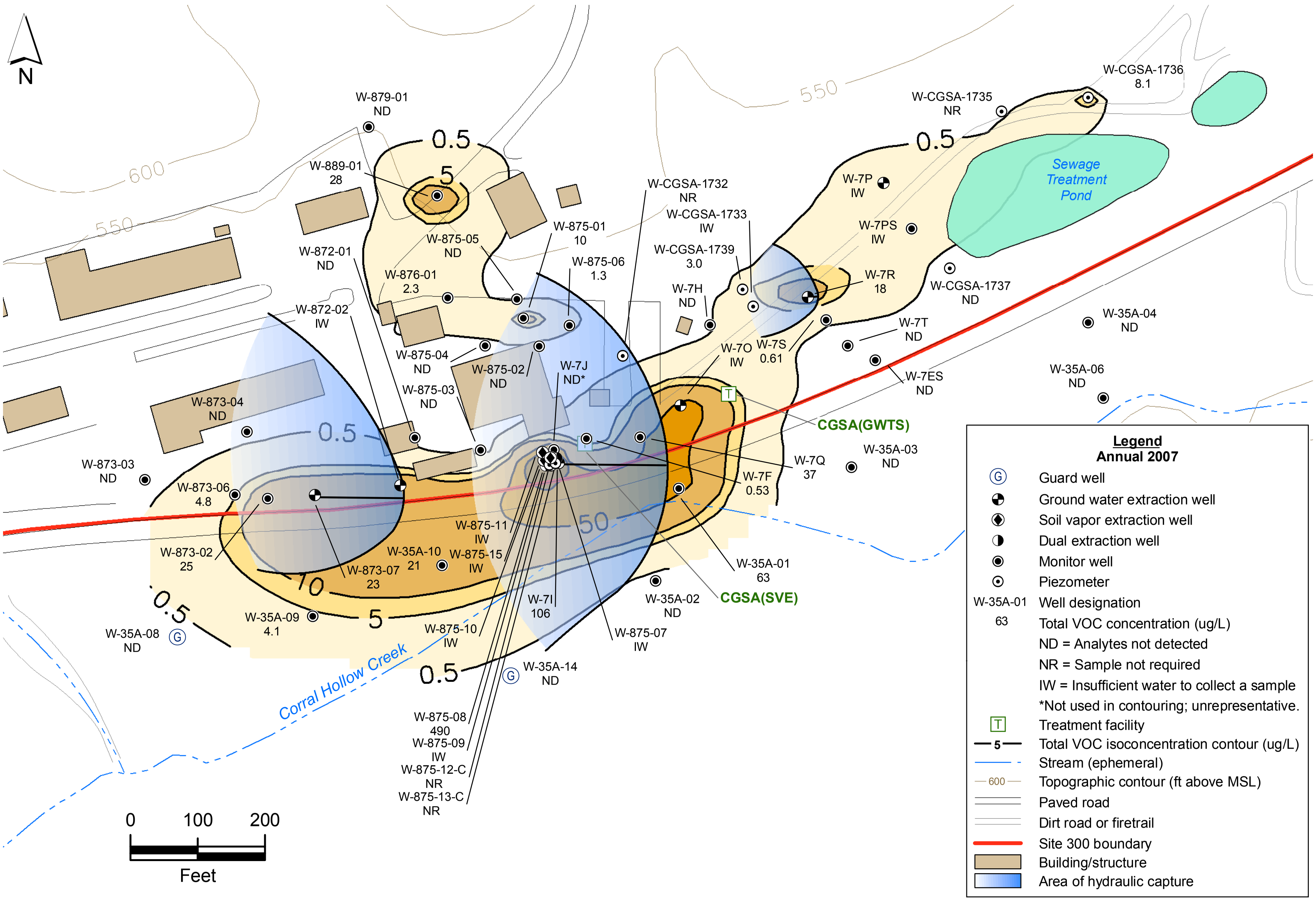


Figure 2.1-6. Central General Services Area OU total VOC isoconcentration contour map for the Qt-Tnsc$_1$ and Qal-Tnbs$_1$ HSUs.

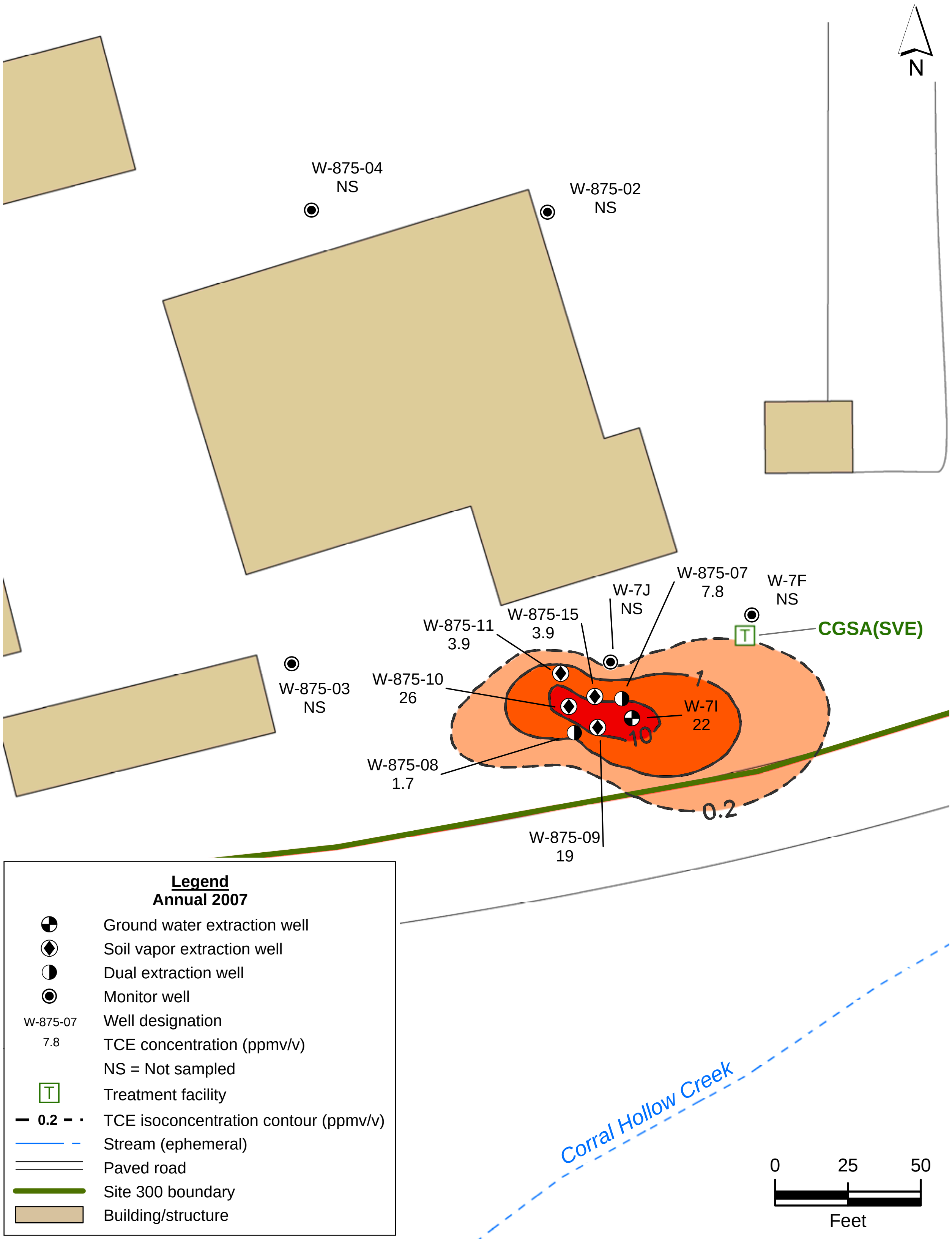


Figure 2.1-7. TCE concentration ($ppm_{v/v}$) in soil vapor near Building 875 of the Central GSA, October 30, 2007.

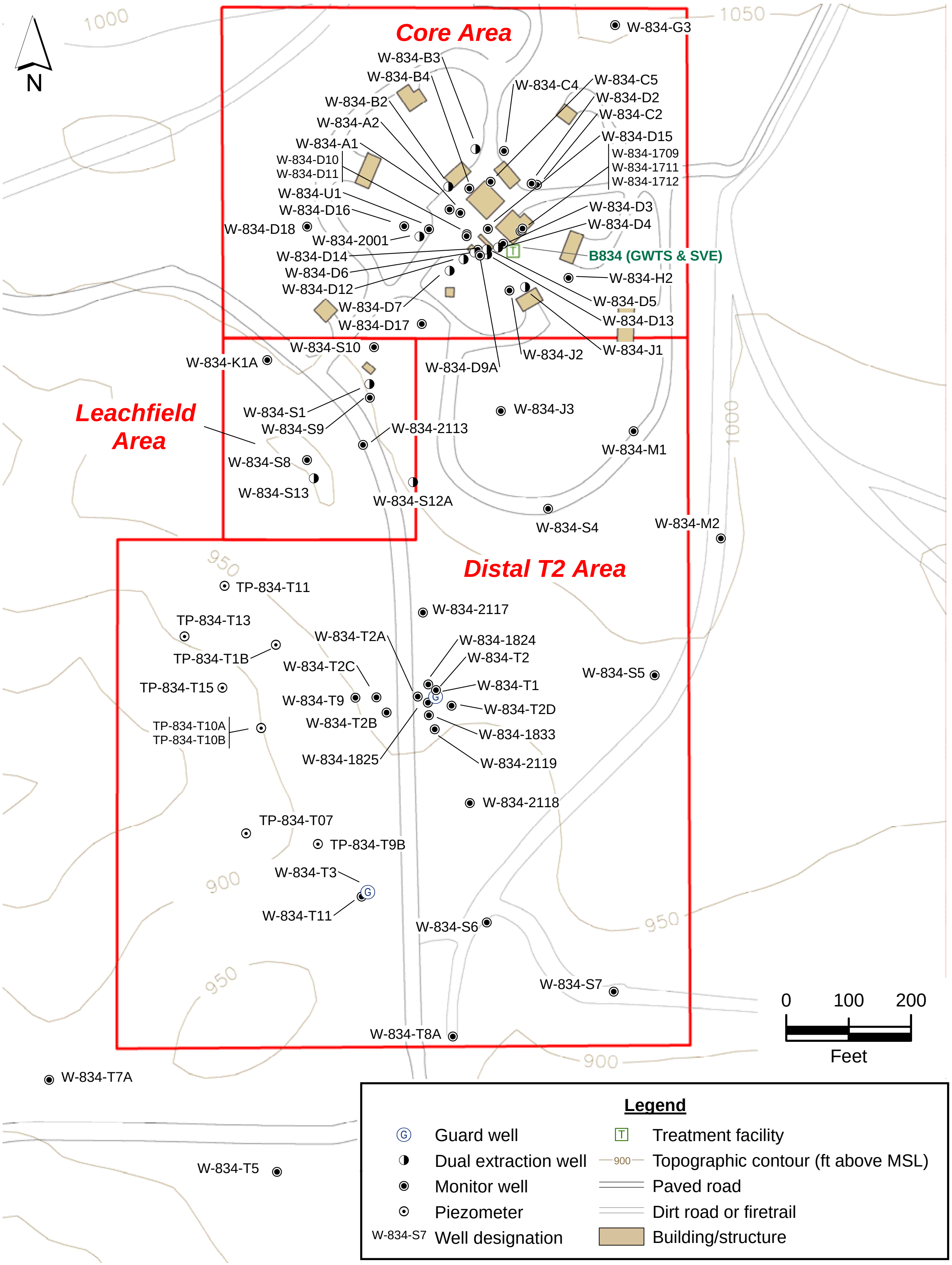


Figure 2.2-1. Building 834 OU site map showing monitor and extraction wells, and treatment facilities.

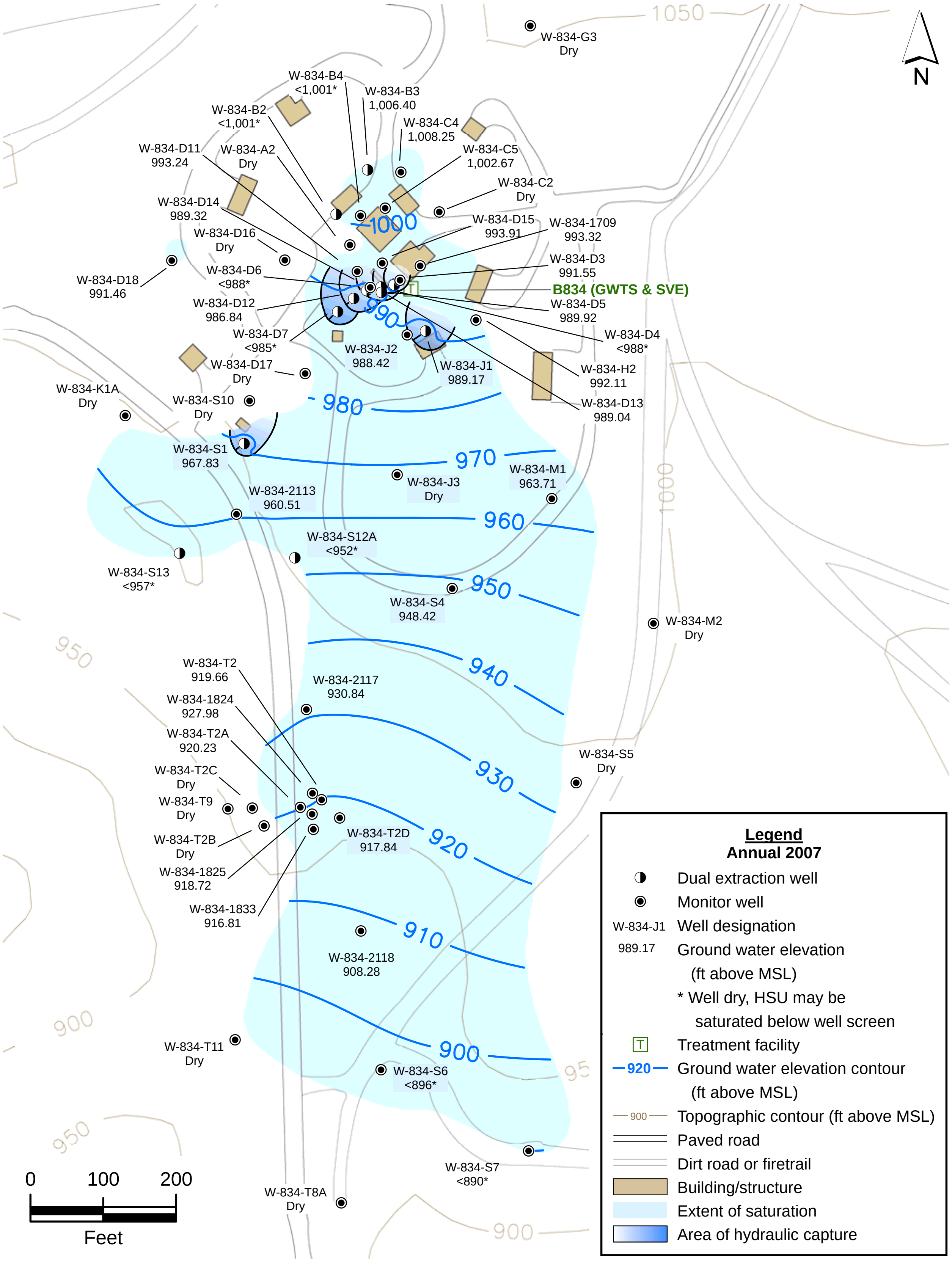


Figure 2.2-2. Building 834 OU ground water potentiometric surface map for the Tpsg perched water-bearing zone.

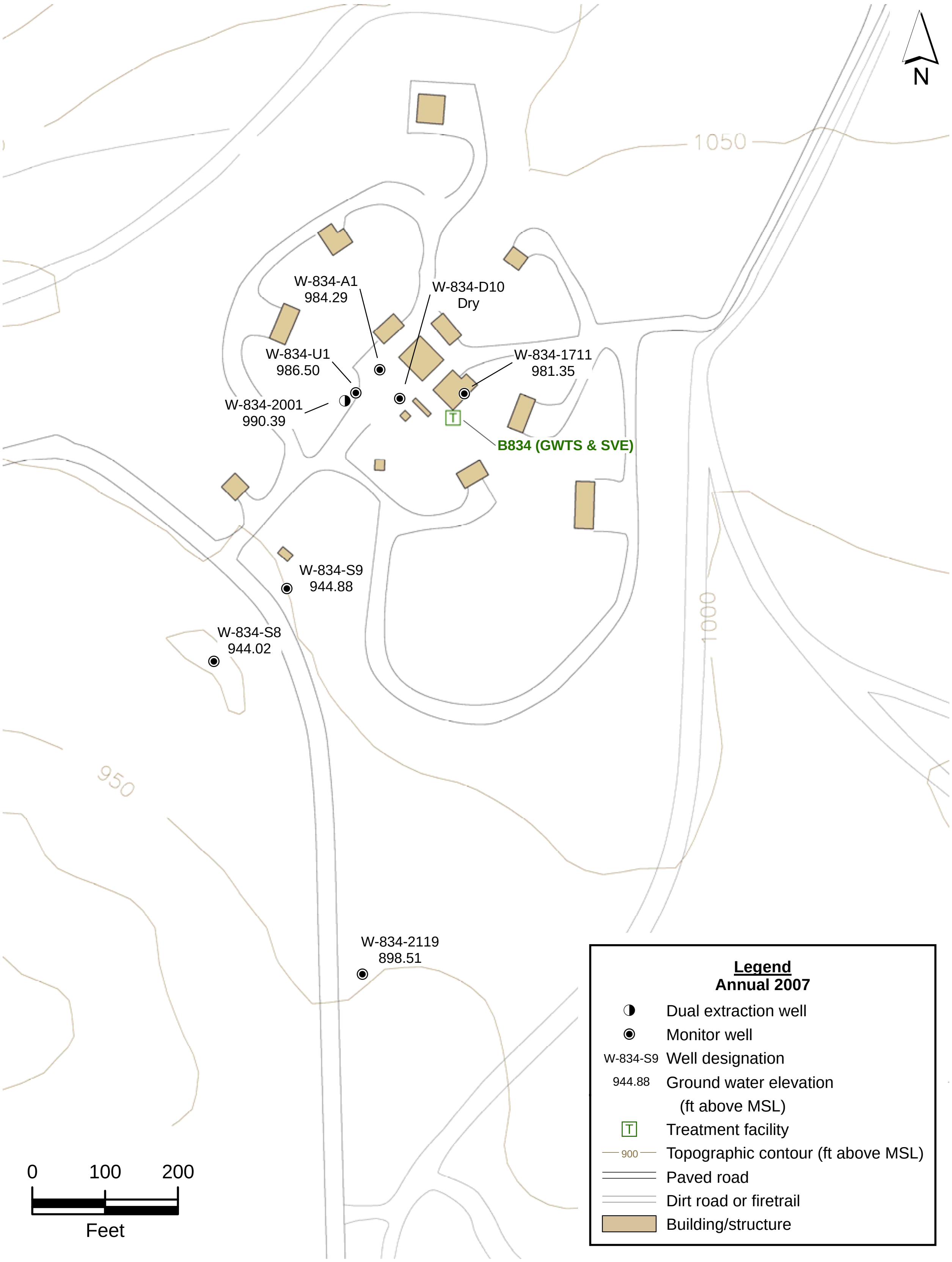


Figure 2.2-3. Building 834 OU map showing ground water elevations for the Tps-Tnsc$_2$ HSU.

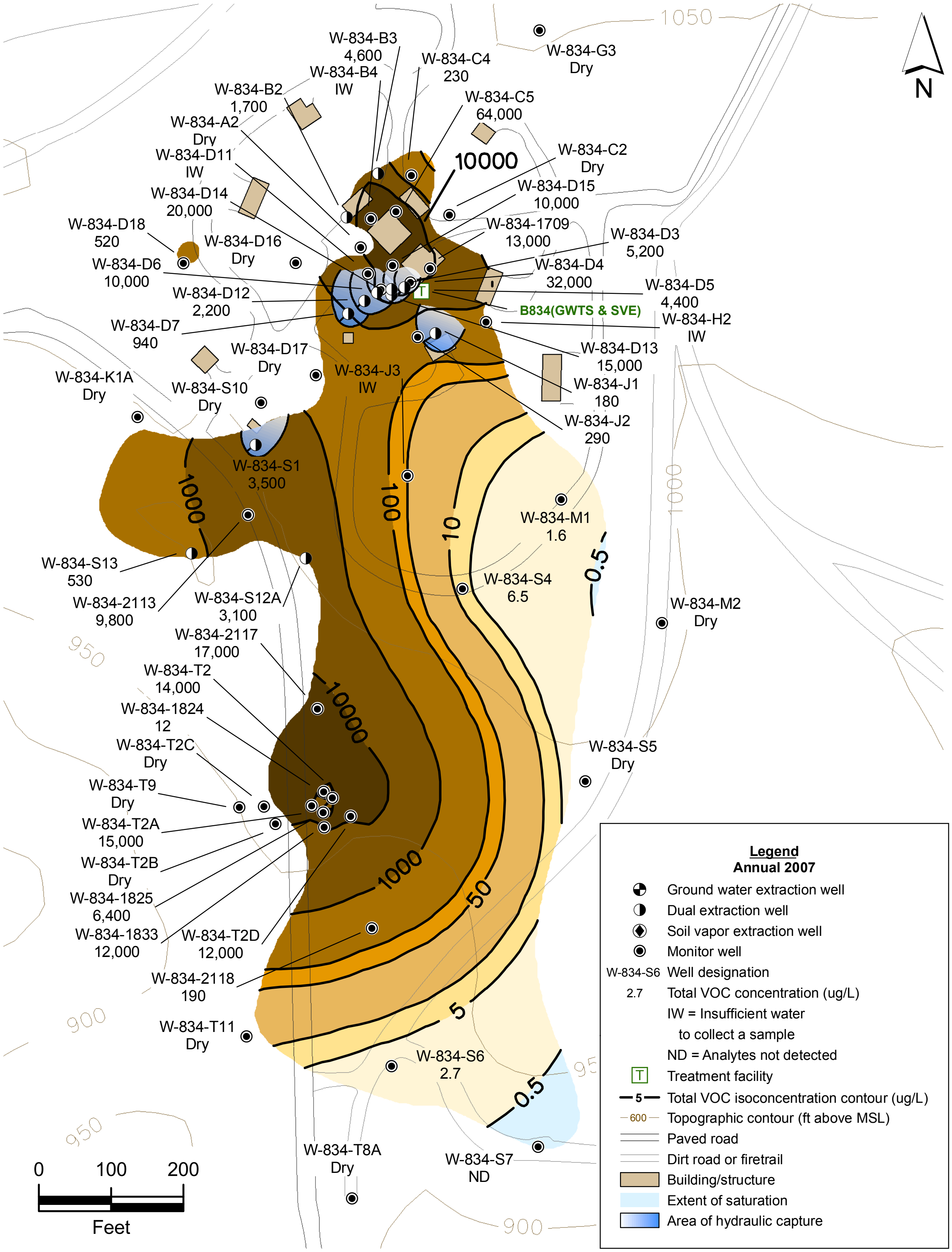


Figure 2.2-4. Building 834 OU total VOC isoconcentration contour map for the Tpsg perched water-bearing zone.

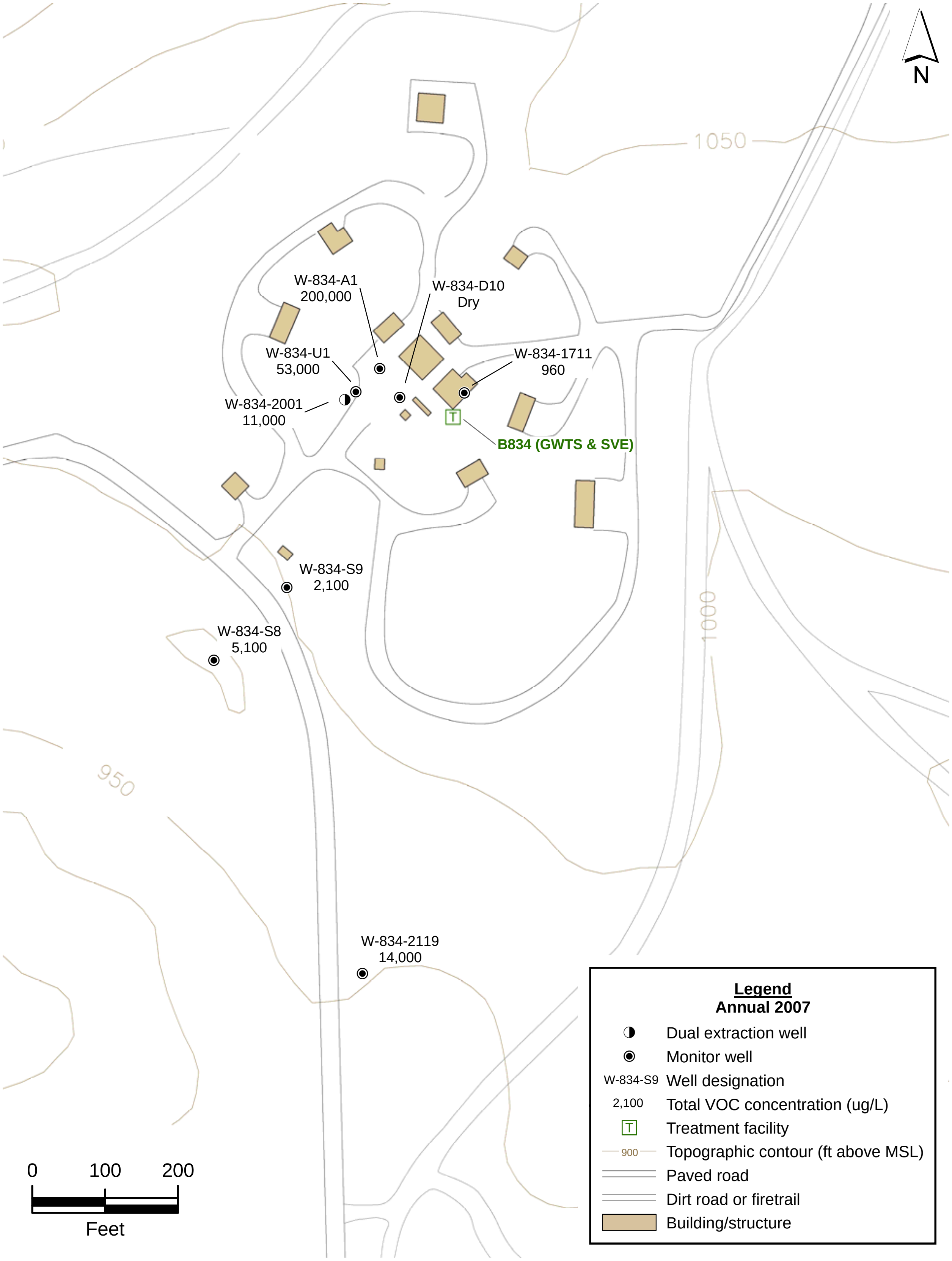


Figure 2.2-5. Building 834 OU map showing total VOC concentrations for the Tps-Tnsc$_2$ HSU.

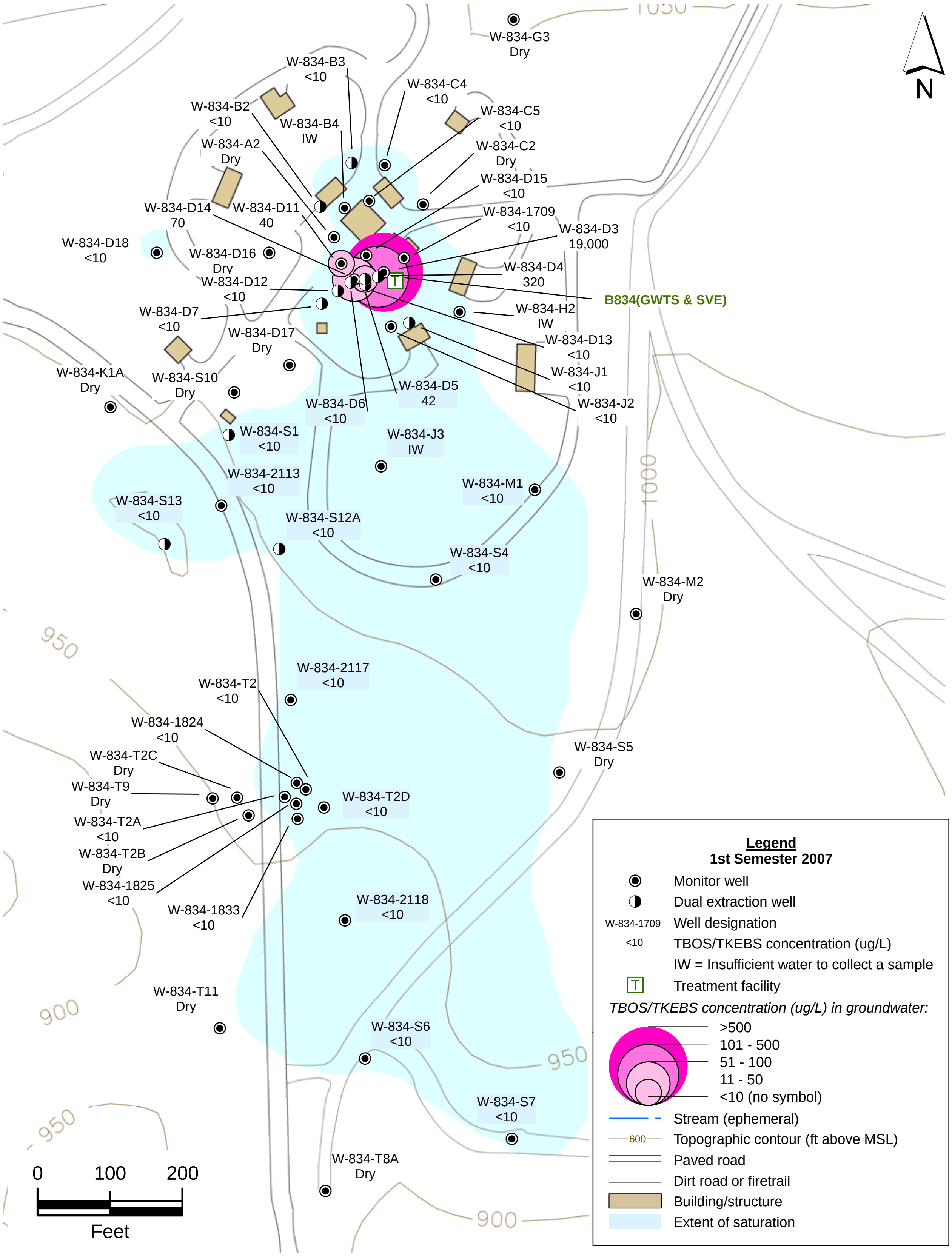


Figure 2.2-6. Building 834 OU map showing TBOS/TKEBS concentrations for the Tpsg perched water-bearing zone.

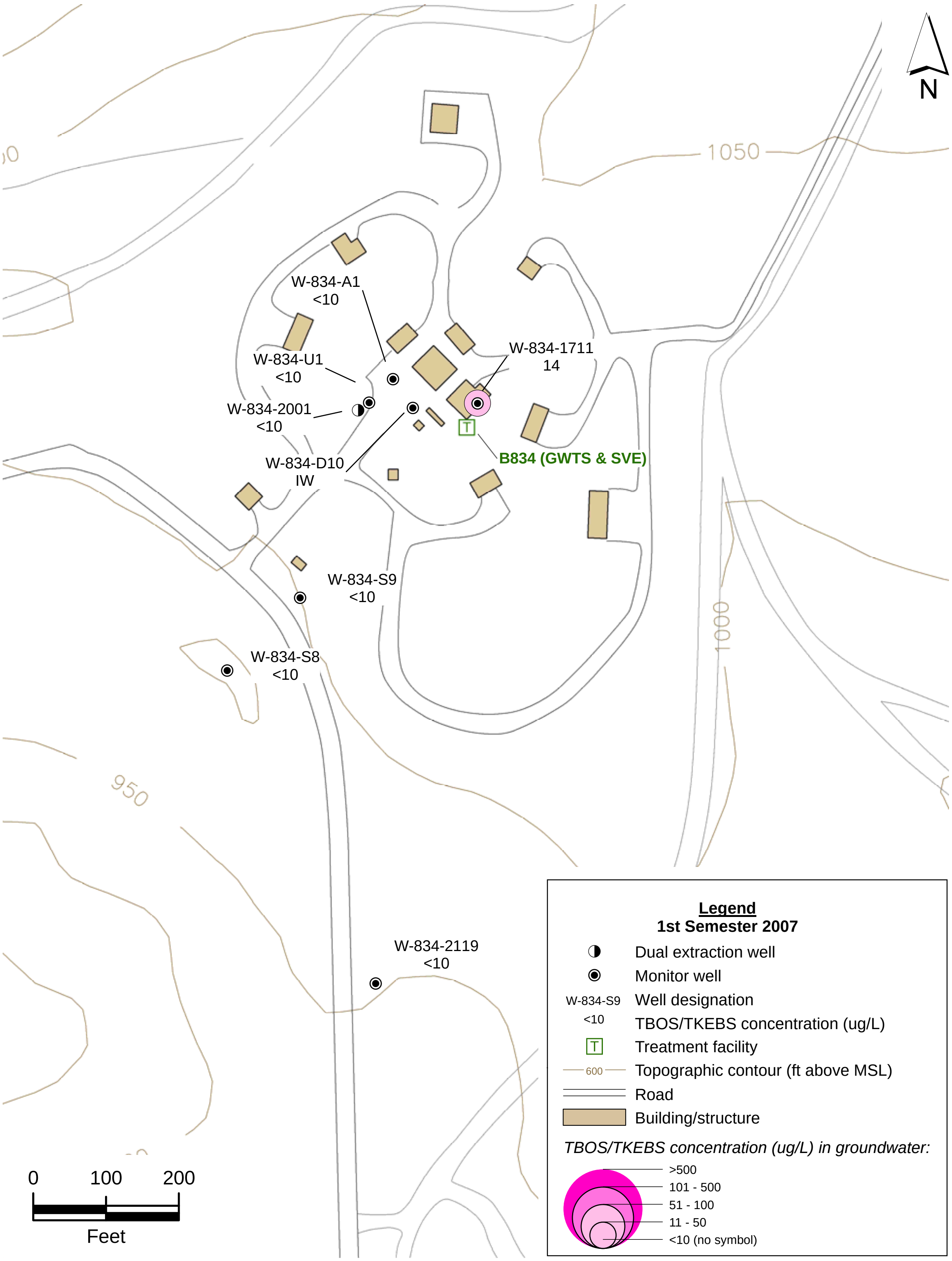


Figure 2.2-7. Building 834 OU map showing TBOS/TKEBS concentrations for the Tps-Tnsc$_2$ HSU.

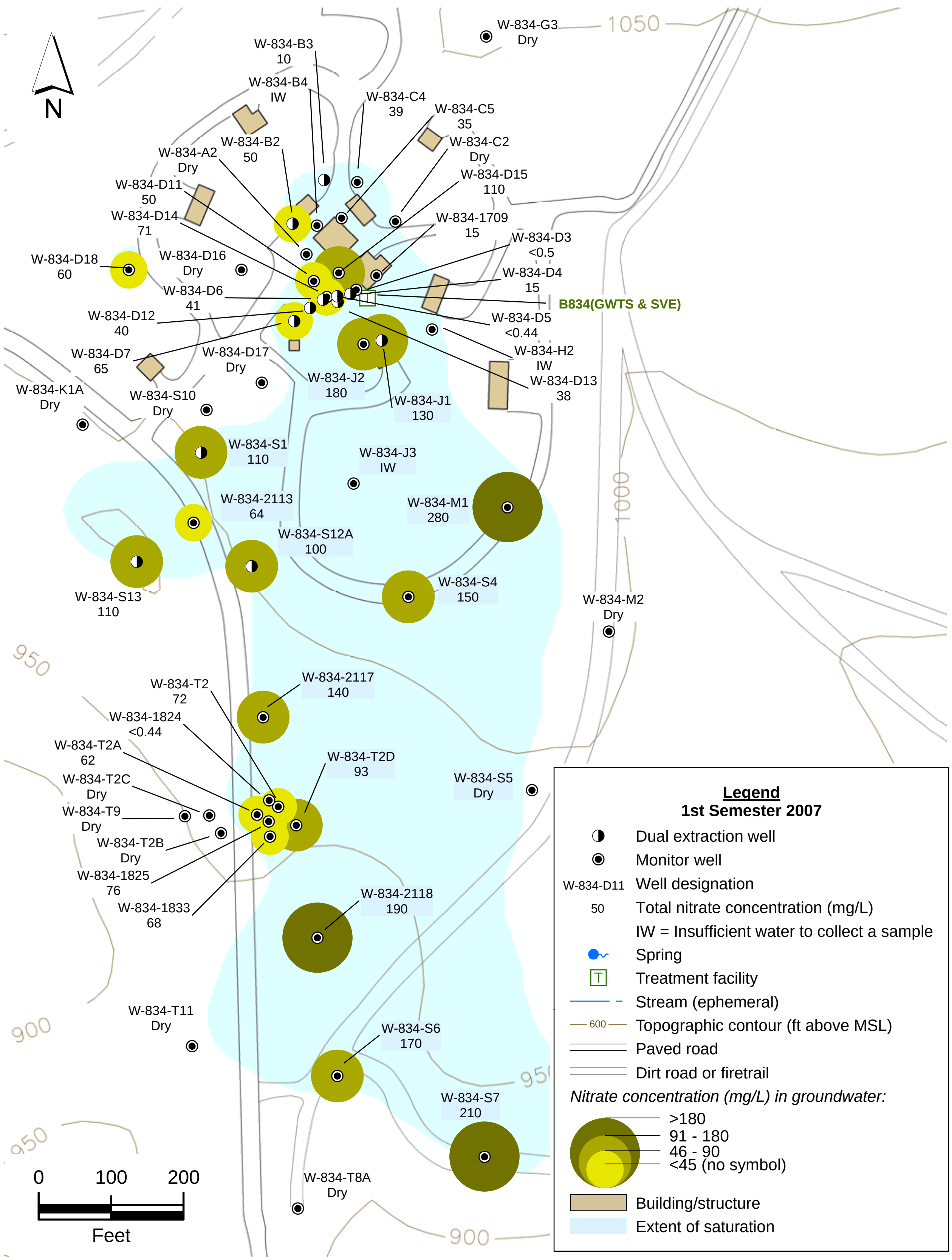


Figure 2.2-8. Building 834 OU map showing nitrate concentrations for the Tpsg perched water-bearing zone.

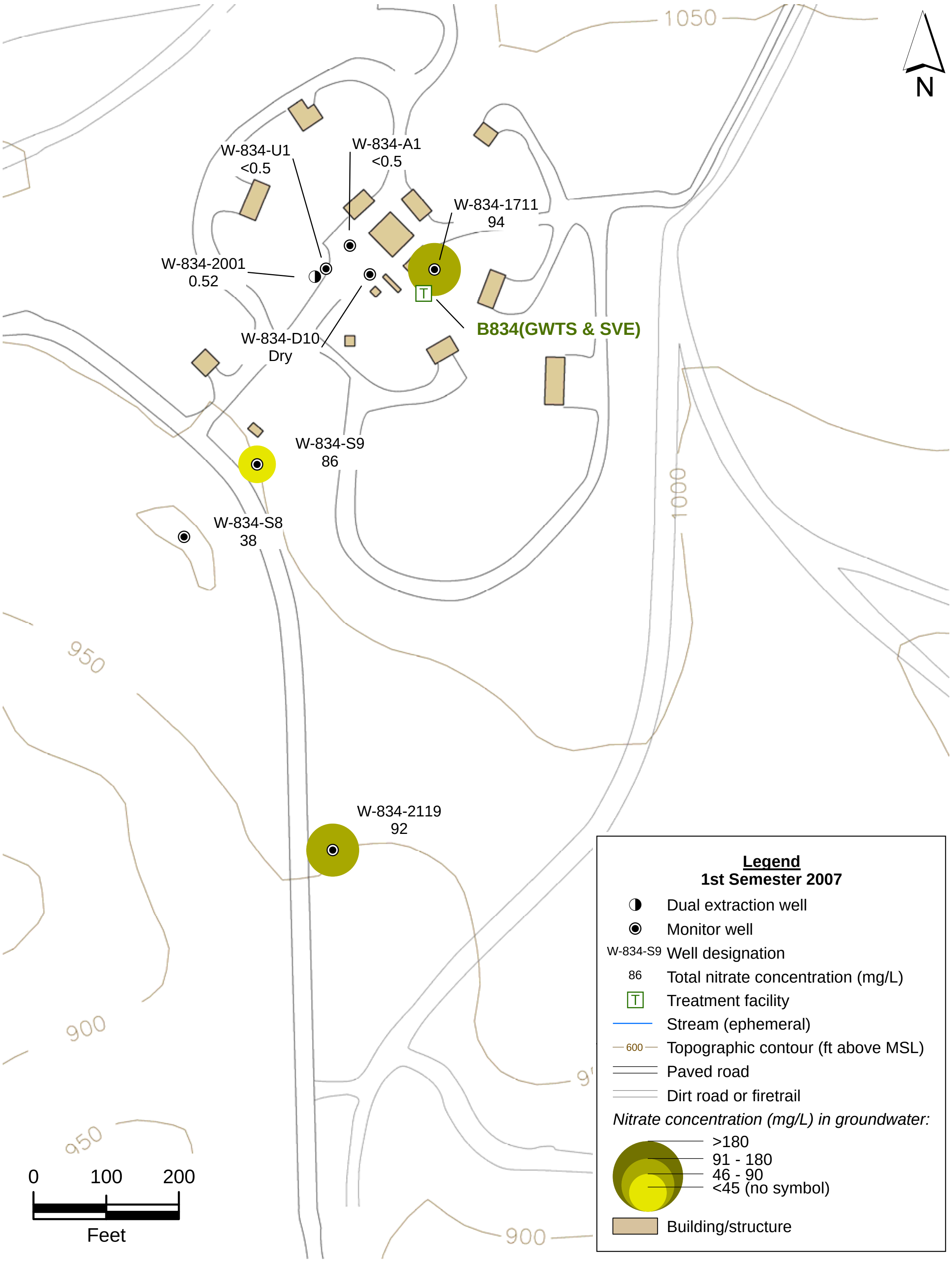


Figure 2.2-9. Building 834 OU map showing nitrate concentrations for the Tps-Tnsc$_2$ HSU.

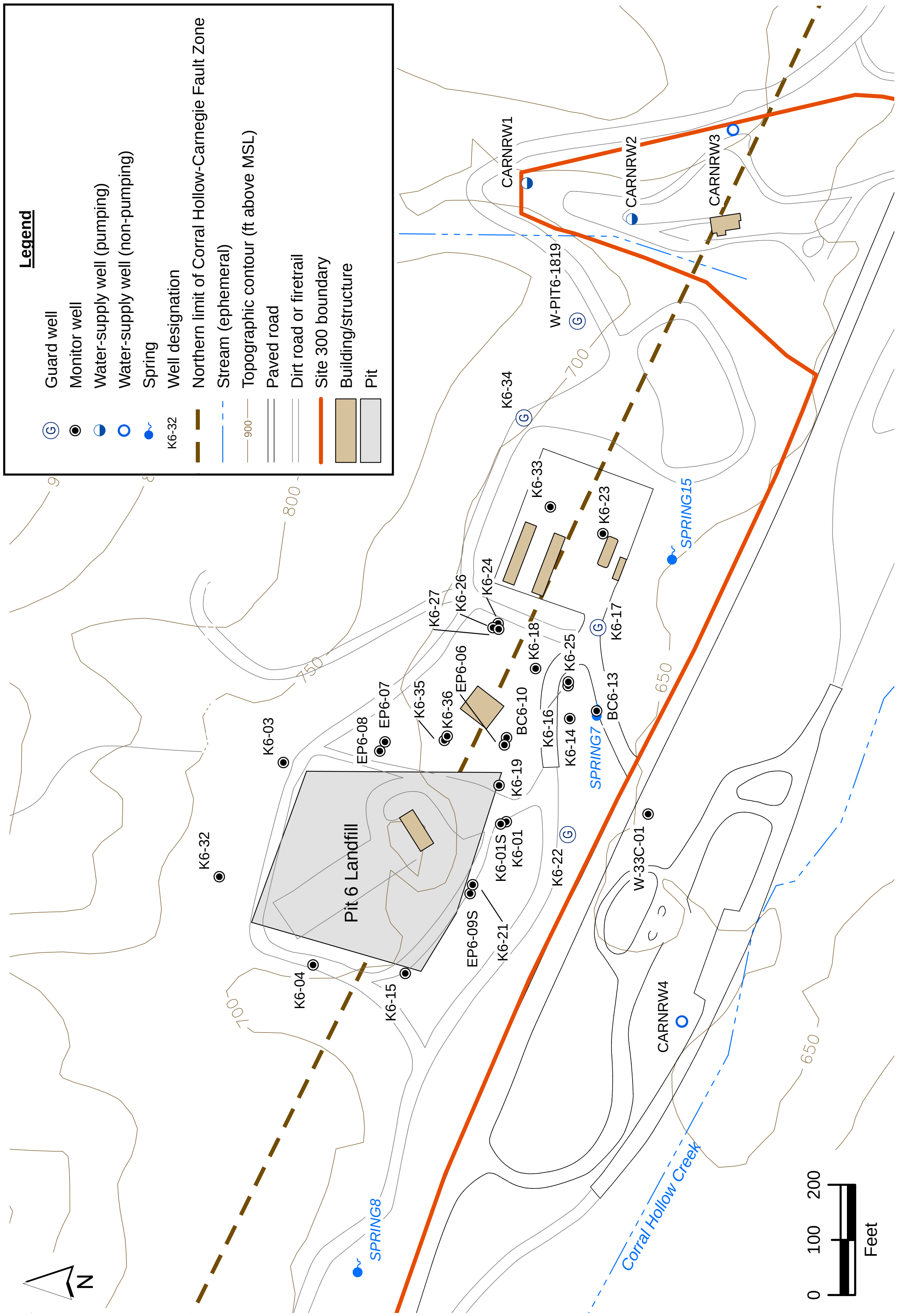


Figure 2.3-1. Pit 6 Landfill OU site map showing monitor and water-supply wells.

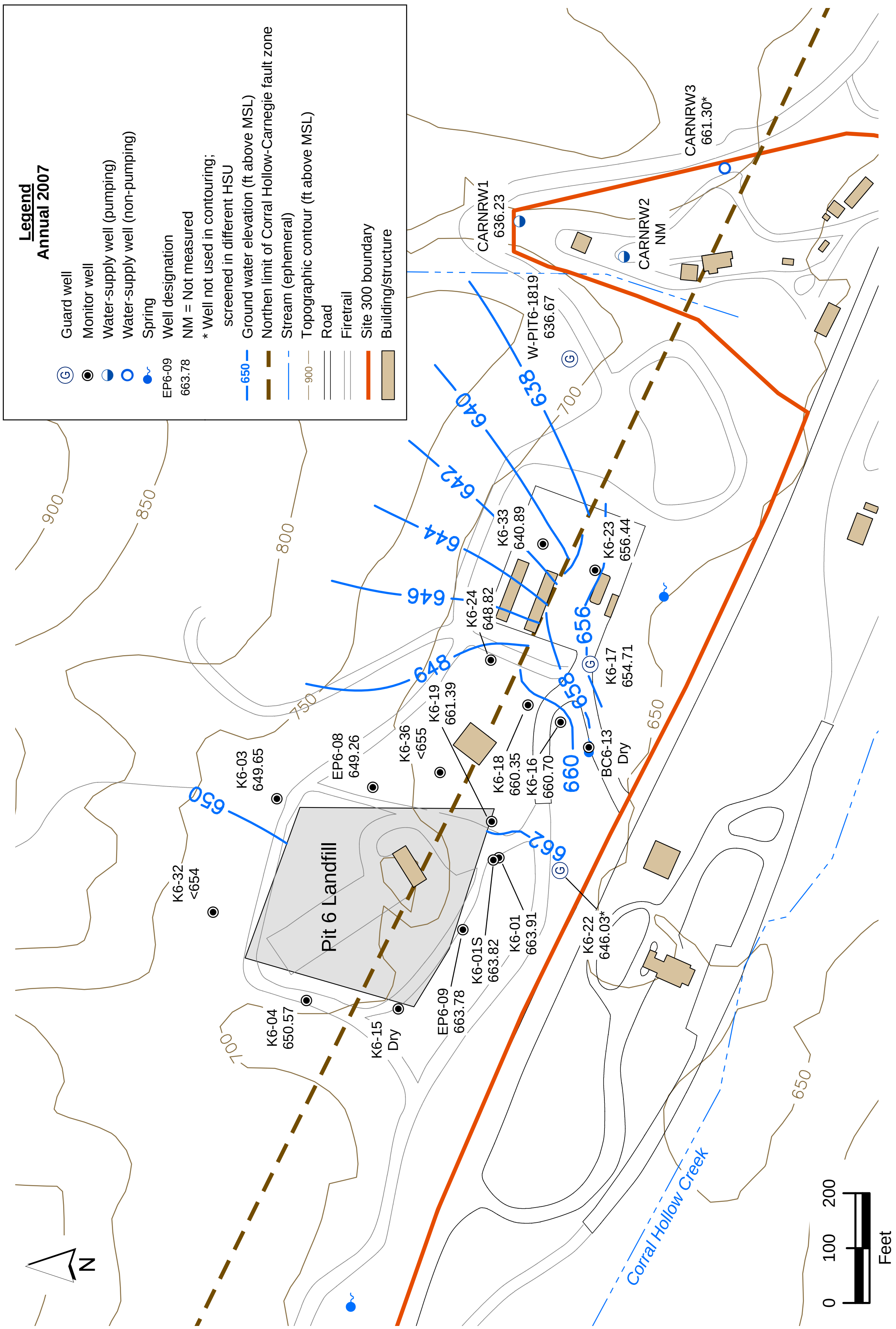


Figure 2.3-2. Pit 6 Landfill OU ground water potentiometric surface map for the Qt-Tnbs$_1$ HSU.

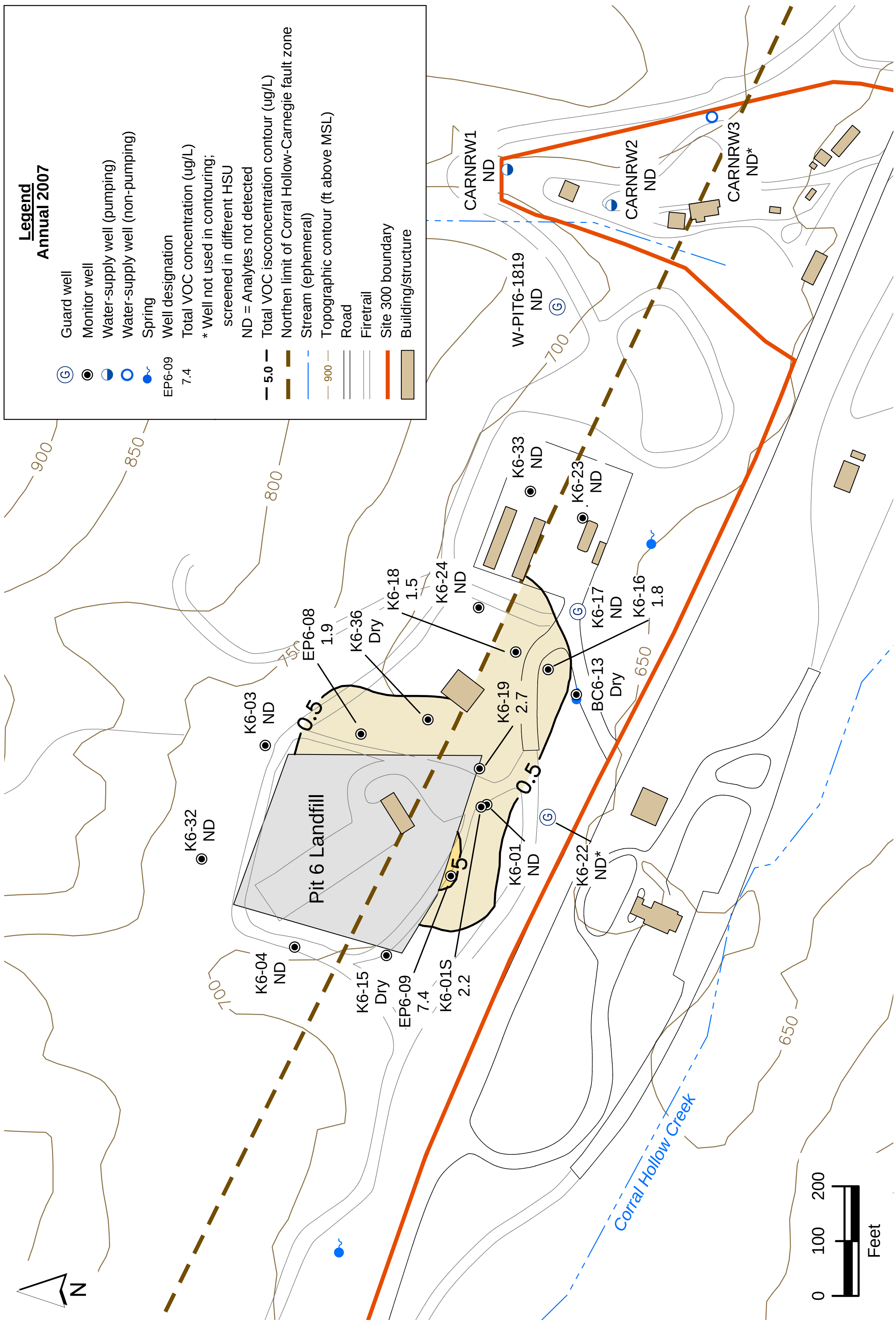


Figure 2.3-3. Pit 6 Landfill OU total VOC isoconcentration contour map for the Qt-Tnbs$_1$ HSU.

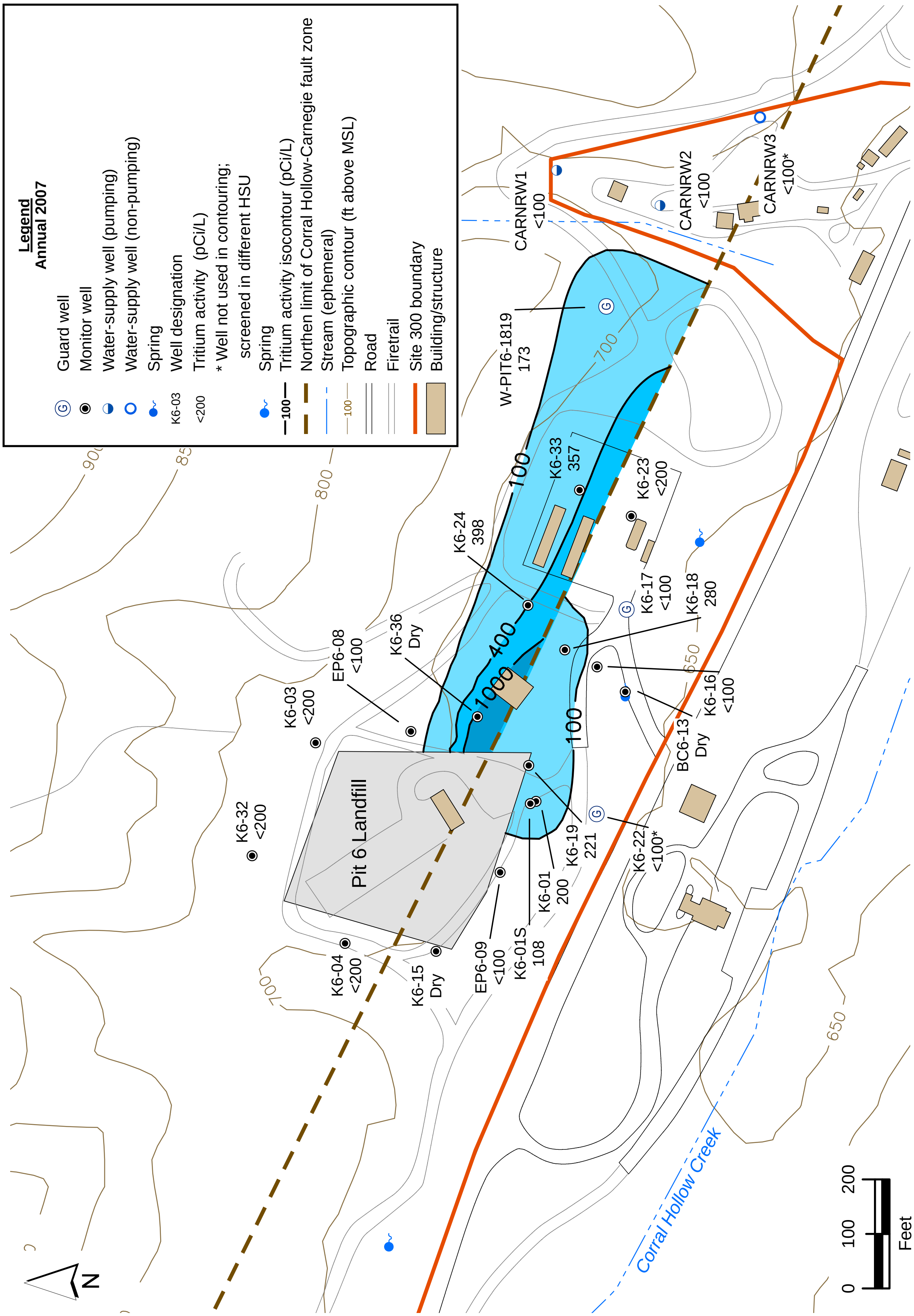


Figure 2.3-4. Pit 6 Landfill OU tritium activity isocontour map for the Qt-Tnbs$_1$ HSU.

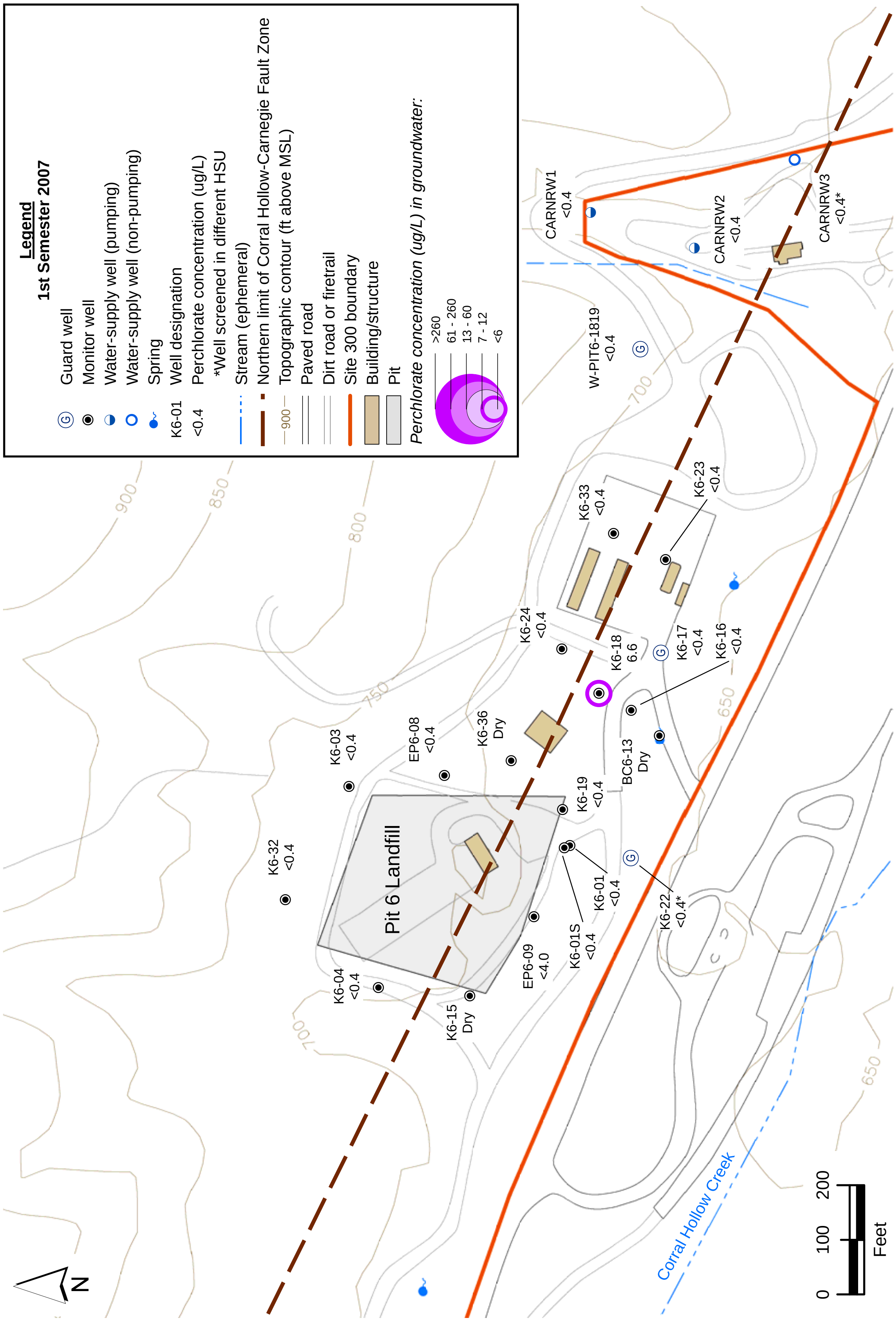


Figure 2.3-5. Pit 6 Landfill OU map showing perchlorate concentrations for the Qt-Tnbs$_1$ HSU.

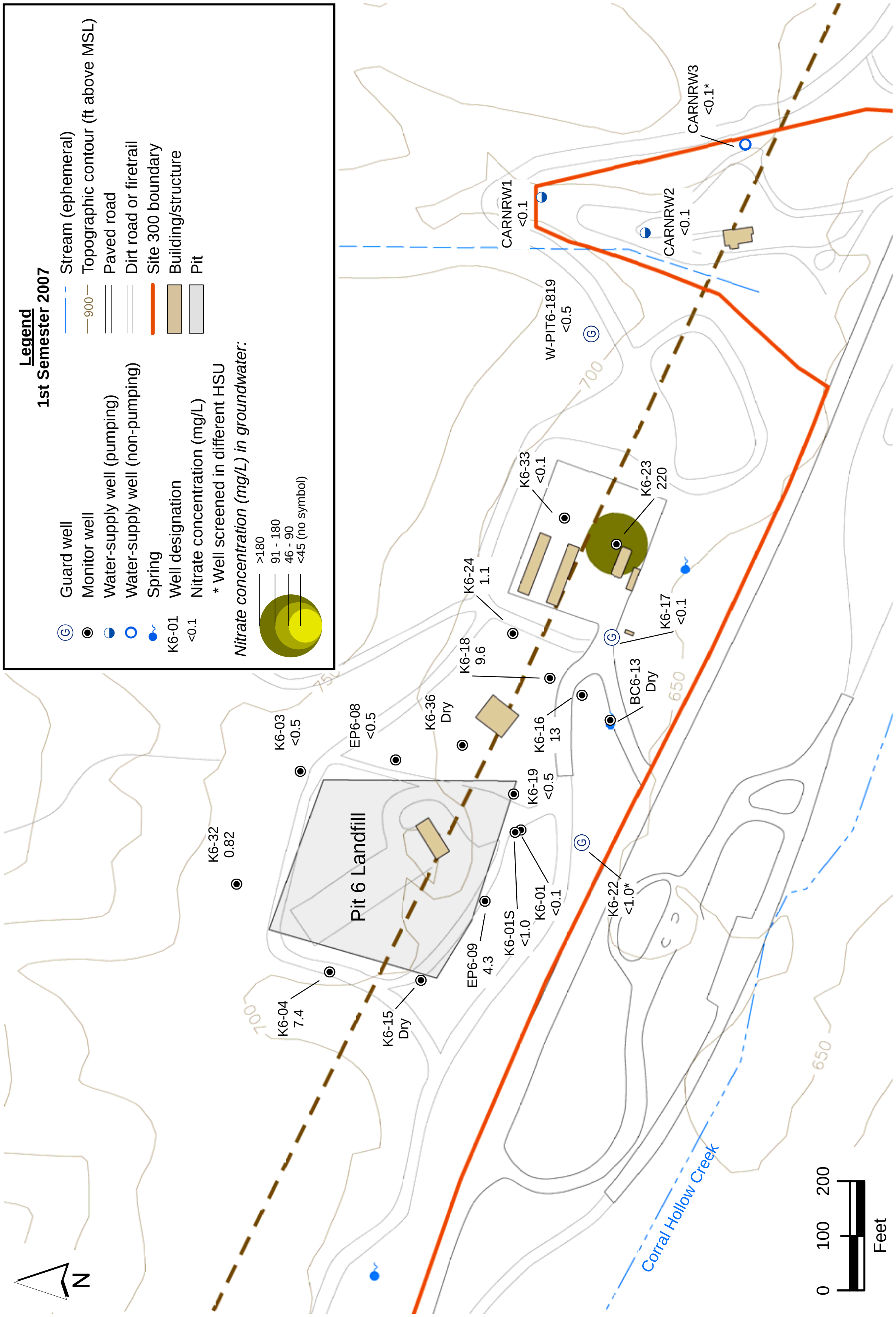


Figure 2.3-6. Pit 6 Landfill OU map showing nitrate concentrations for the Qt-Tnbs$_1$ HSU.

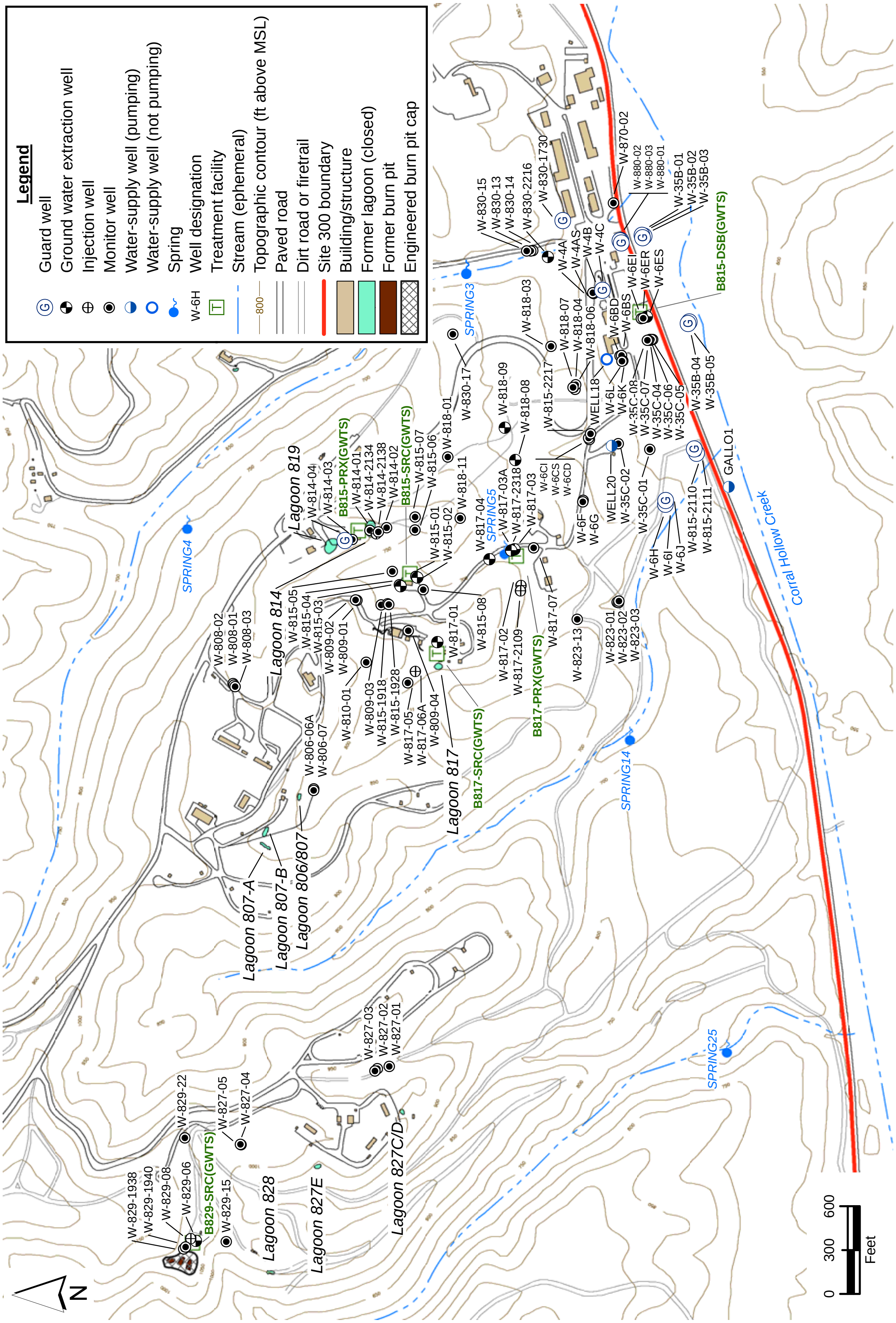


Figure 2.4-1. High Explosives Process Area OU site map showing monitor, extraction, injection, and water-supply wells, and treatment facilities.

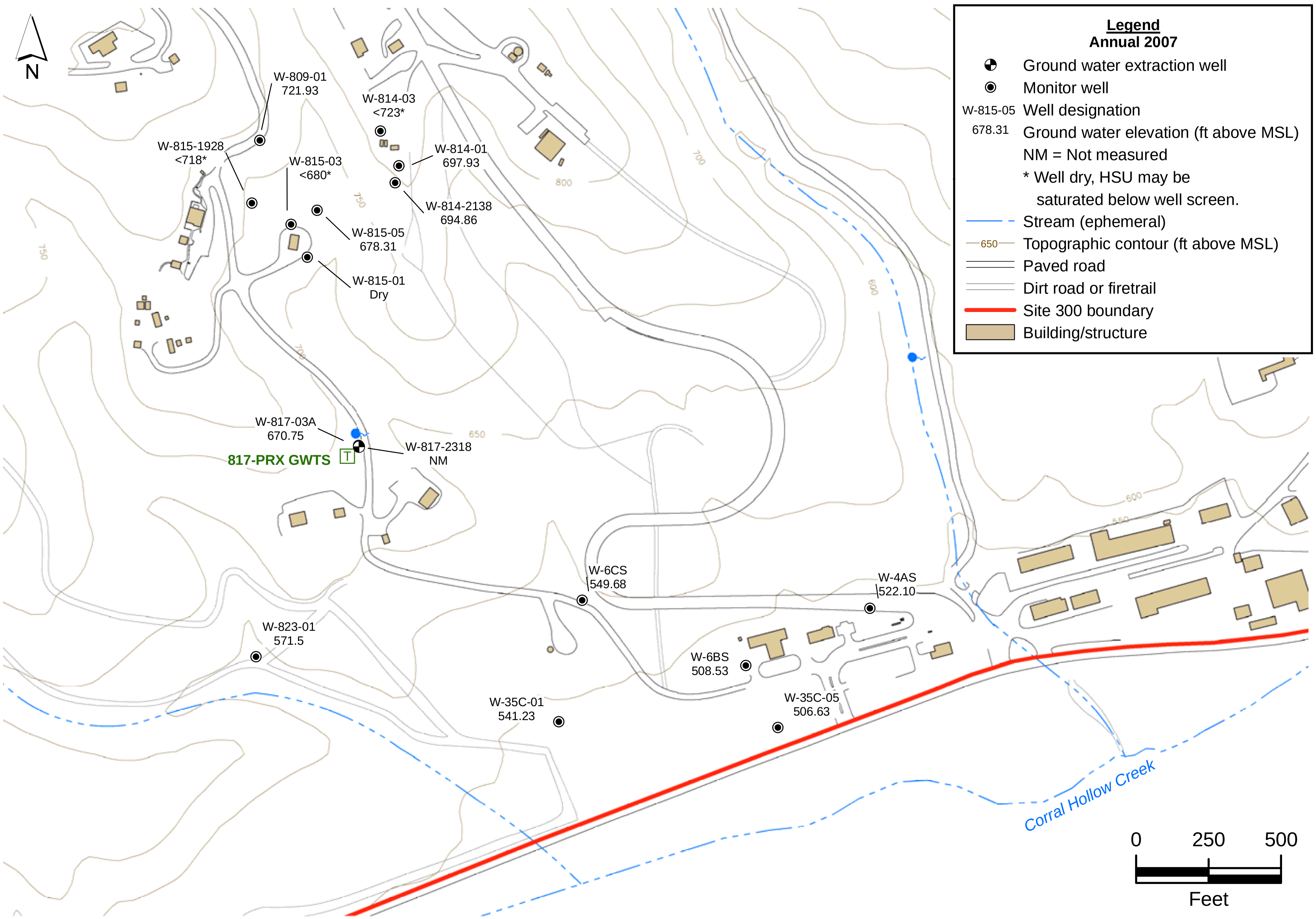


Figure 2.4-2. High Explosives Process Area OU map showing ground water elevations for the Tpsg HSU.

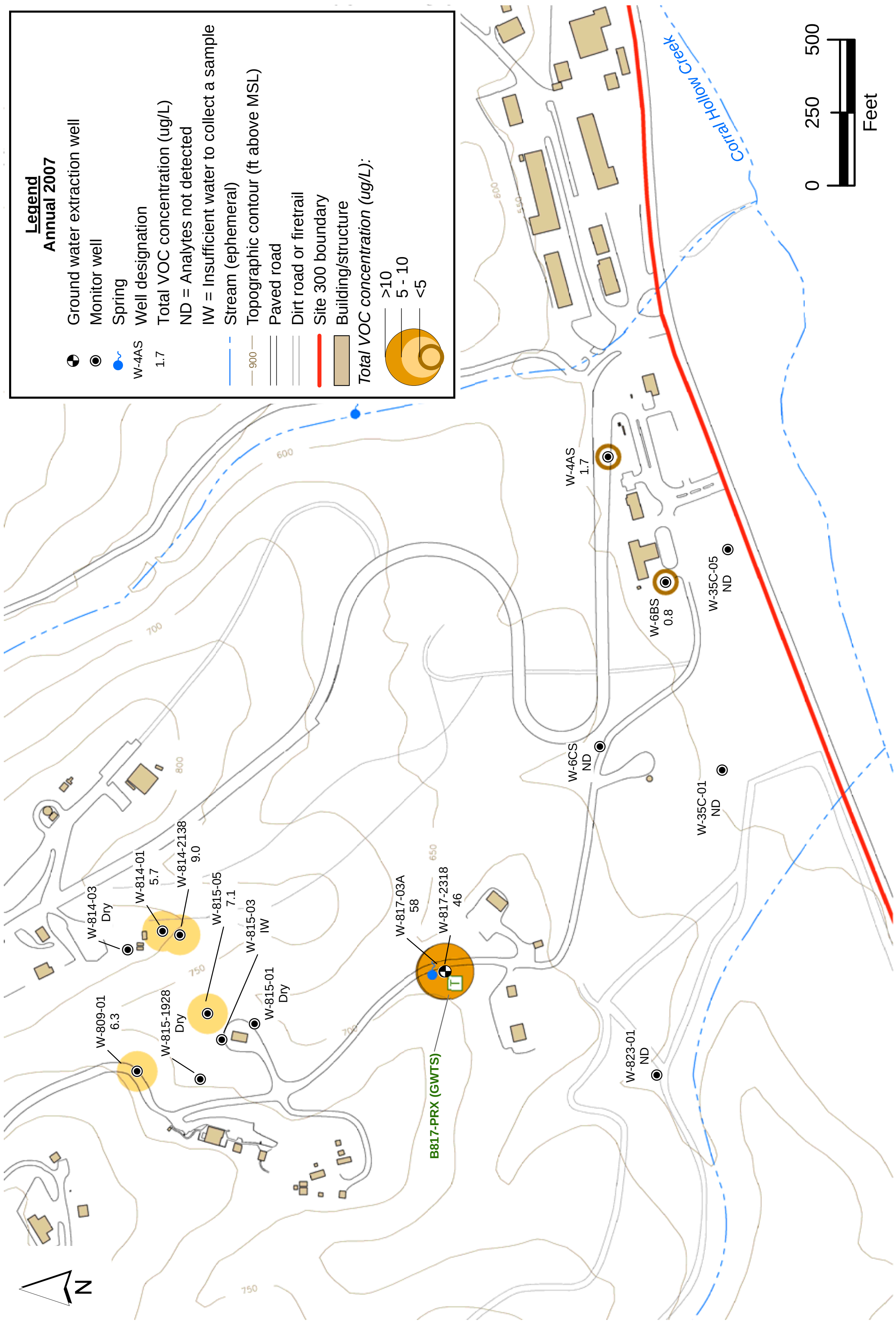


Figure 2.4-3. High Explosives Process Area OU map showing total VOC concentrations for the Tpsg HSU.

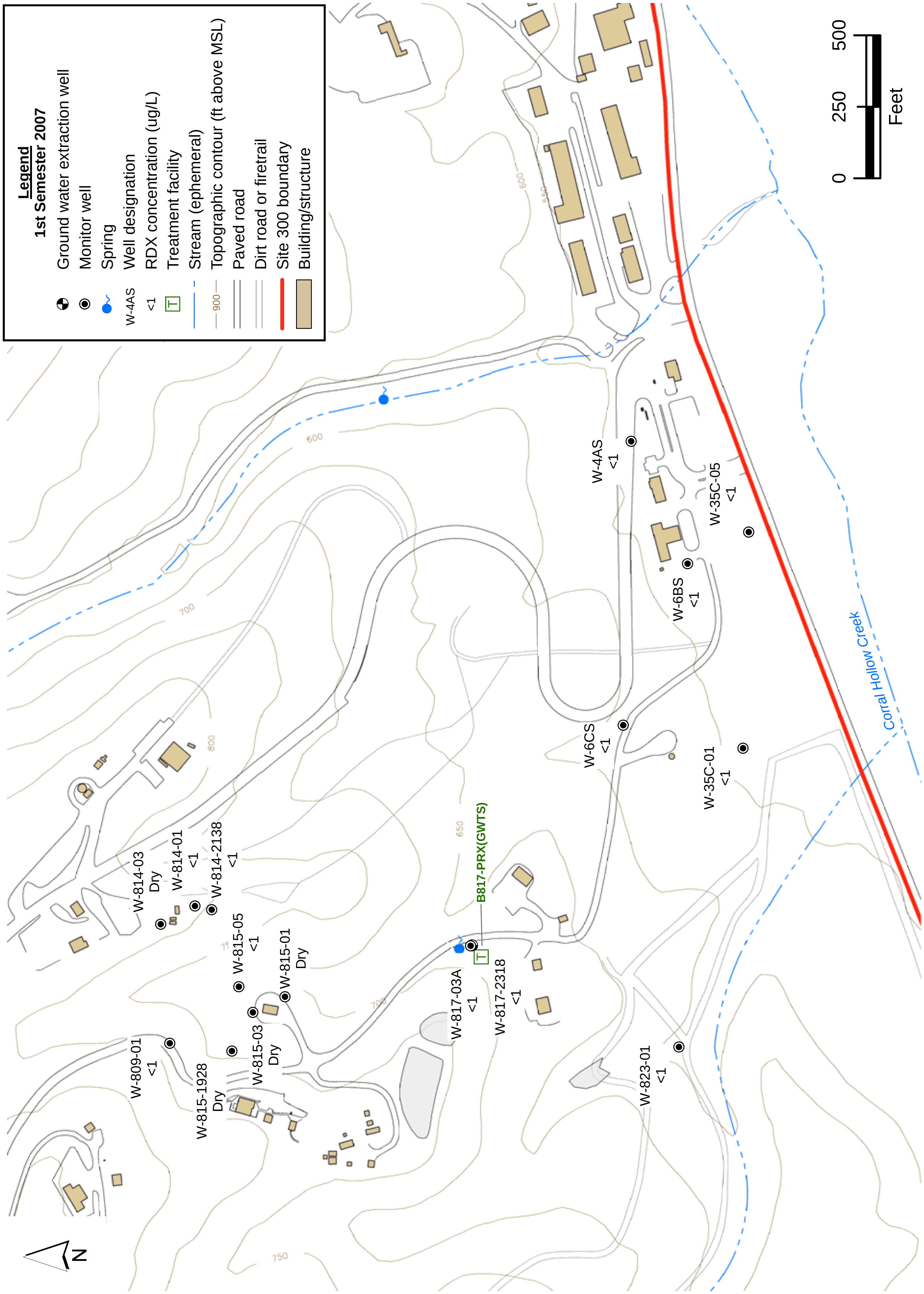
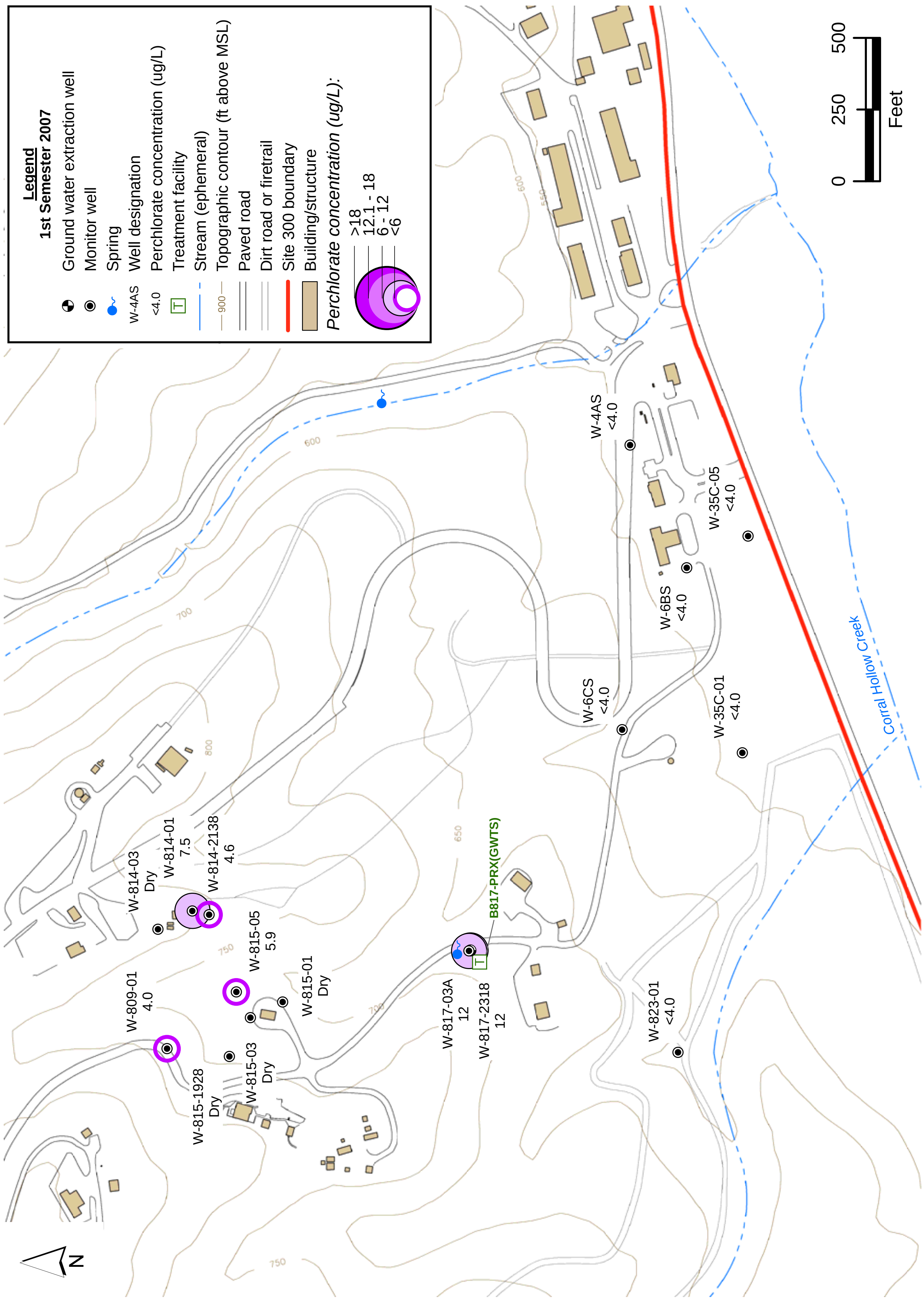


Figure 2.4-4. High Explosives Process Area map showing RDX concentrations for the Tpsg HSU.



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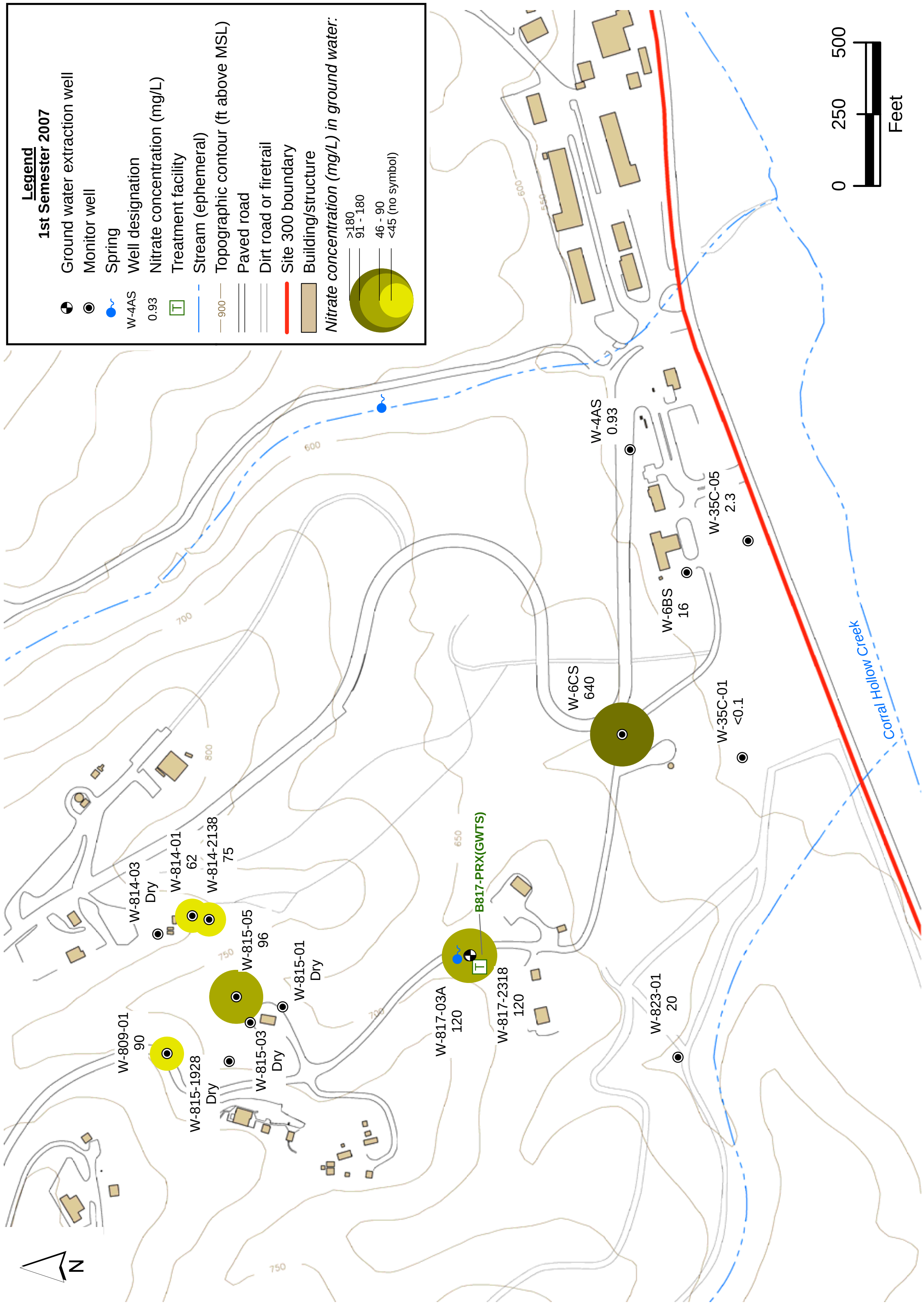

Figure 2.4-6. High Explosives Process Area map showing nitrate concentrations for the Tpsg HSU.

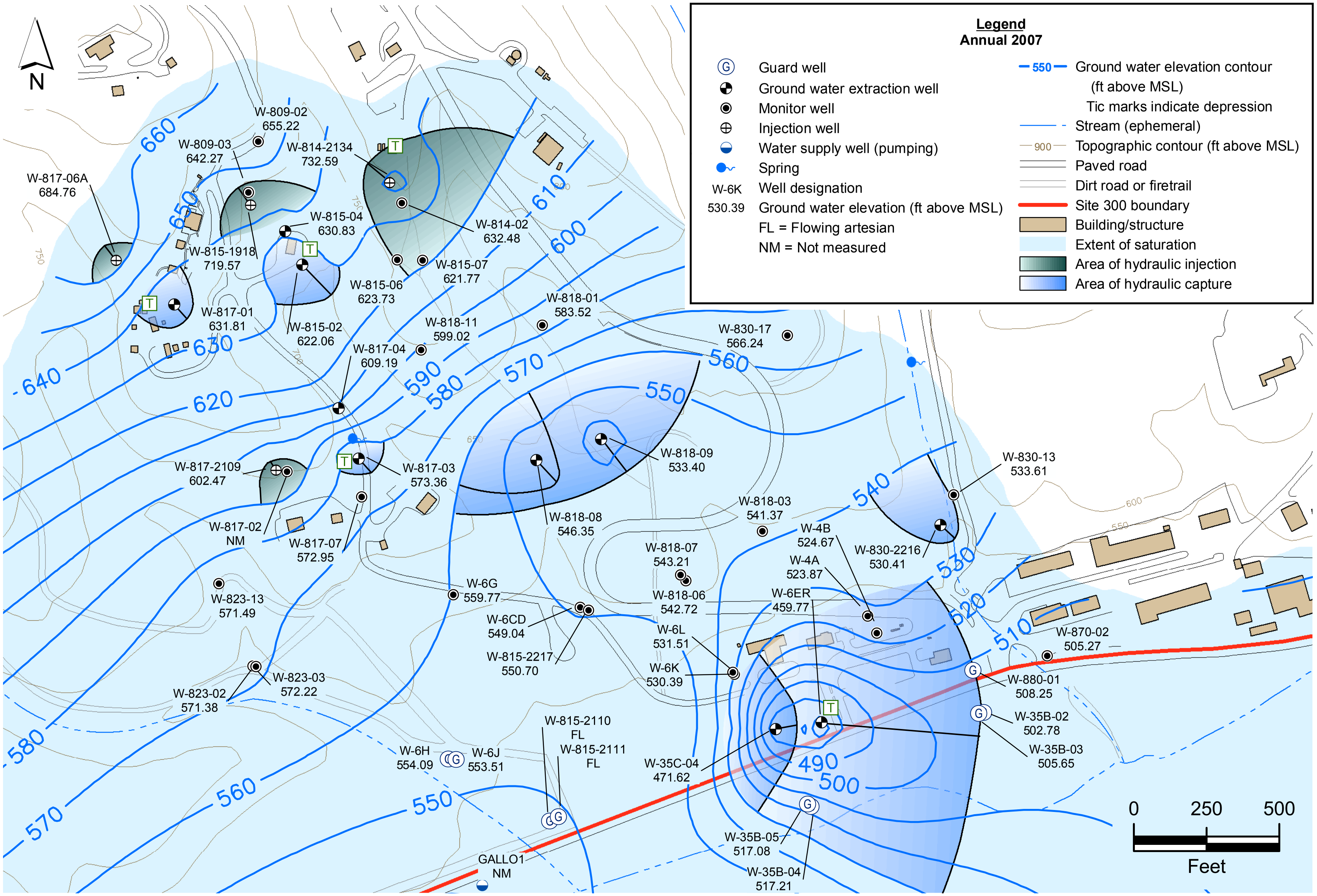

Figure 2.4-7. High Explosives Process Area OU ground water potentiometric surface map for the $Tnbs_2$ HSU.

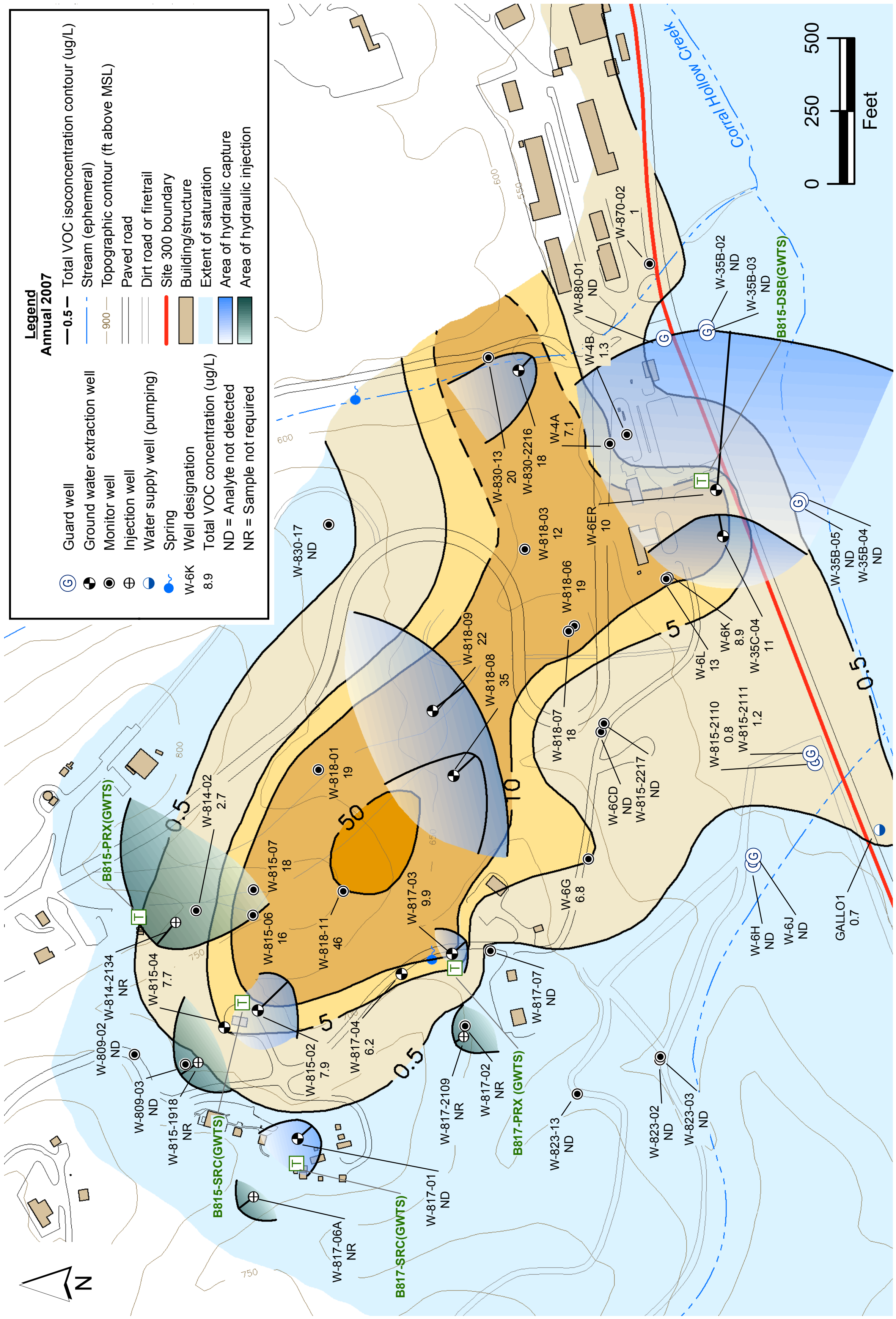

Figure 2.4-8. High Explosives Process Area OU total VOC isoconcentration contour map for the Tnbs$_2$ HSU.

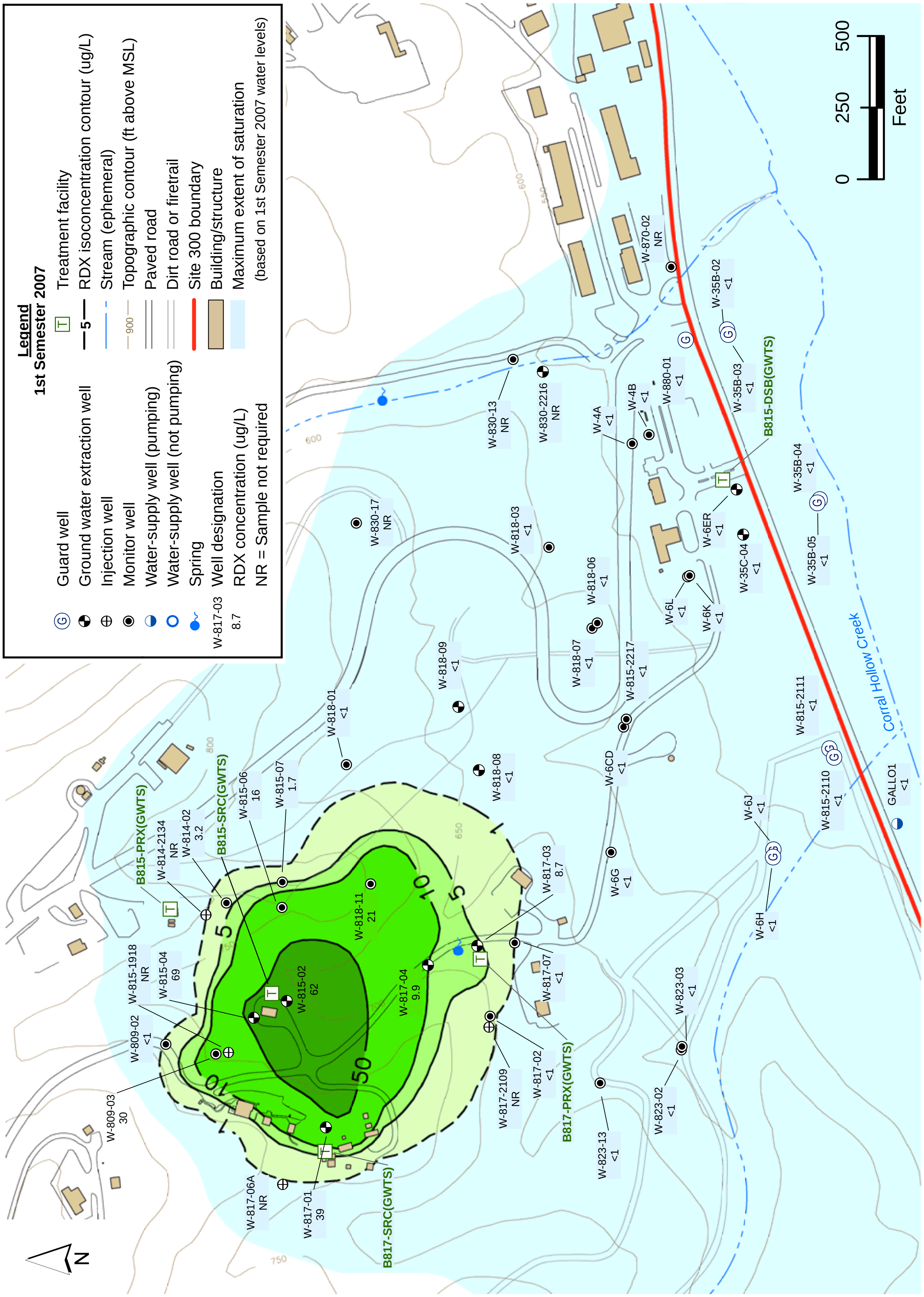

Figure 2.4-9. High Explosives Process Area RDX isoconcentration contour map for the Tnbs$_2$ HSU.

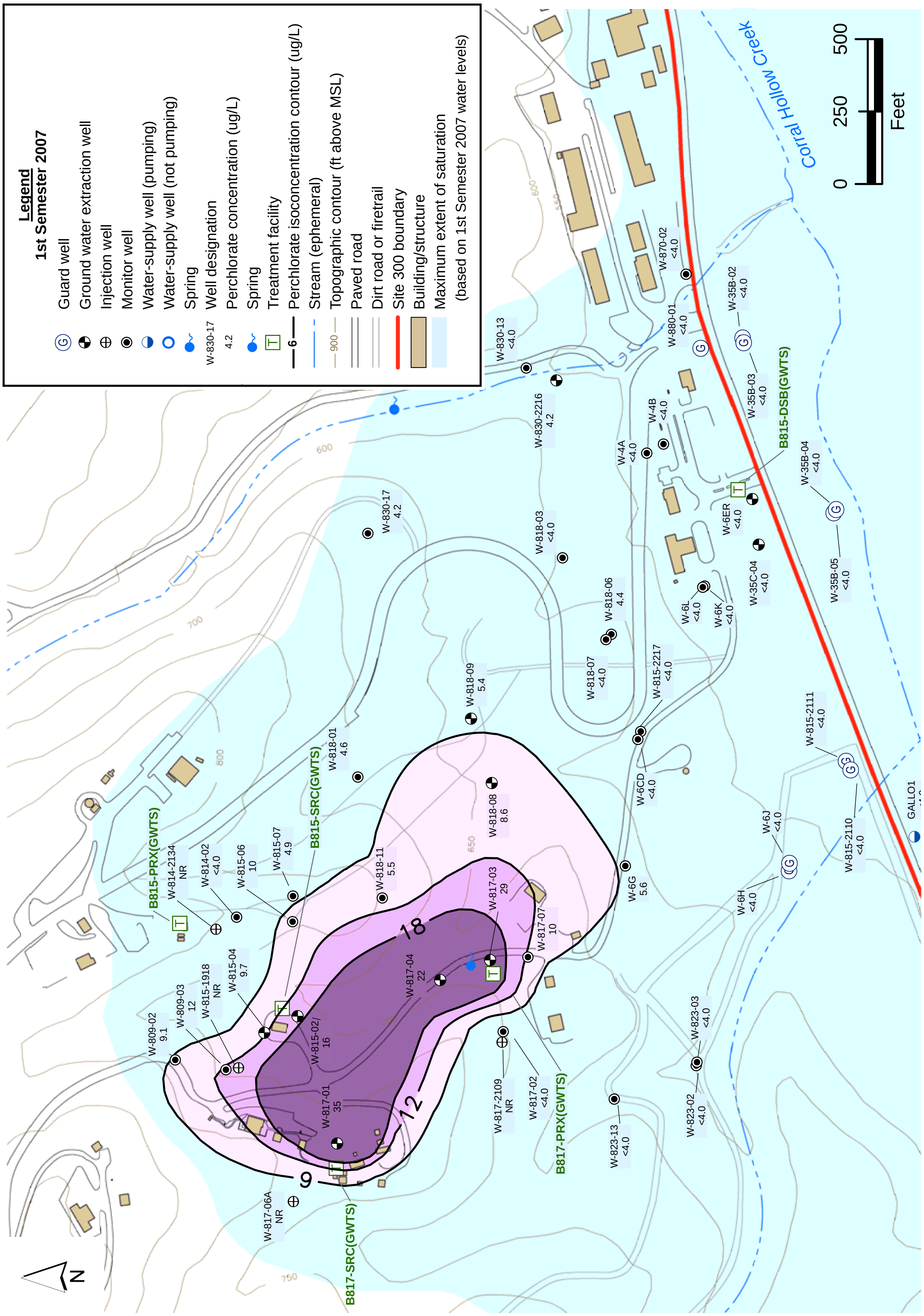

Figure 2.4-10. High Explosives Process Area perchlorate isoconcentration contour map for the Tnbs$_2$ HSU.

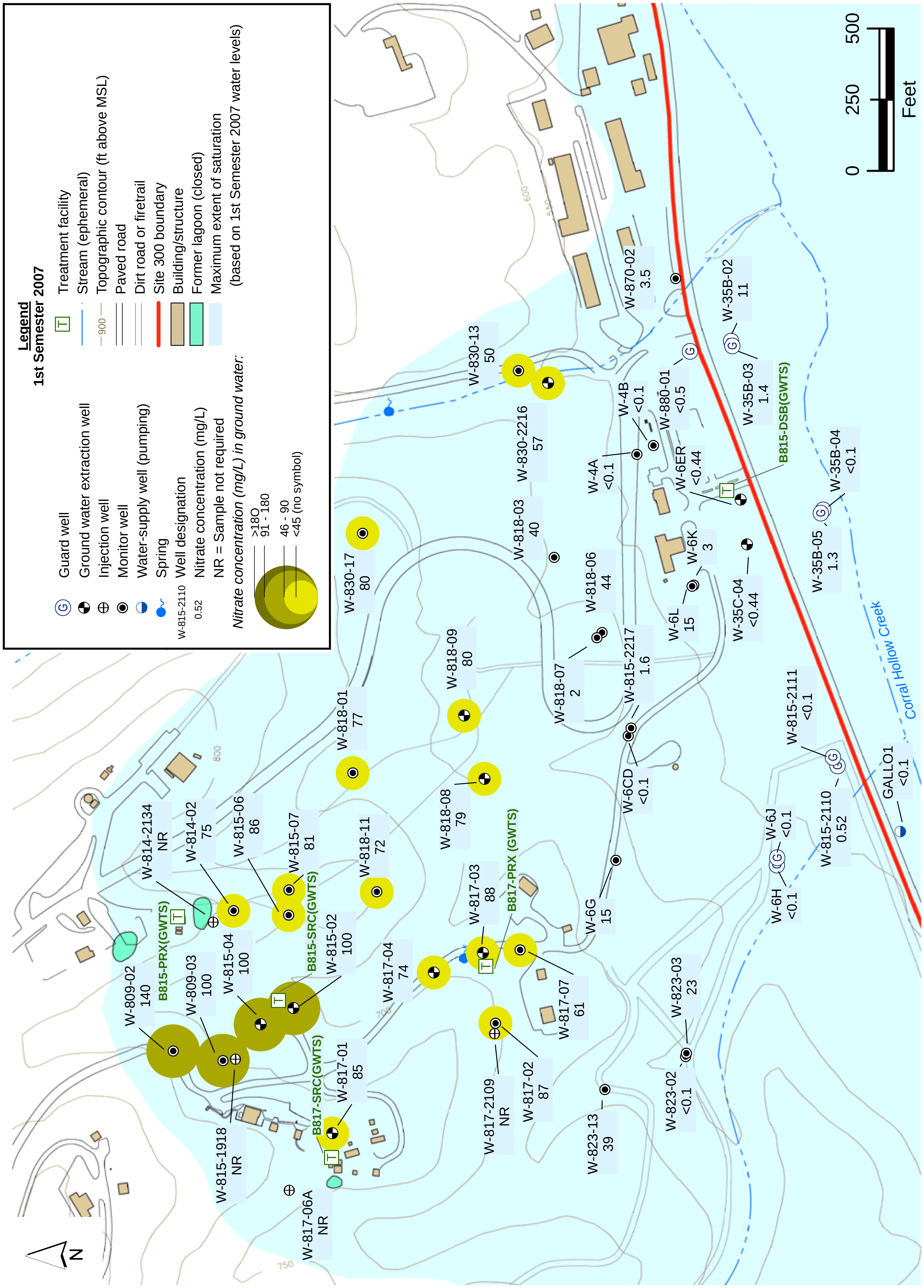

Figure 2.4-11. High Explosives Process Area map showing nitrate concentrations for the Tnbs$_2$ HSU.

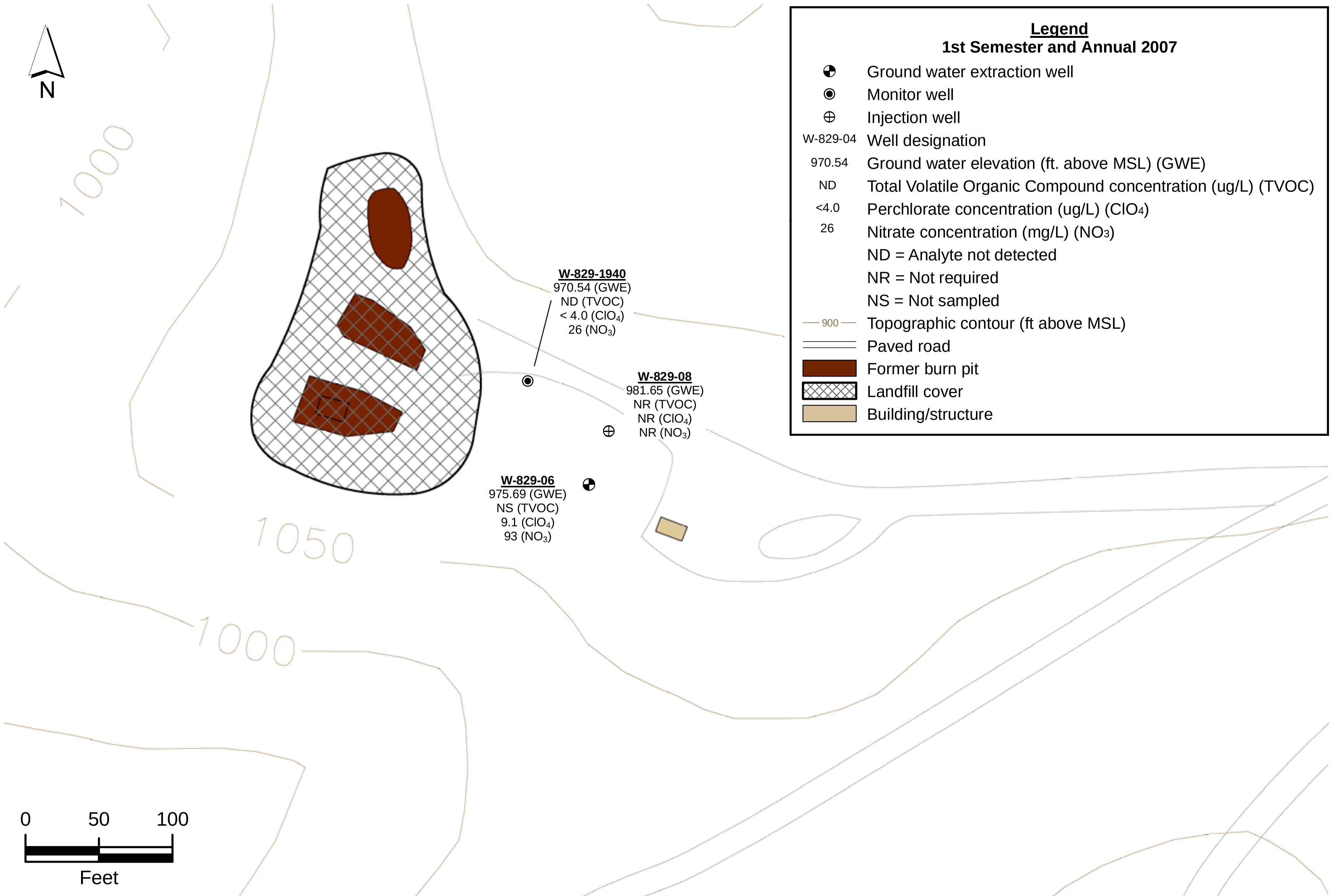

Figure 2.4-12. Building 829 burn pit map showing monitor, extraction and injection wells; ground water elevations; and total VOC, perchlorate, and nitrate concentrations for the Tnsc$_{1b}$ HSU.

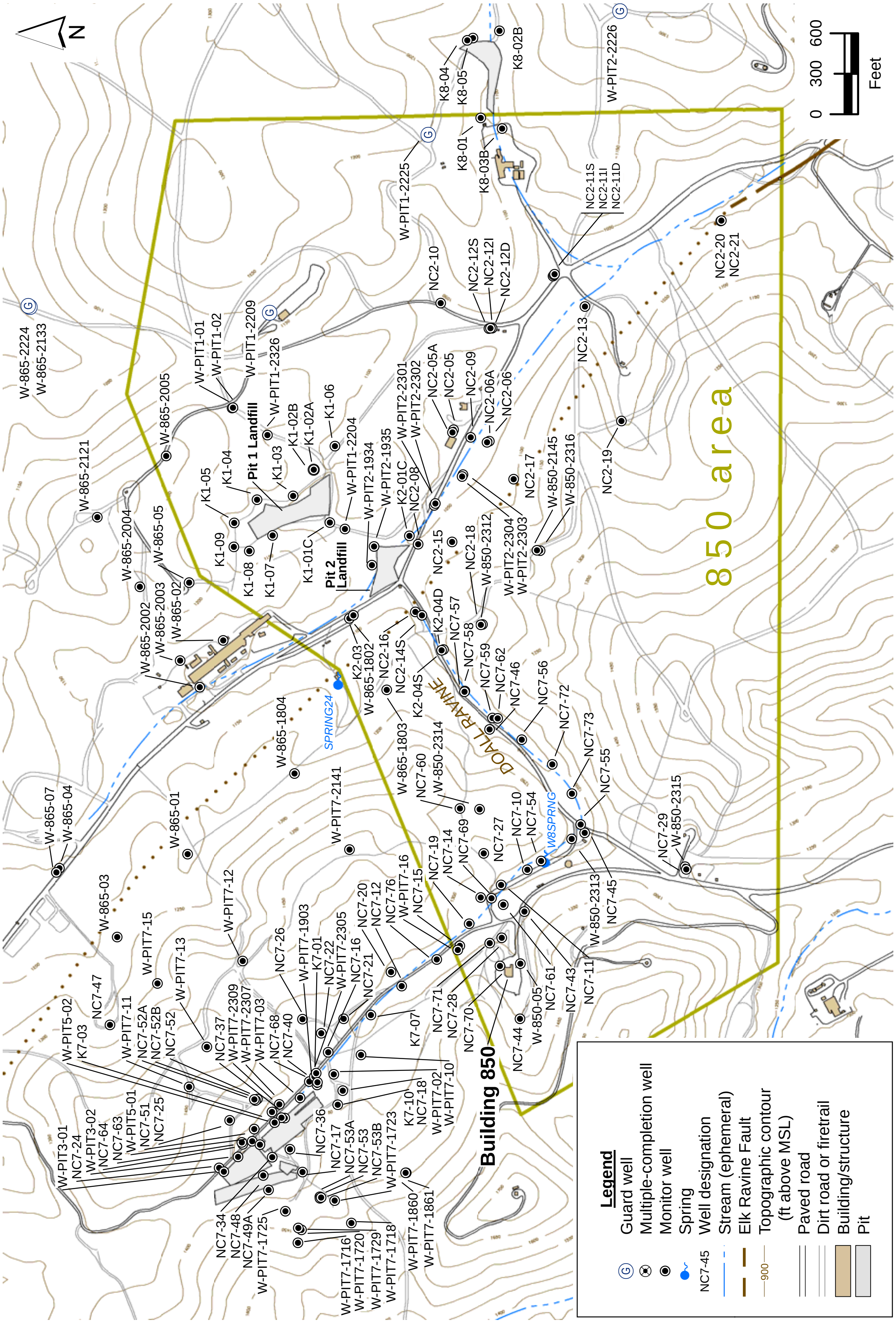

Figure 2.5-1. Building 850 area site map showing monitor wells and springs.

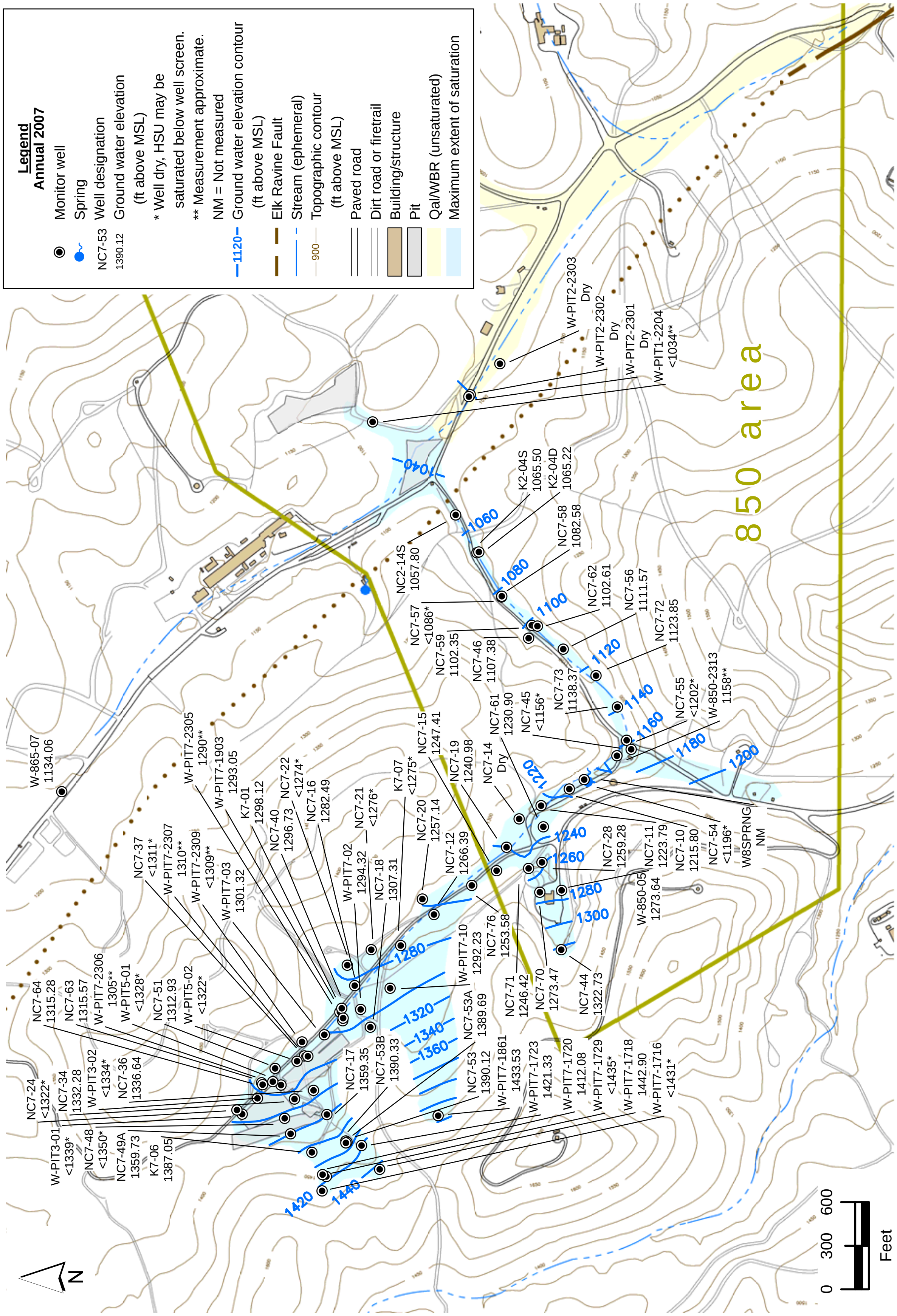

Figure 2.5-2. Building 850 area ground water potentiometric surface map for the Qal/WBR HSU.

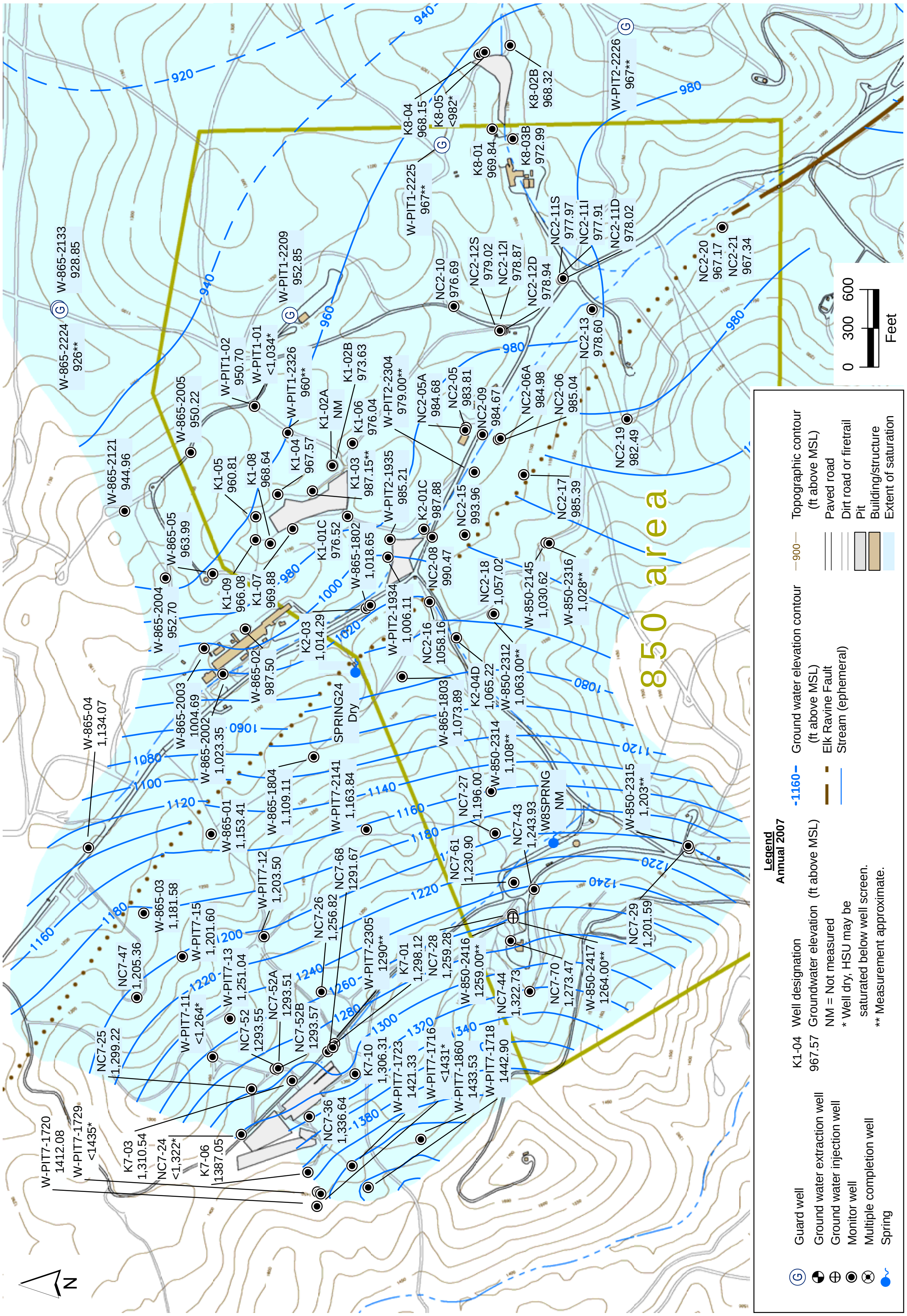

Figure 2.5-3. Building 850 area ground water potentiometric surface map for the $Tnbs_1/Tnbs_0$ HSU.

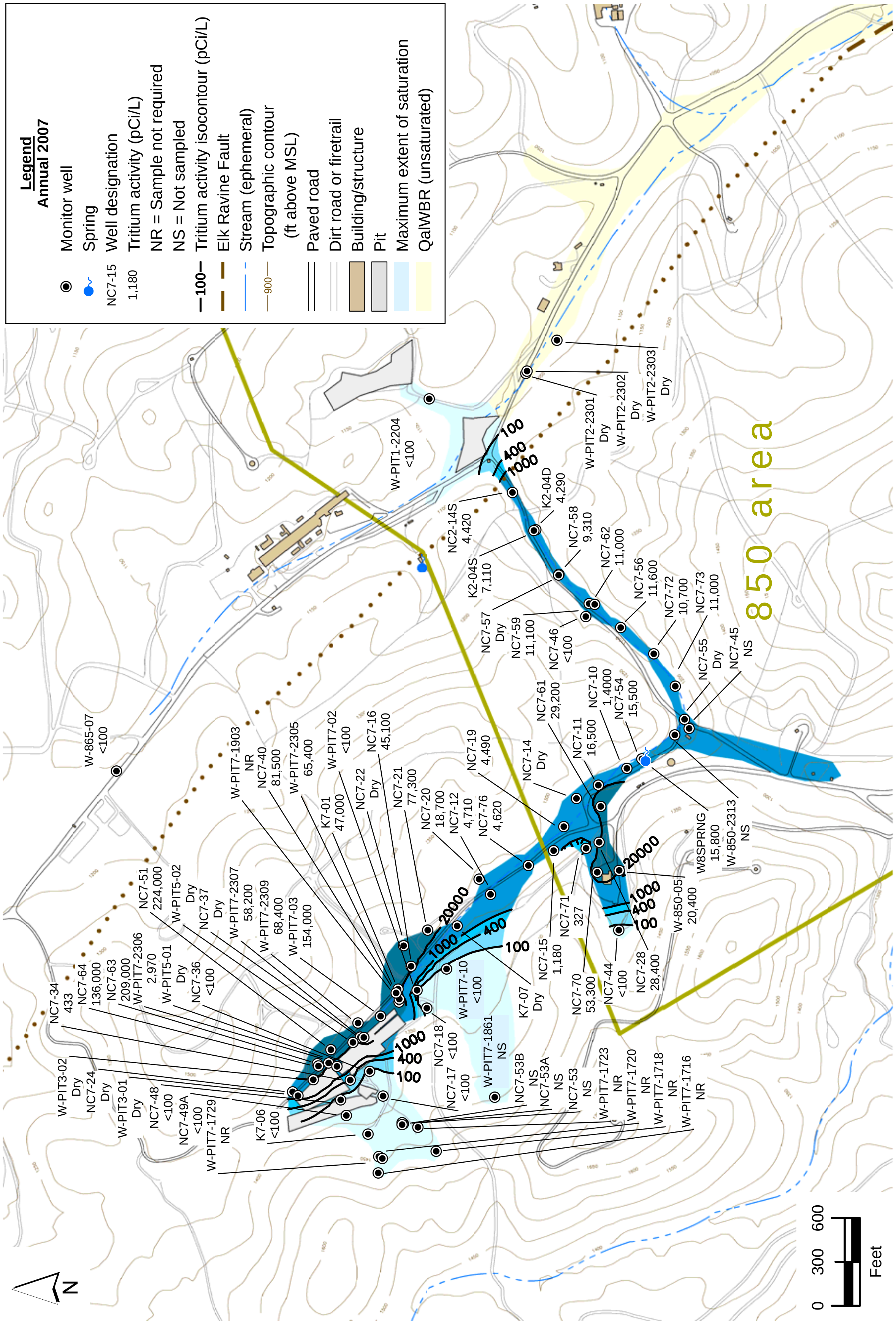

Figure 2.5-4. Building 850 area tritium activity isocontour map for the Qal/WBR HSU.

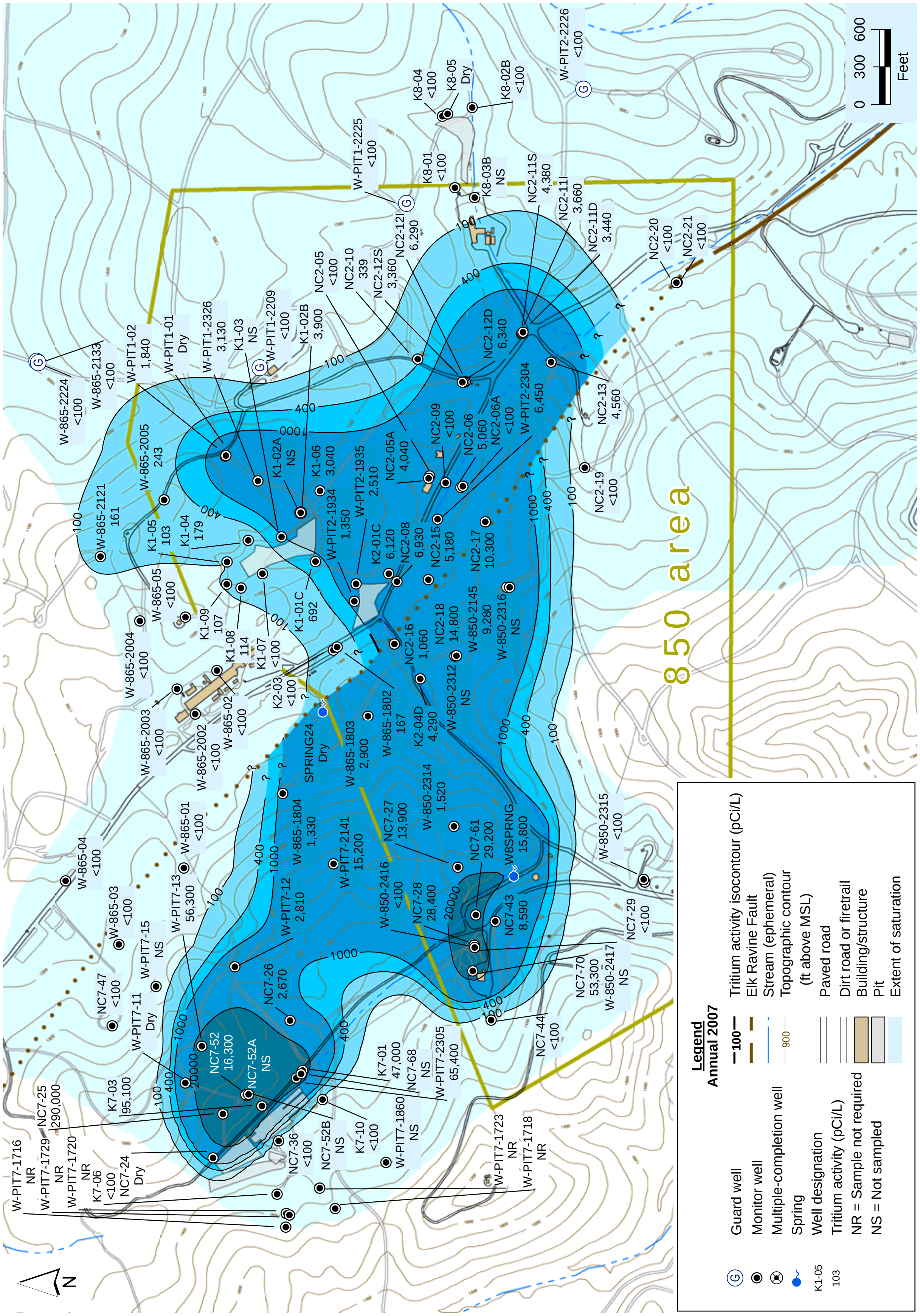

Figure 2.5-5. Building 850 area tritium activity isocontour map for the $Tnbs_1/Tnbs_0$ HSU.

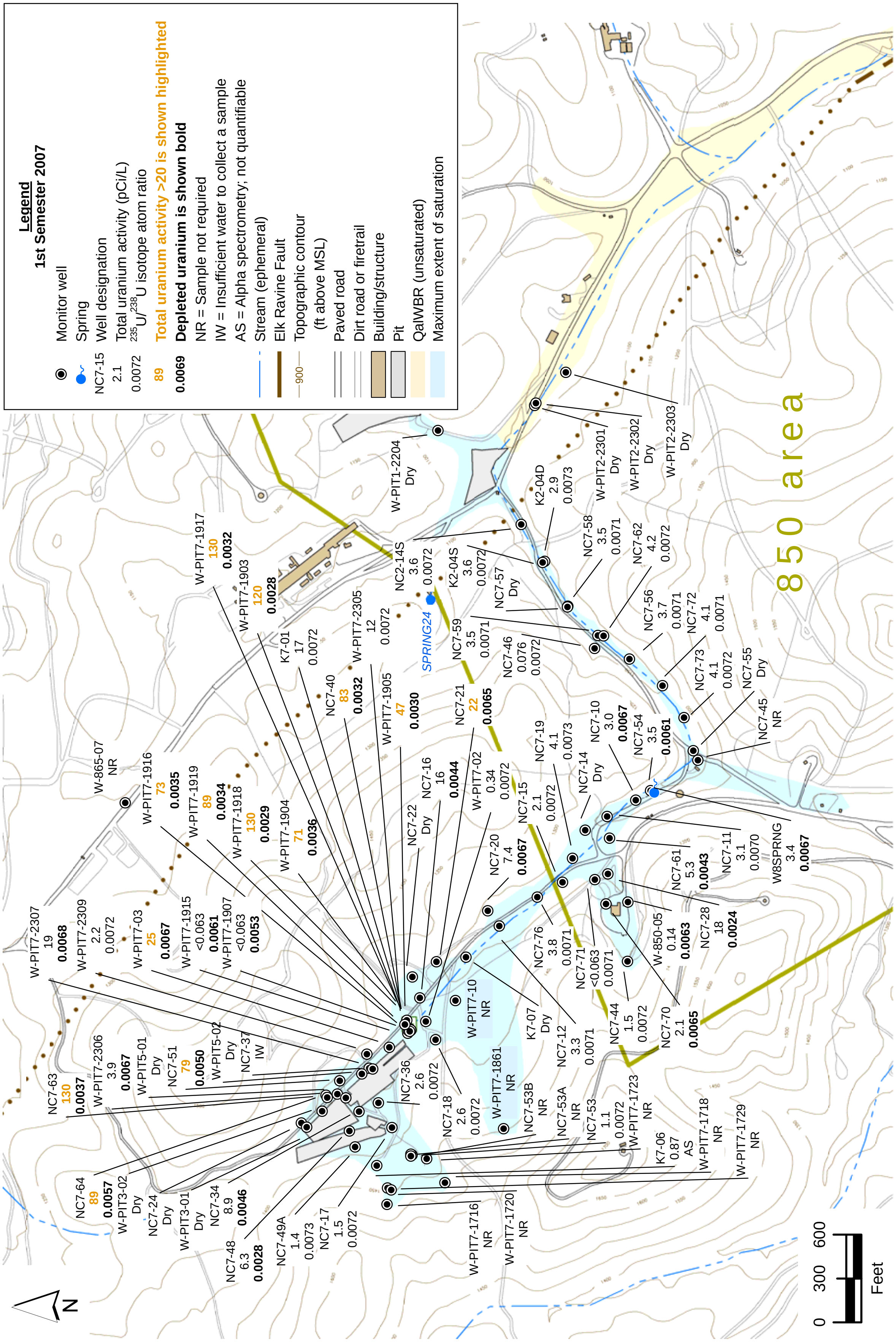

Figure 2.5-6. Building 850 area map showing ground water uranium activities and $^{235}U/^{238}U$ isotope atom ratios for the Qal/WBR HSU.

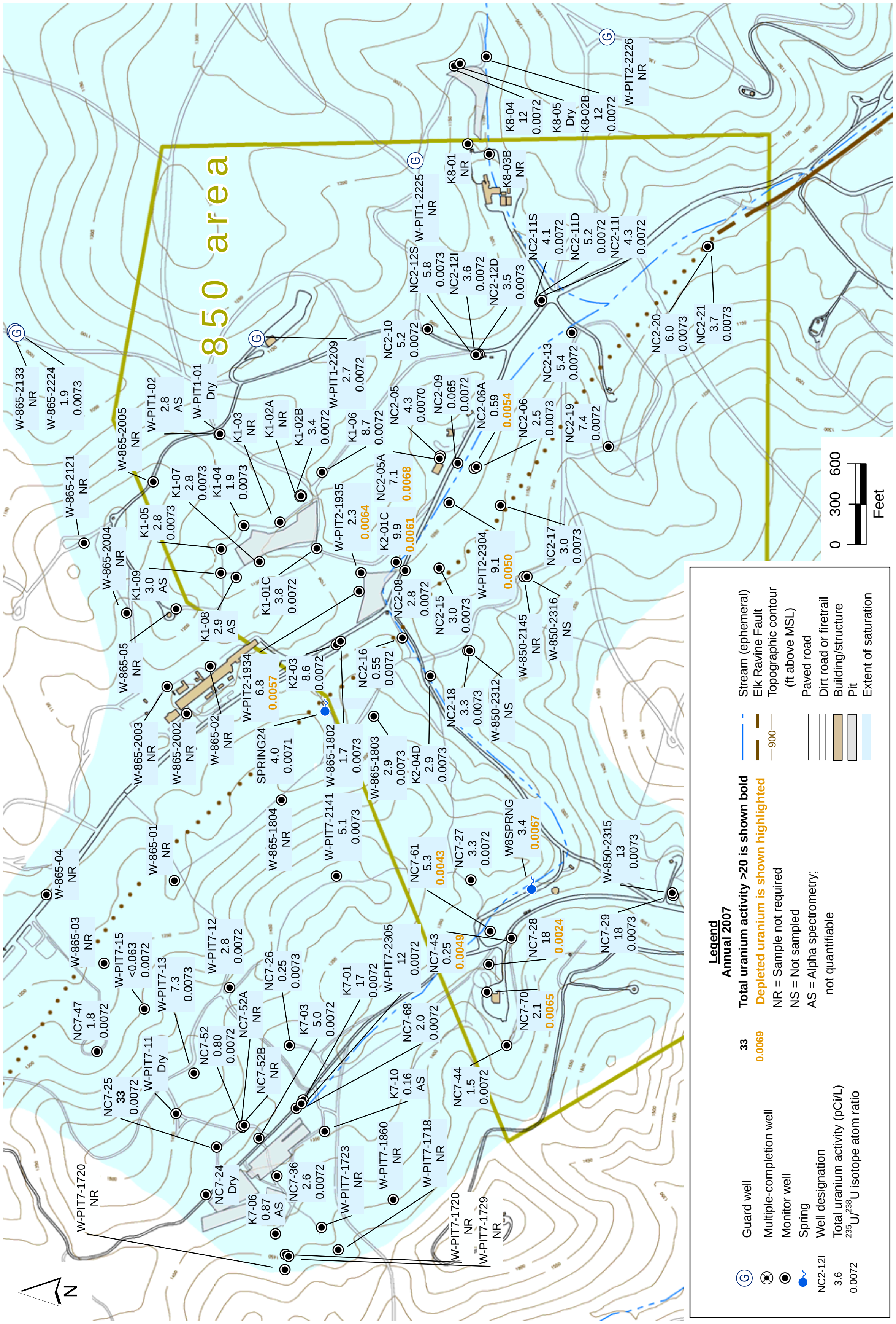

Figure 2.5-7. Building 850 area map showing ground water uranium activities and $^{235}U/^{238}U$ isotope atom ratios for the $Tnbs_1/Tnbs_0$ HSU.

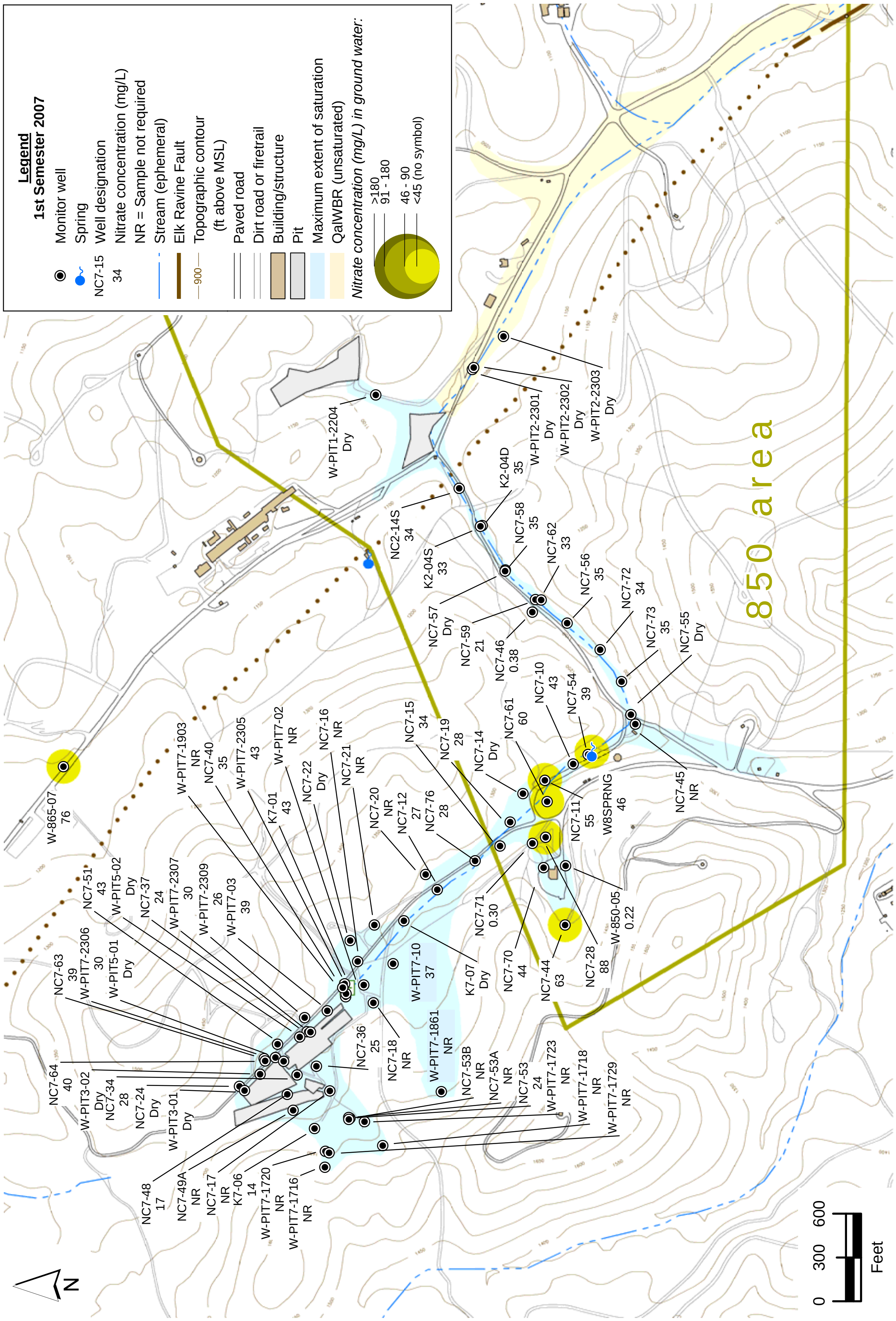

Figure 2.5-8. Building 850 area map showing nitrate concentrations map for the Qal/WBR HSU.

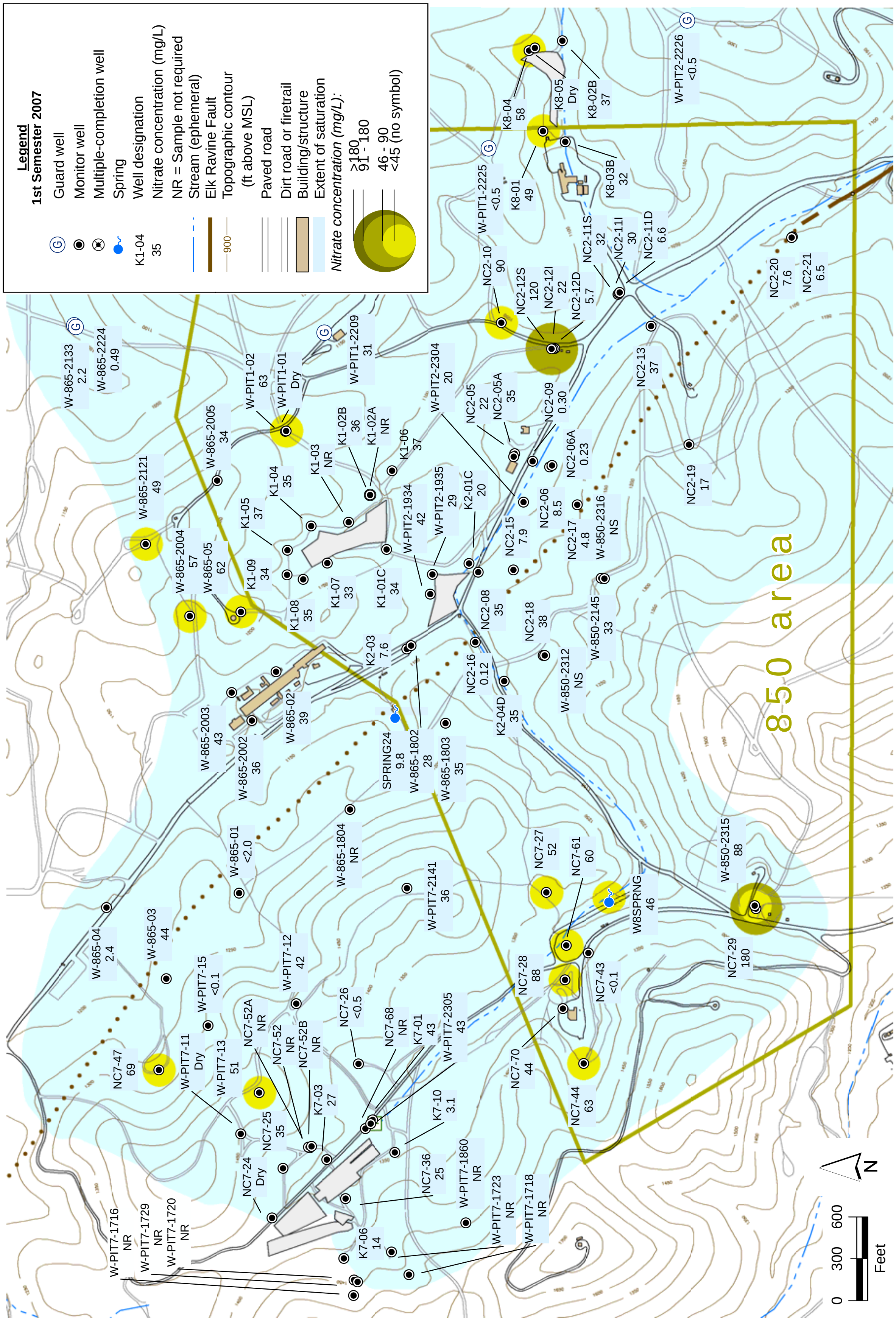

Figure 2.5-9. Building 850 area map showing nitrate concentrations for the Tnbs$_1$/Tnbs$_0$ HSU.

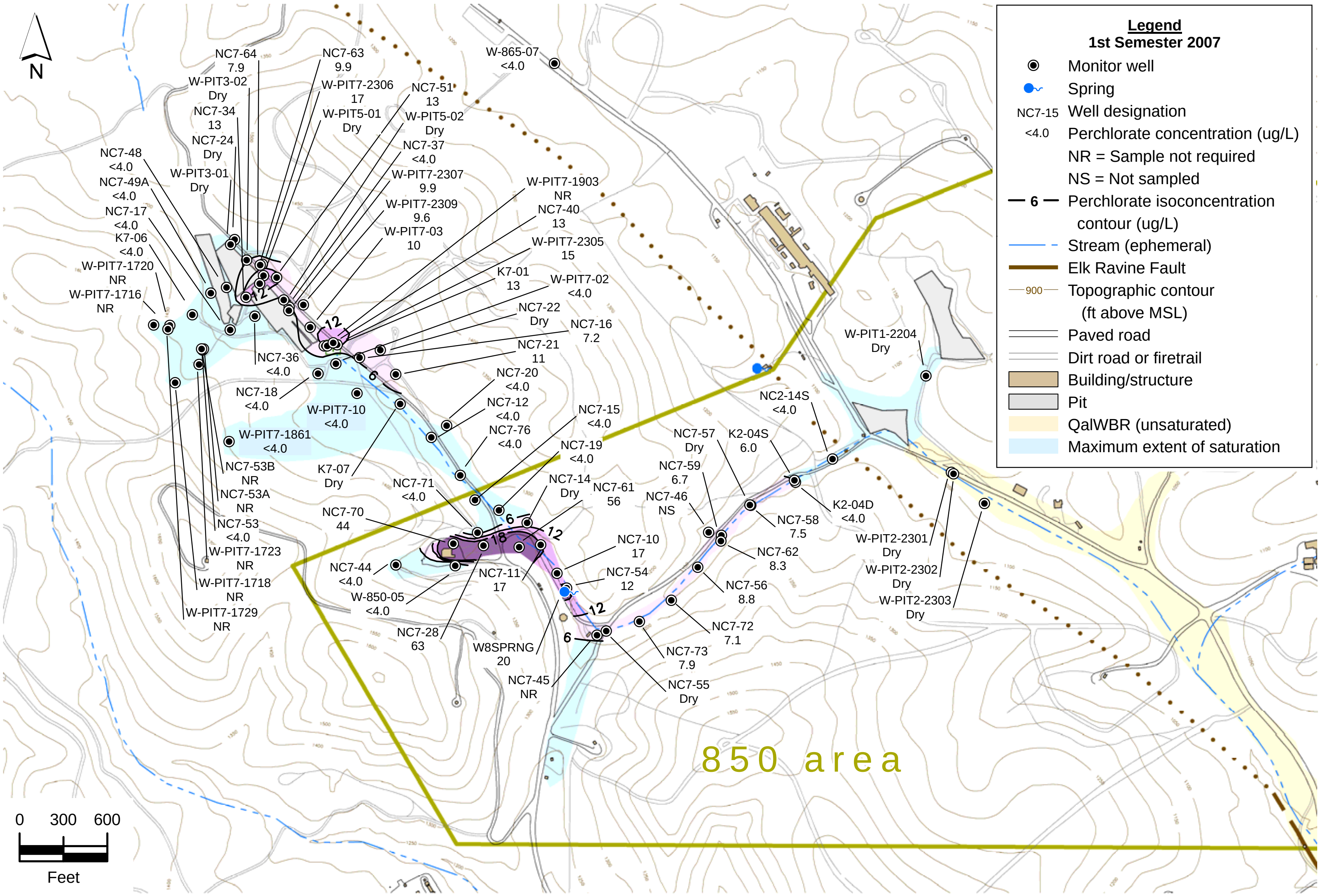

Figure 2.5-10. Building 850 area perchlorate isoconcentration contour map for the Qal/WBR HSU.

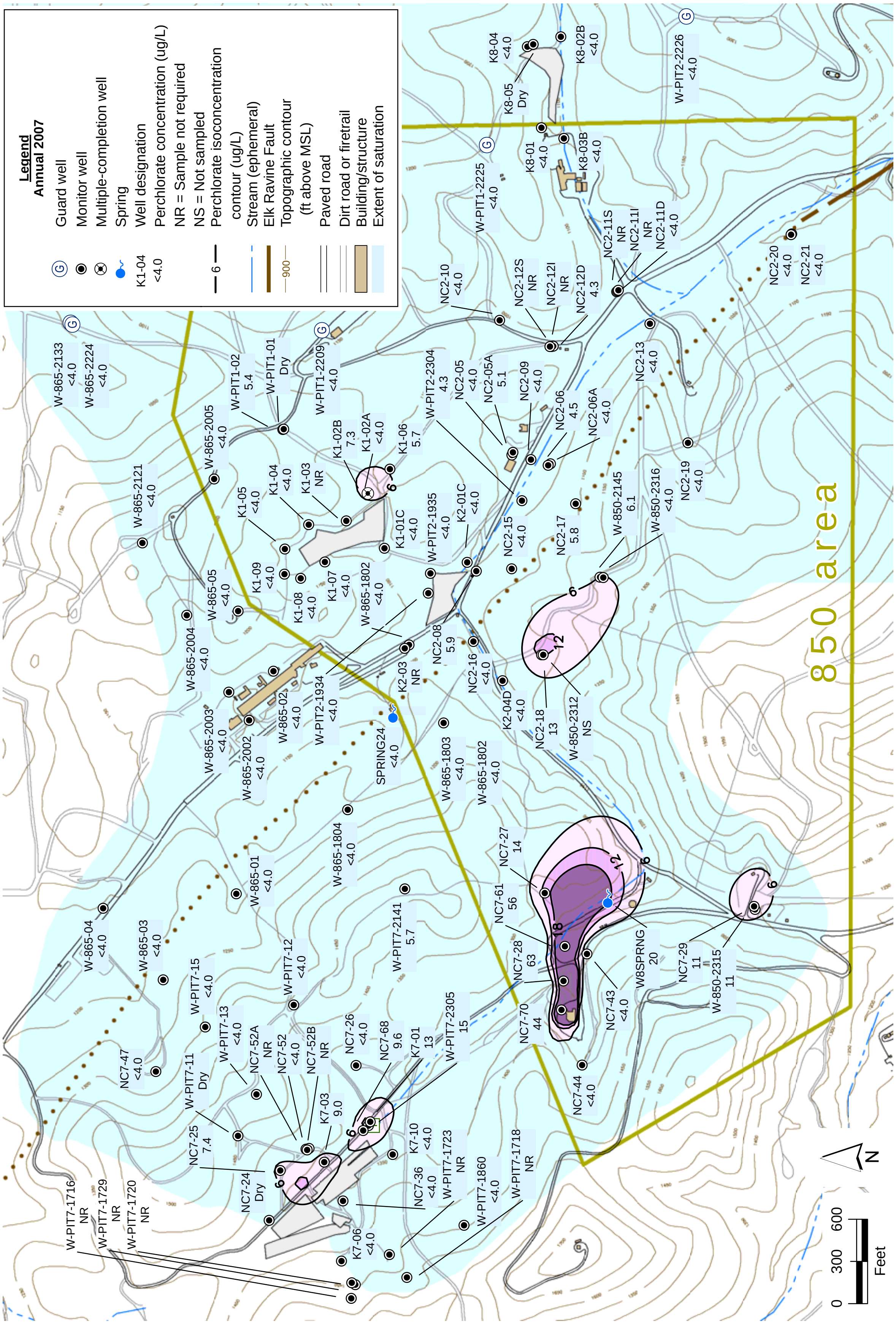

Figure 2.5-11. Building 850 area perchlorate isoconcentration contour map for the $Tnbs_1/Tnbs_0$ HSU.

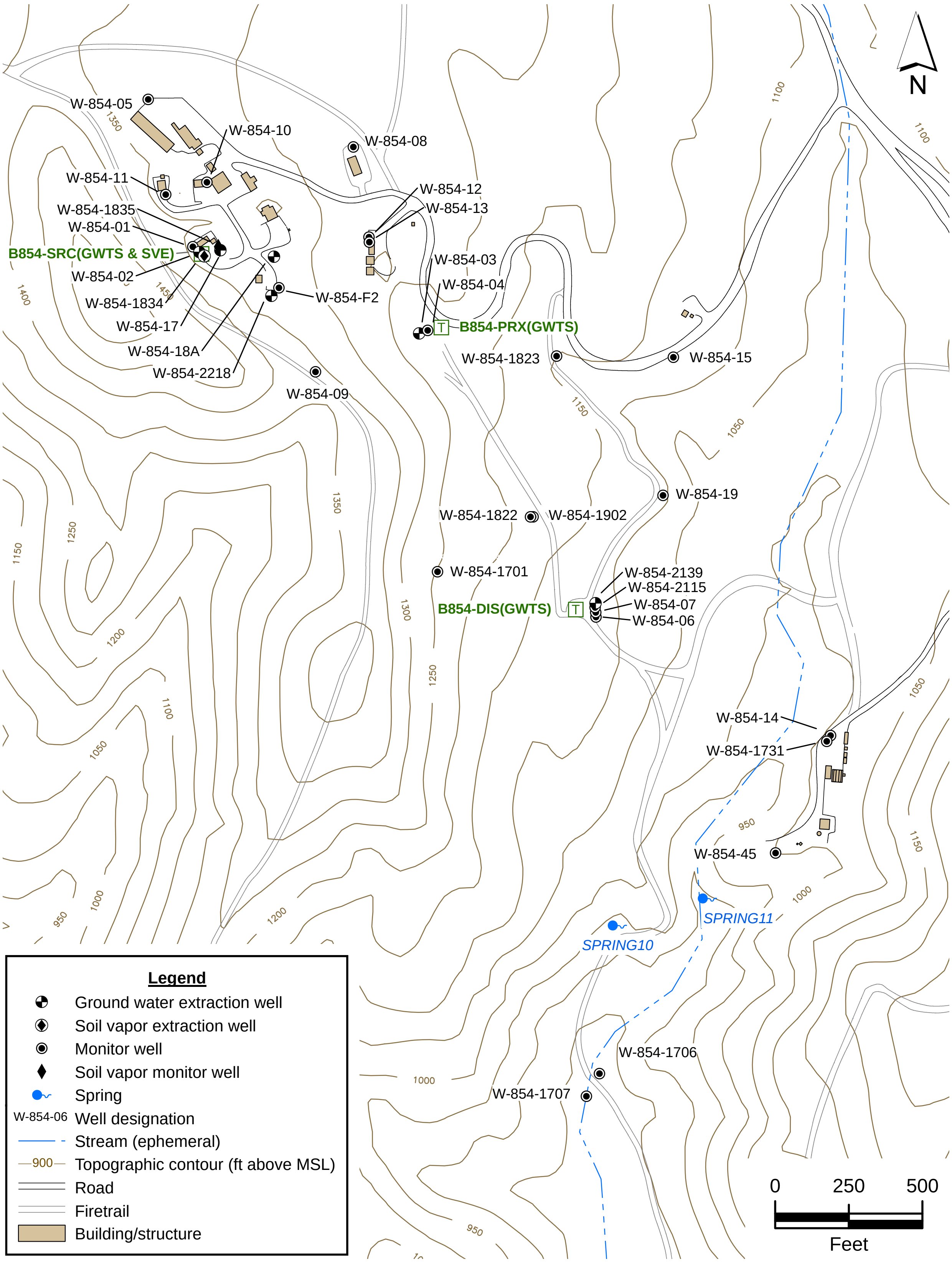

Figure 2.6-1. Building 854 OU site map showing monitor and extraction wells, and treatment facilities.

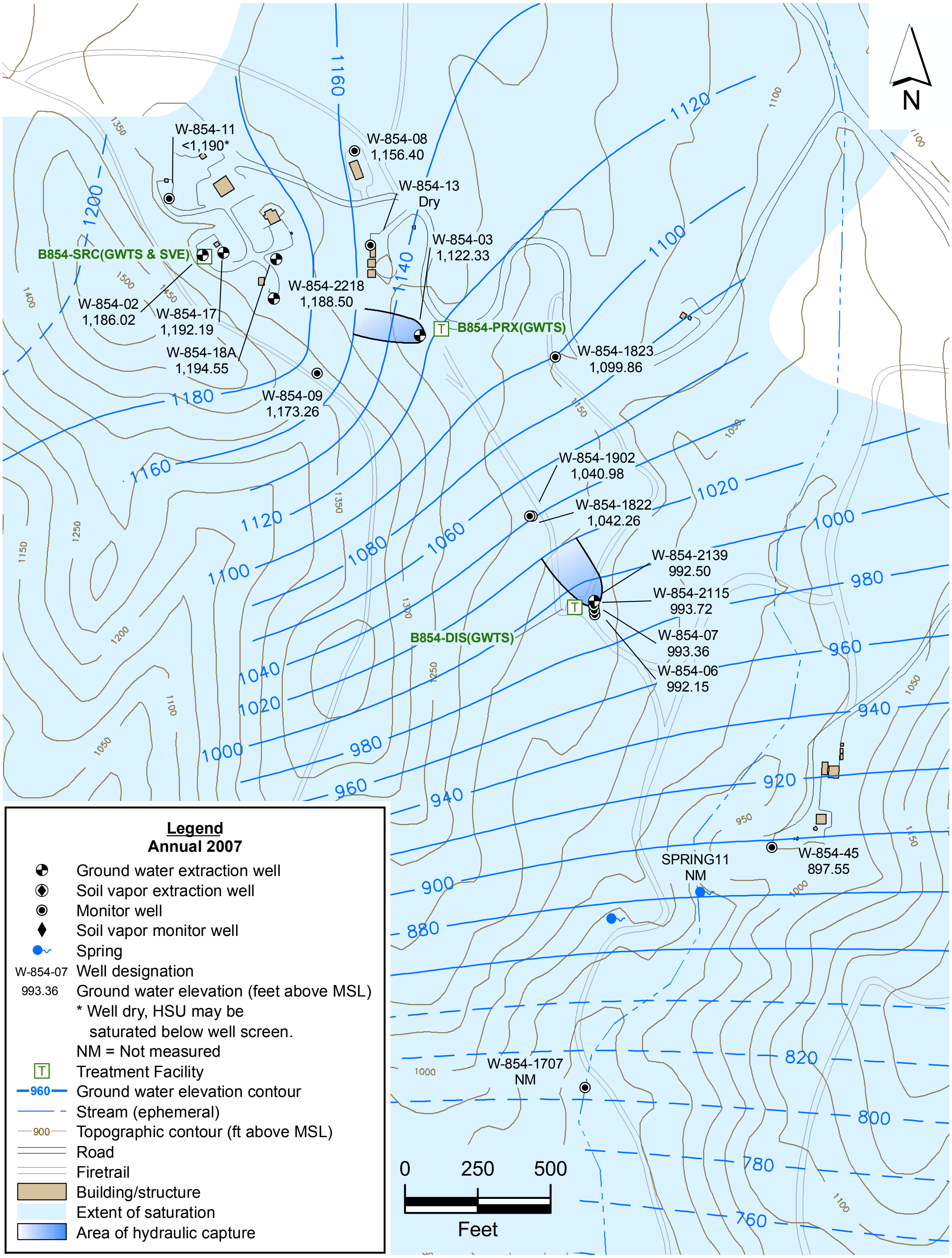

Figure 2.6-2. Building 854 OU ground water potentiometric surface map for the $Tnbs_1/Tnsc_0$ HSU.

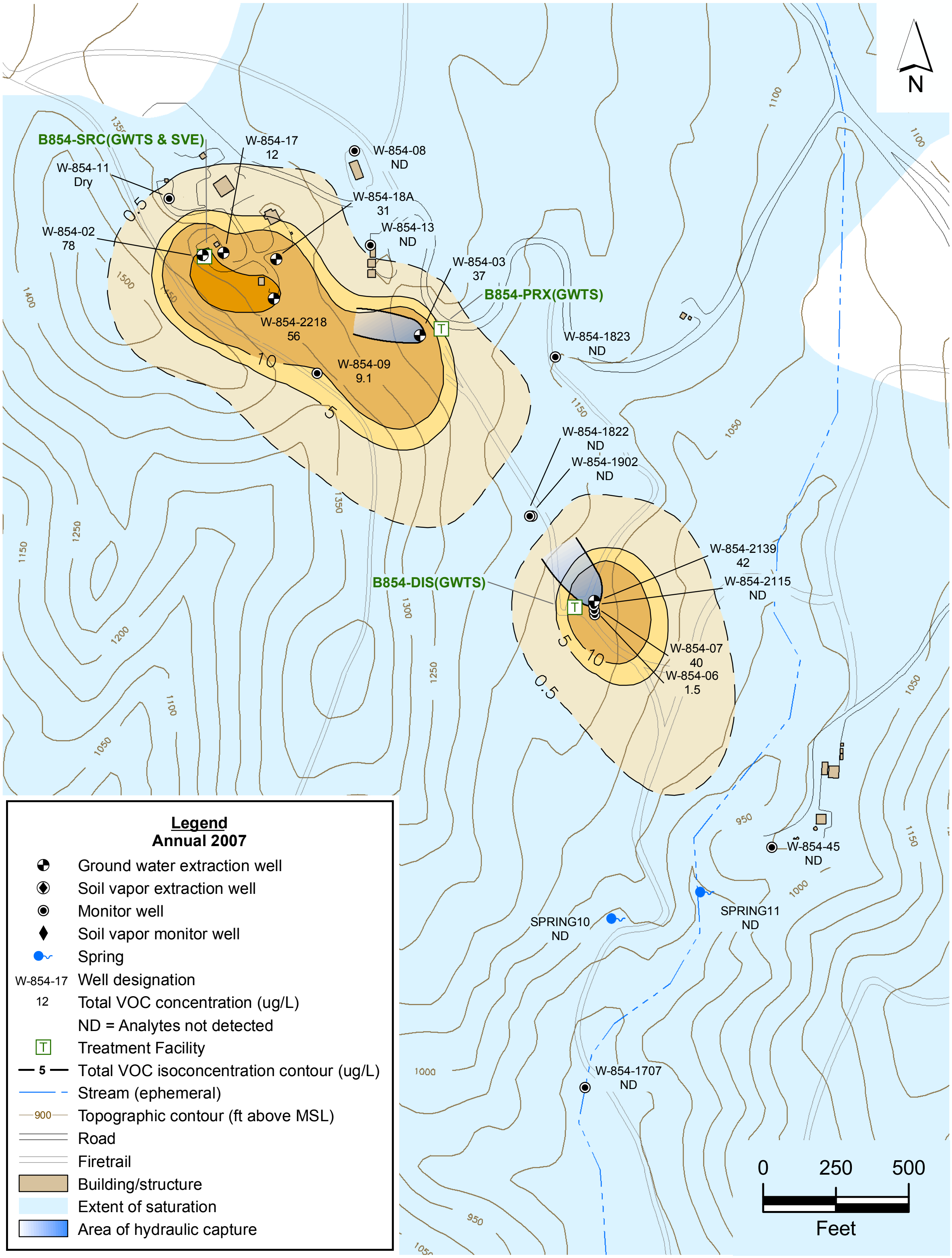

Figure 2.6-3. Building 854 OU total VOC isoconcentration contour map for the $Tnbs_1/Tnsc_0$ HSU.

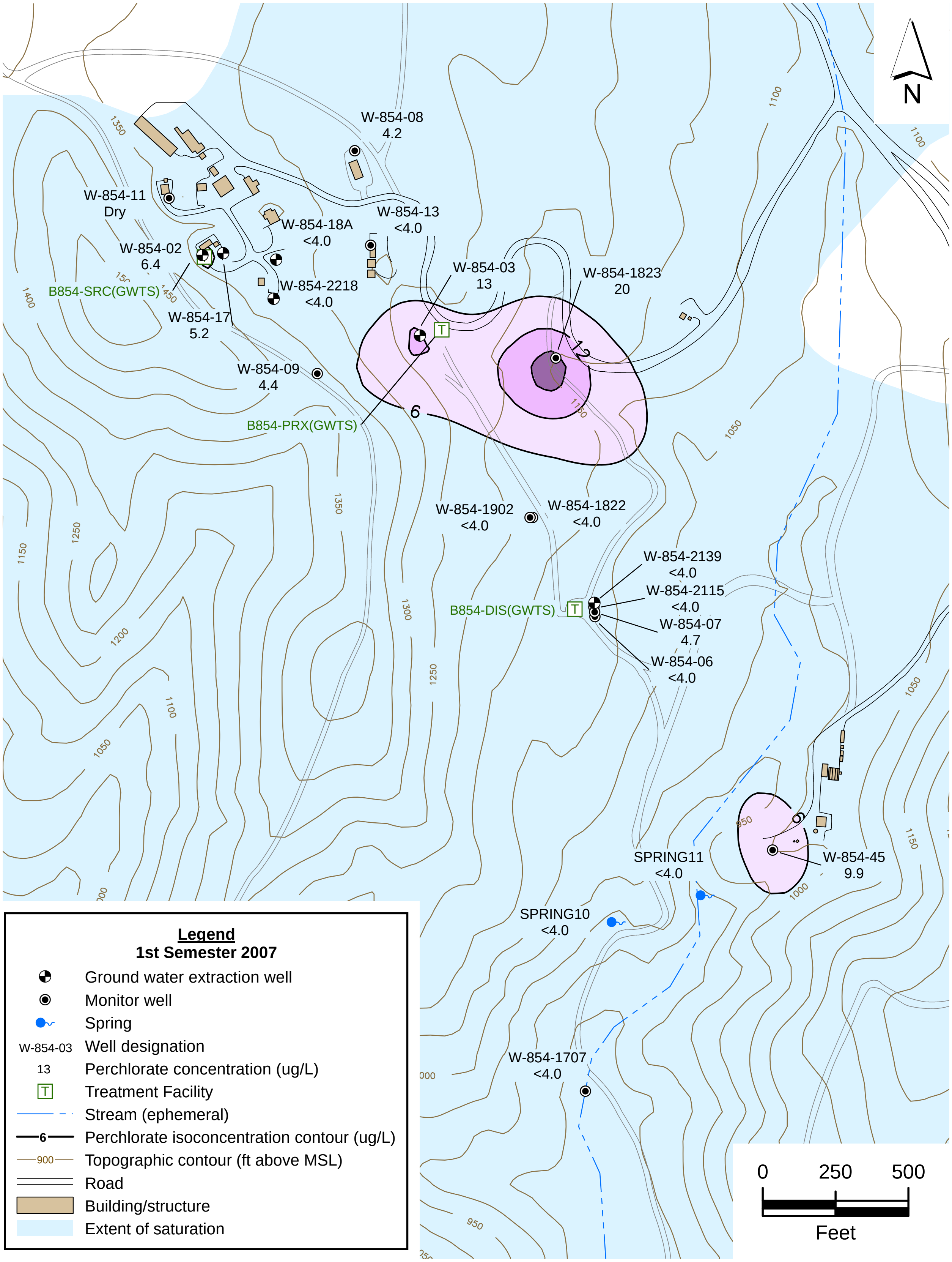

Figure 2.6-4. Building 854 OU perchlorate isoconcentration contour map for the $Tnbs_1/Tnsc_0$ HSU.

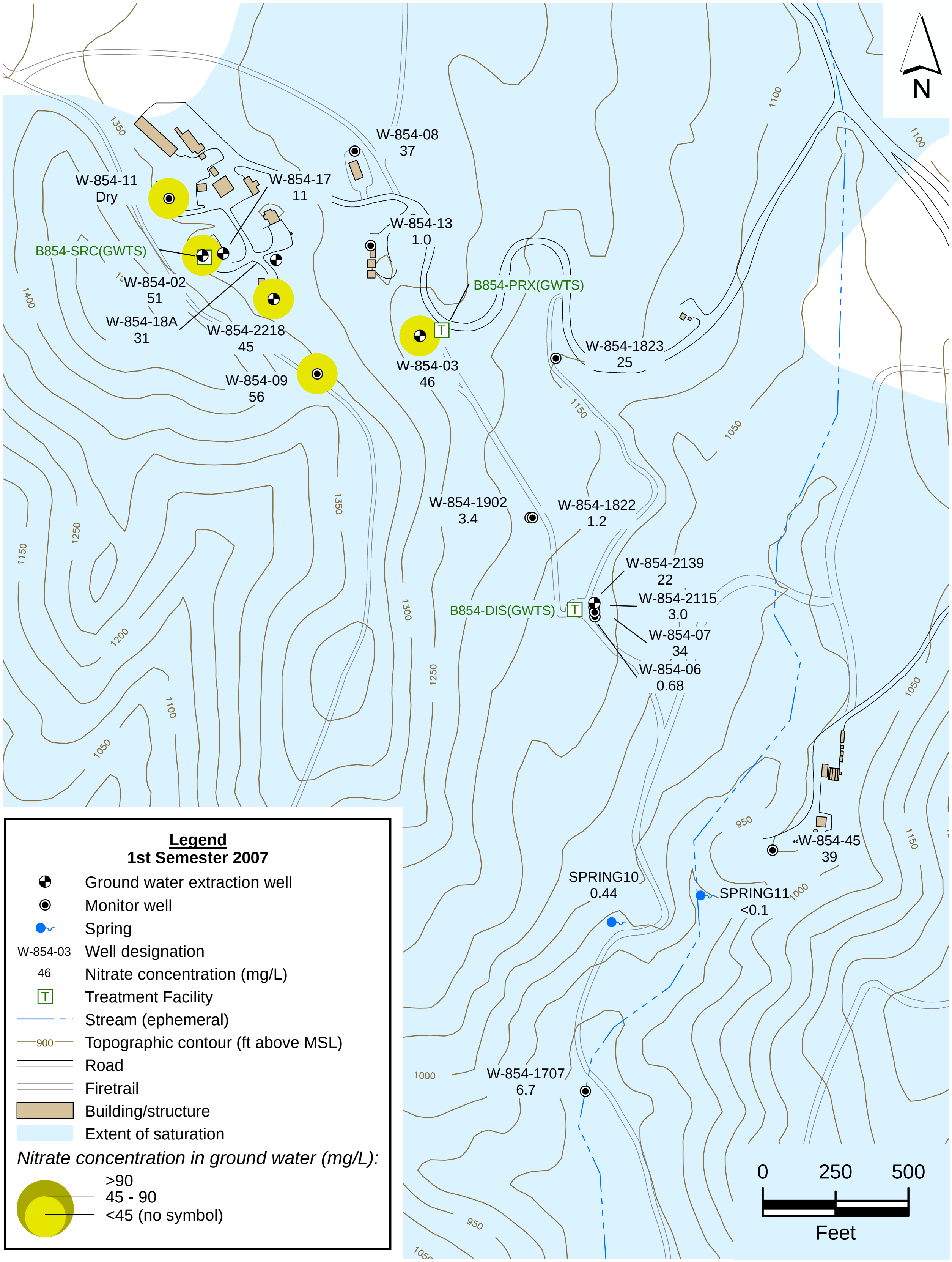

Figure 2.6-5. Building 854 OU map showing nitrate concentrations for the $Tnbs_1/Tnsc_0$ HSU.

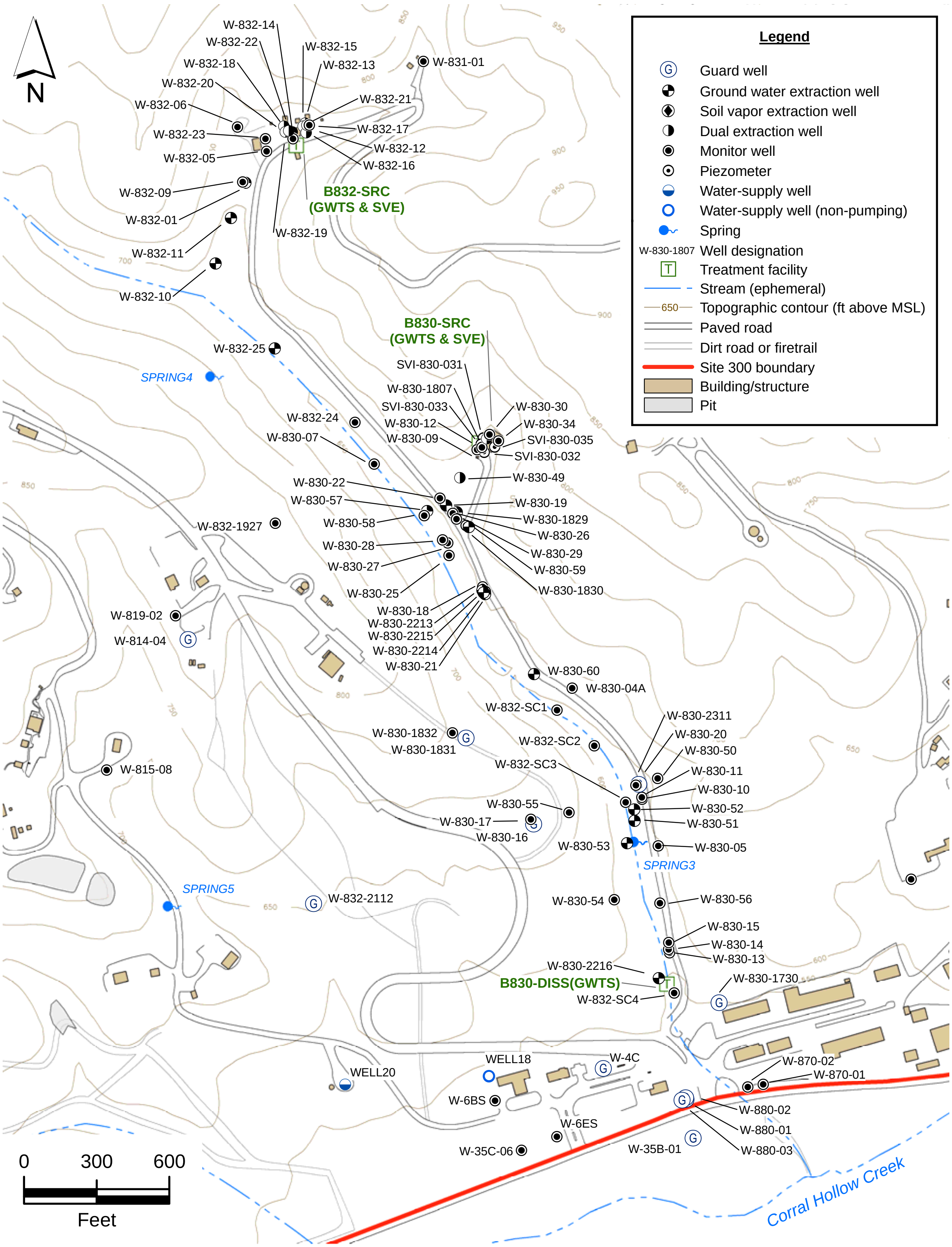

Figure 2.7-1. Building 832 Canyon OU site map showing monitor, extraction and water-supply wells, and treatment facilities.

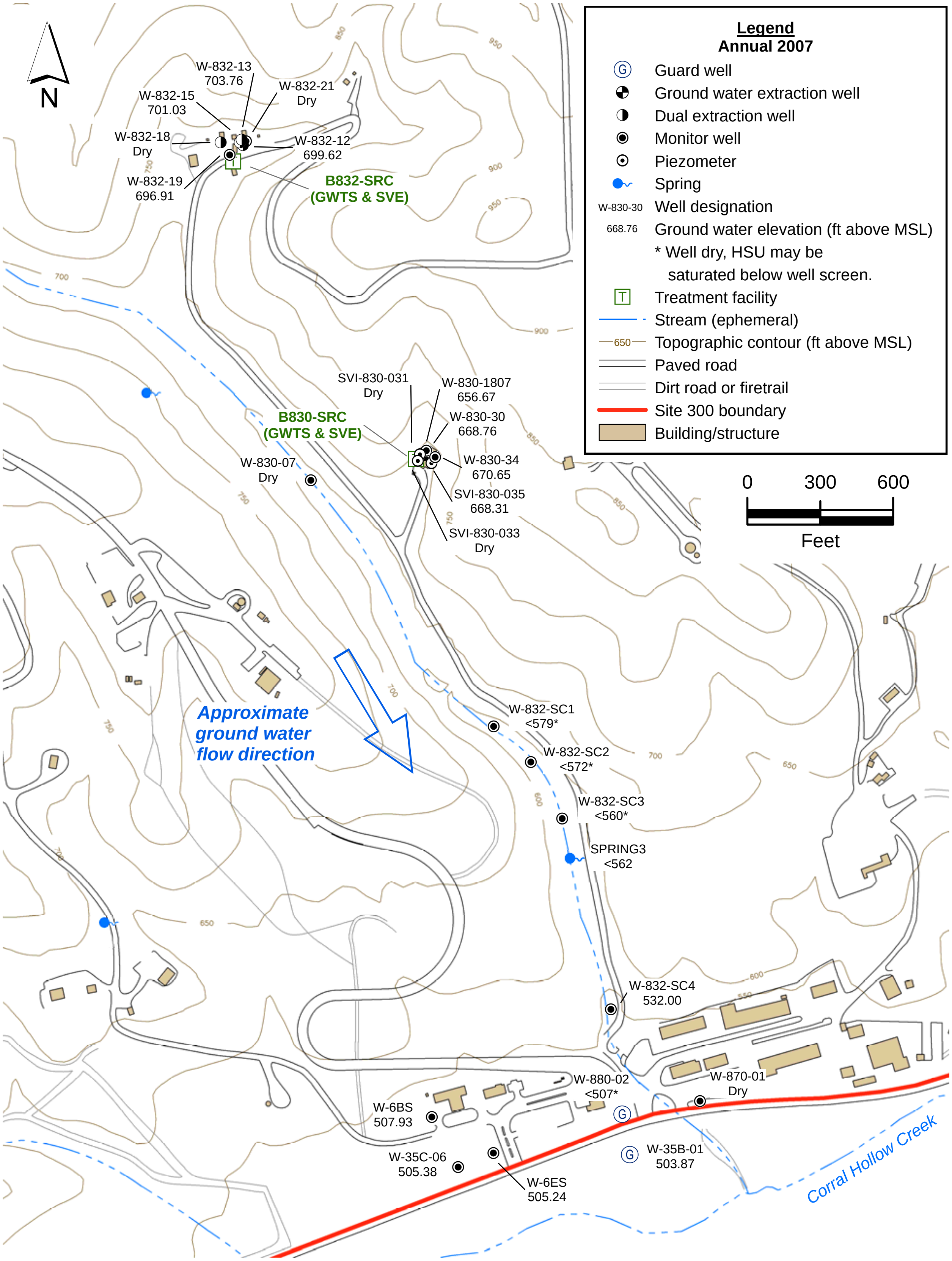

Figure 2.7-2. Building 832 Canyon OU map showing ground water elevations and ground water flow direction for the Qal/WBR HSU.

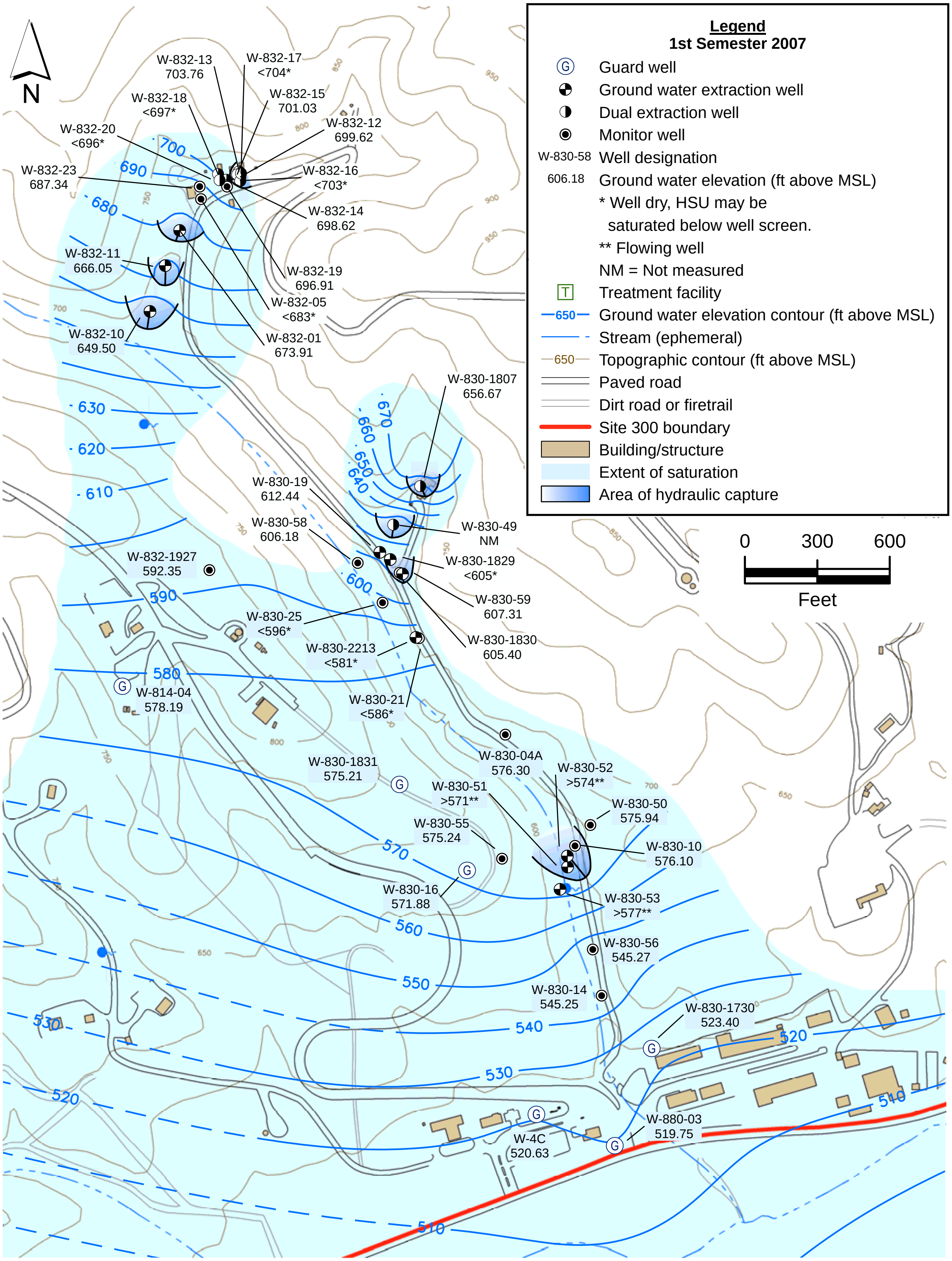

Figure 2.7-3. Building 832 Canyon OU ground water potentiometric surface map for the Tnsc$_{1b}$ HSU.

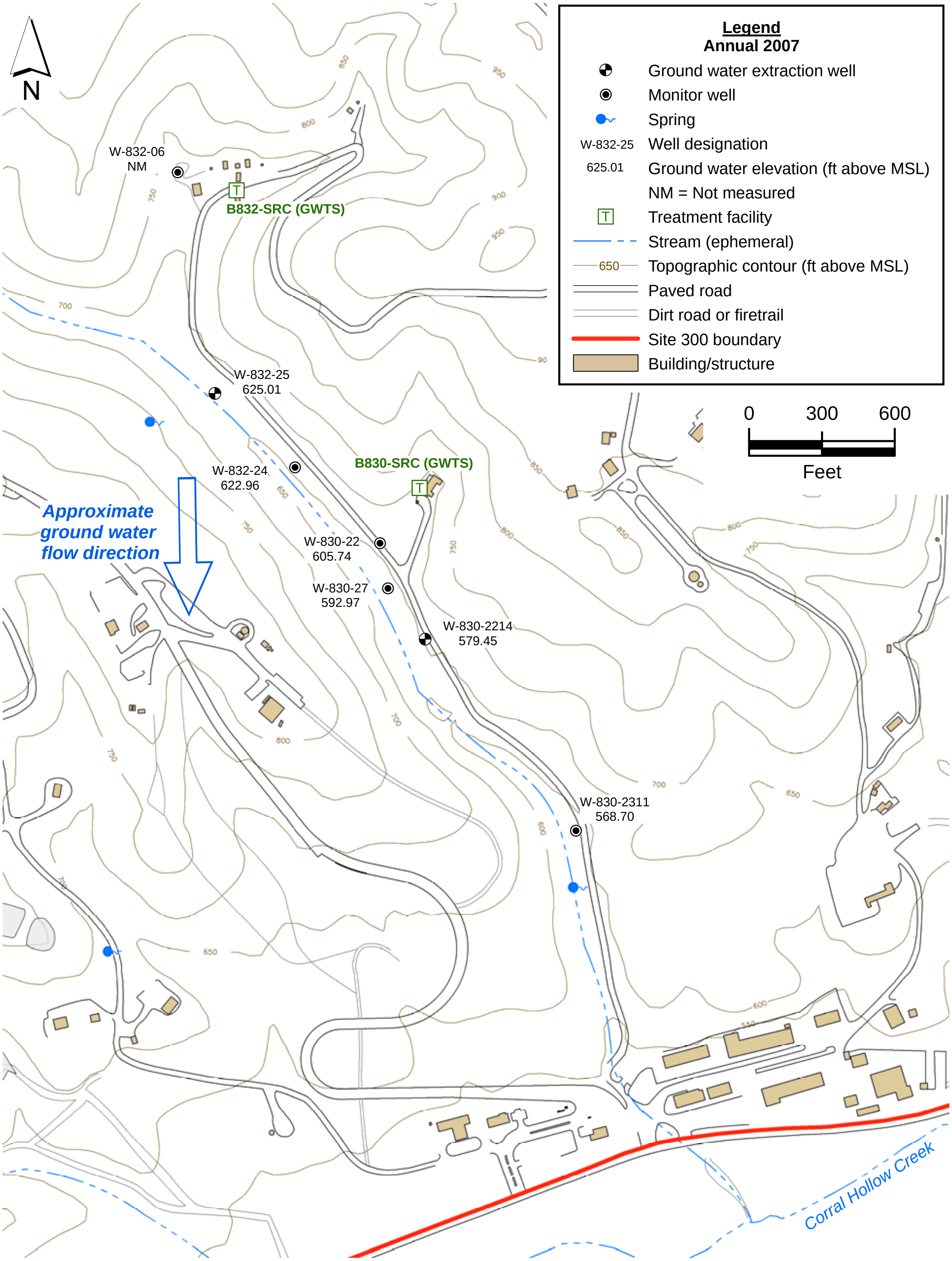

Figure 2.7-4. Building 832 Canyon OU map showing ground water elevations and ground water flow direction for the Tnsc$_{1a}$ HSU.

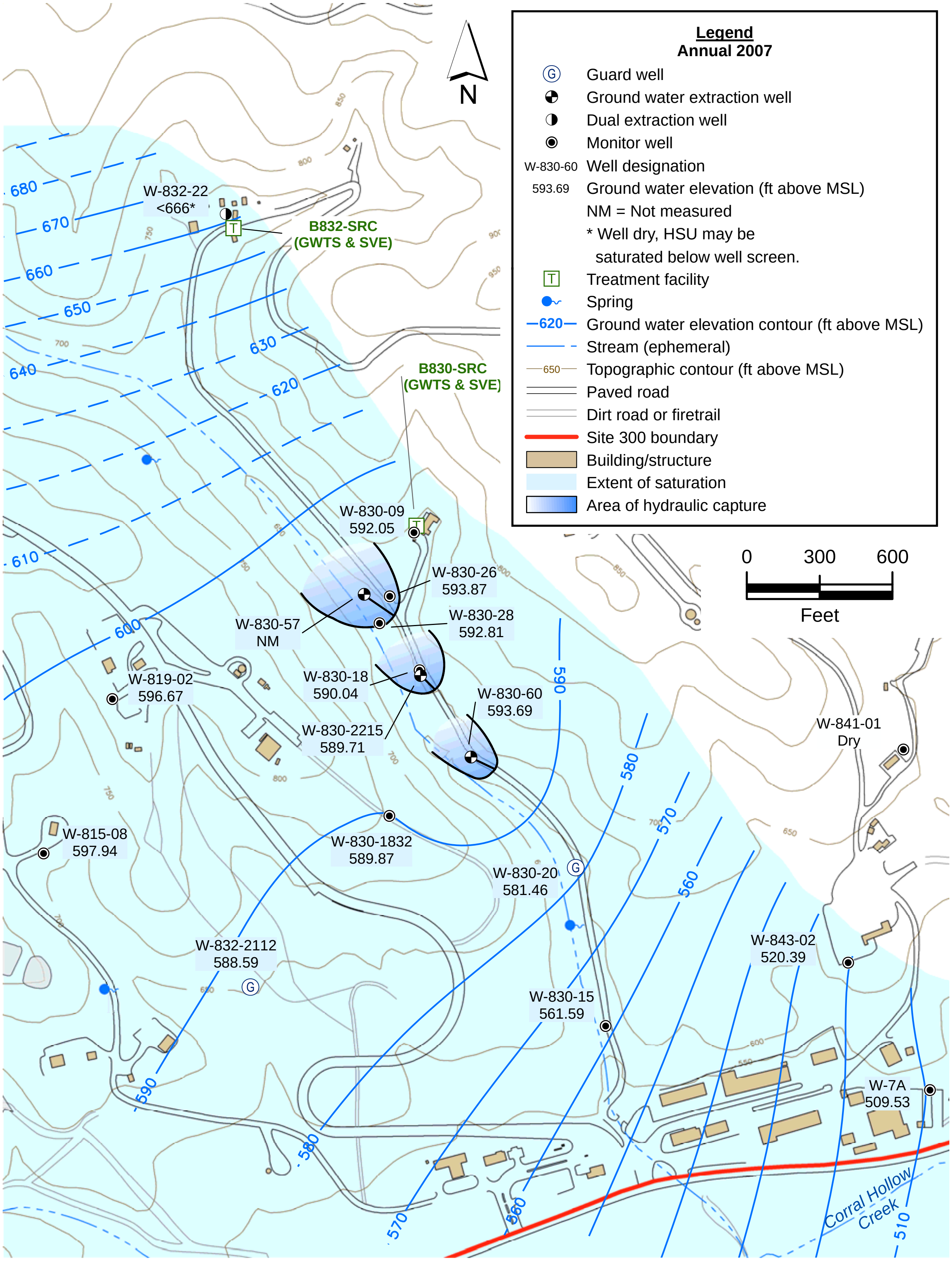

Figure 2.7-5. Building 832 Canyon OU ground water potentiometric surface map for the Upper $Tnbs_1$ HSU.

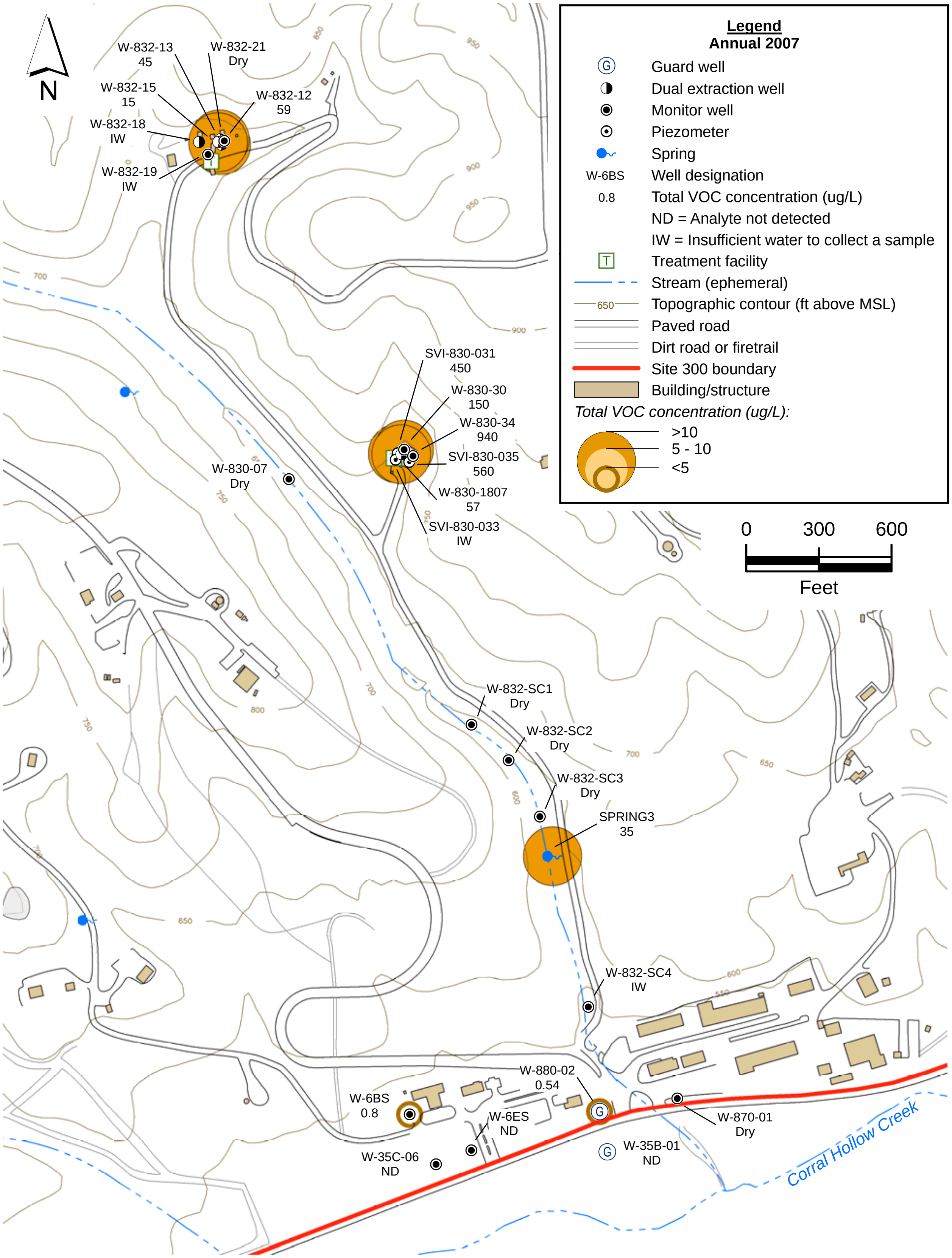

Figure 2.7-6. Building 832 Canyon OU map showing total VOC concentrations for the Qal/WBR HSU.

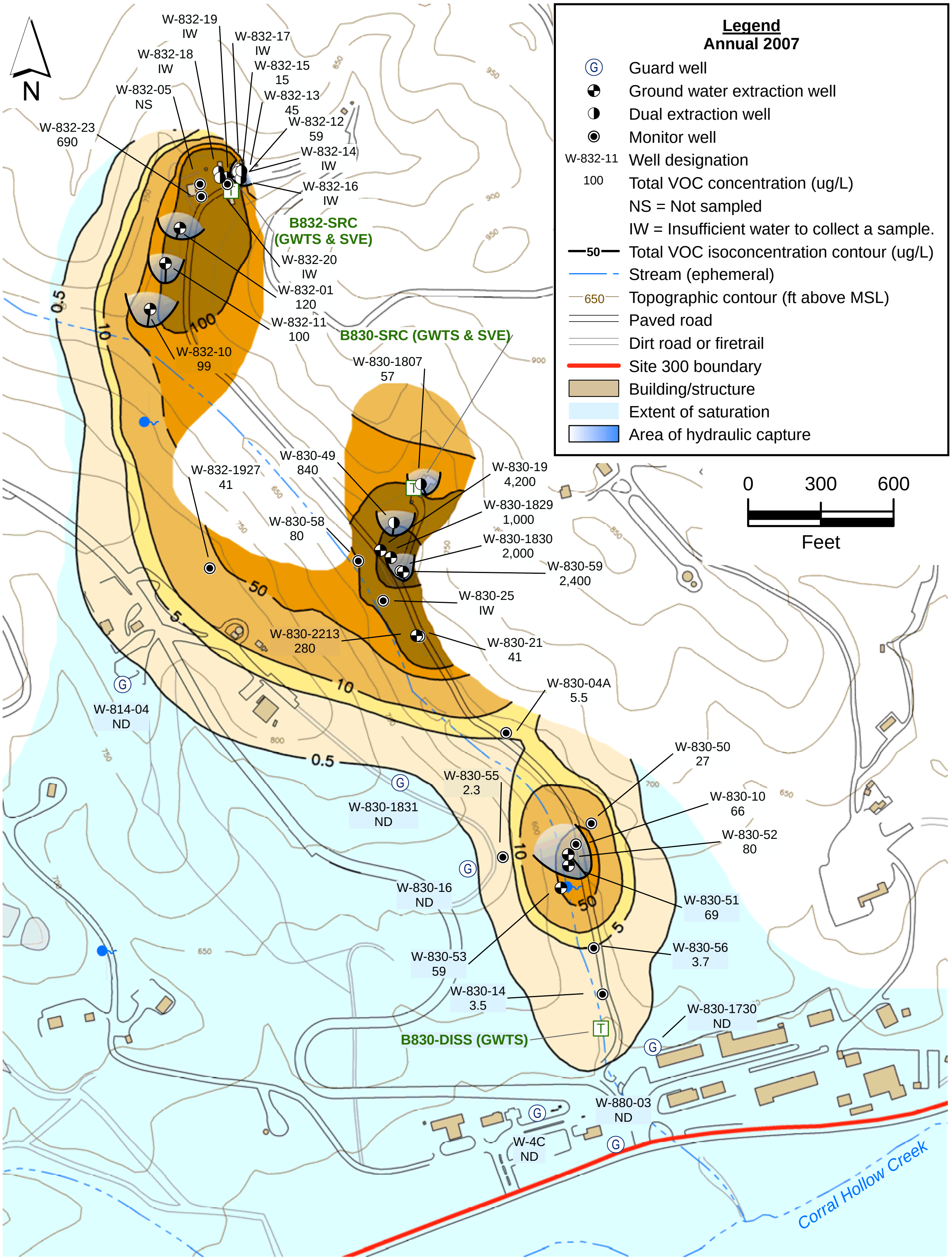

Figure 2.7-7. Building 832 Canyon OU total VOC isoconcentration contour map for the Tnsc$_{1b}$ HSU.

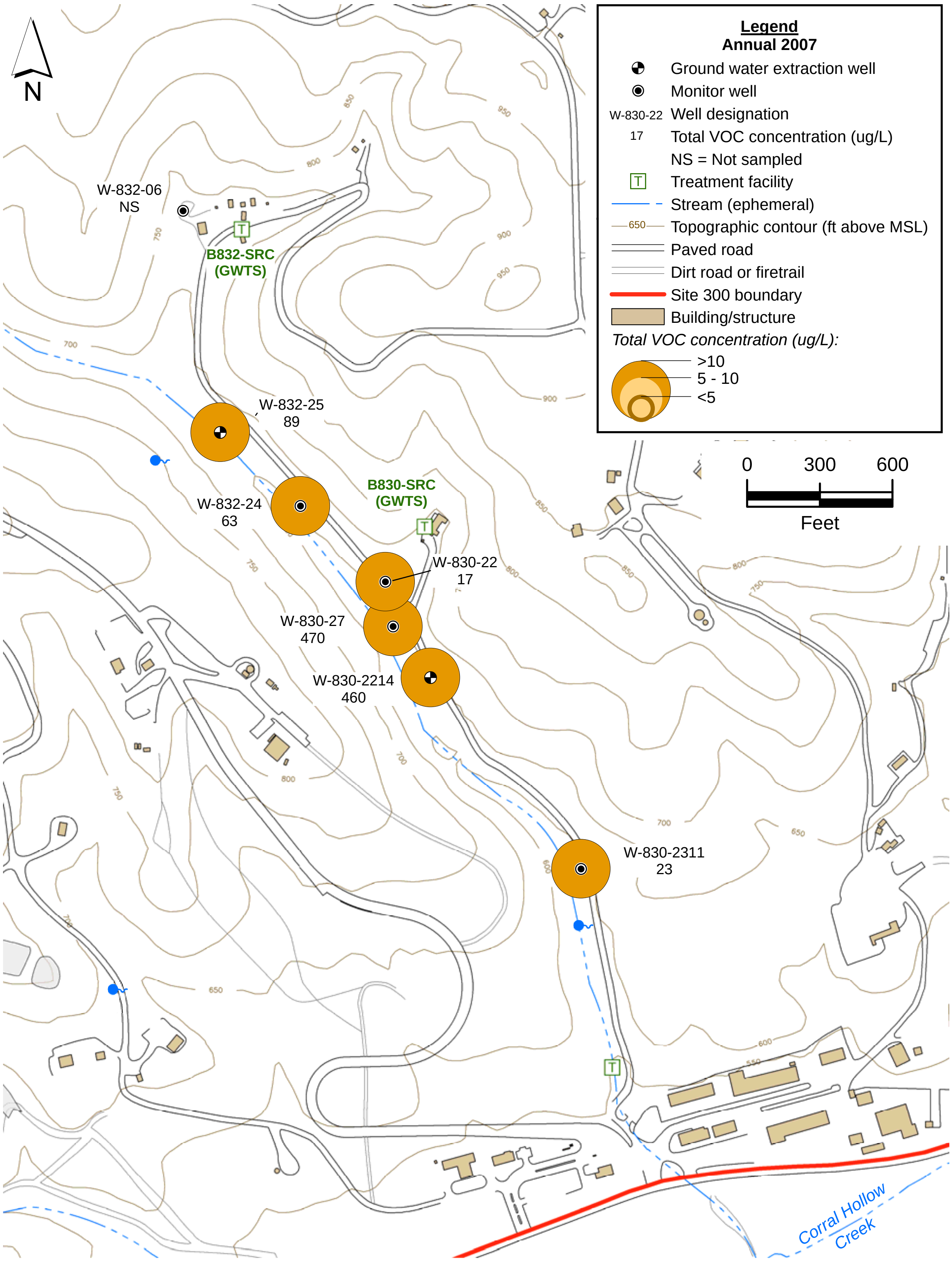

Figure 2.7-8. Building 832 Canyon OU map showing total VOC concentrations for the Tnsc$_{1a}$ HSU.

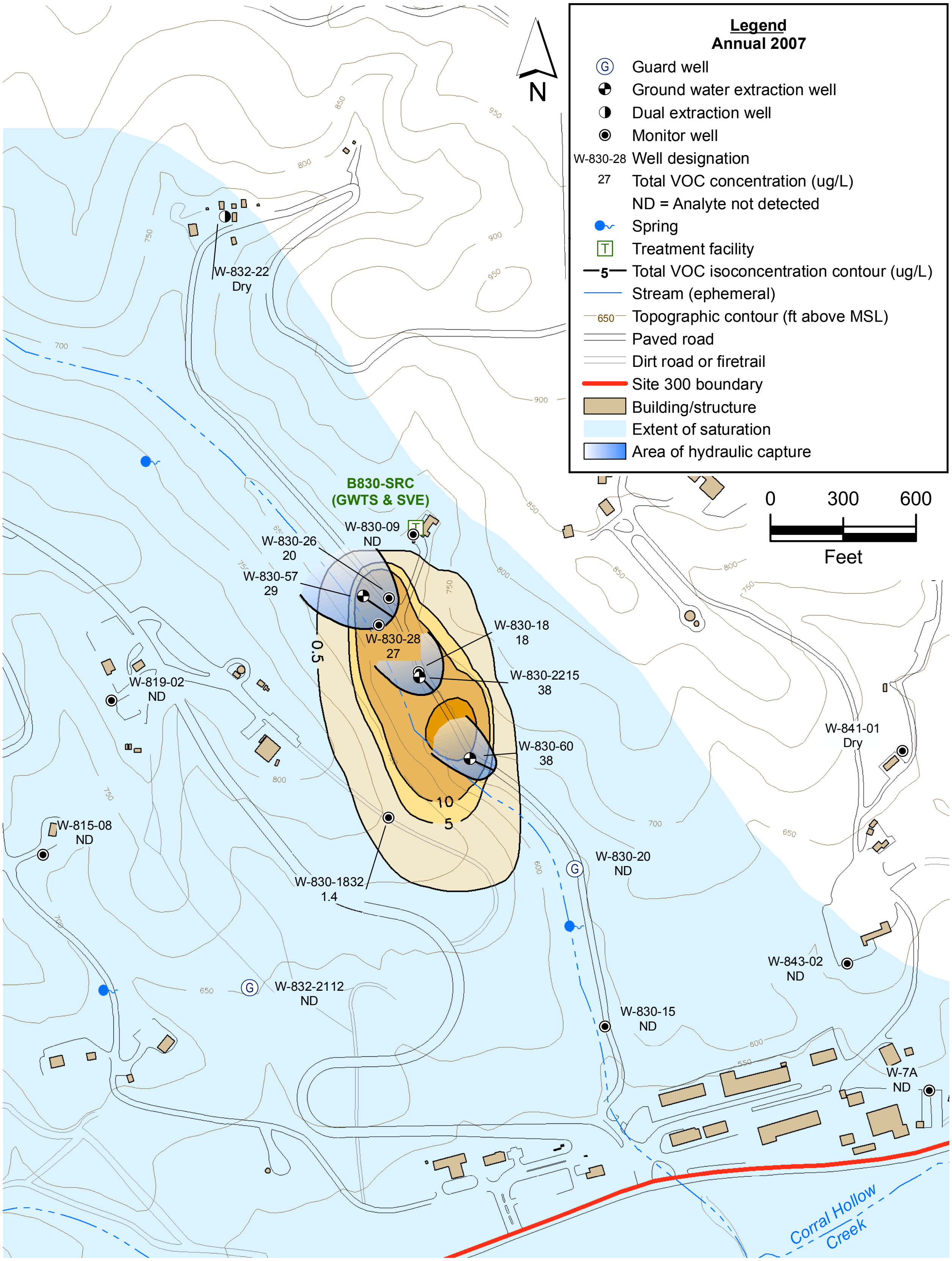

Figure 2.7-9. Building 832 Canyon OU total VOC isoconcentration contour map for the Upper Tnbs$_1$ HSU.

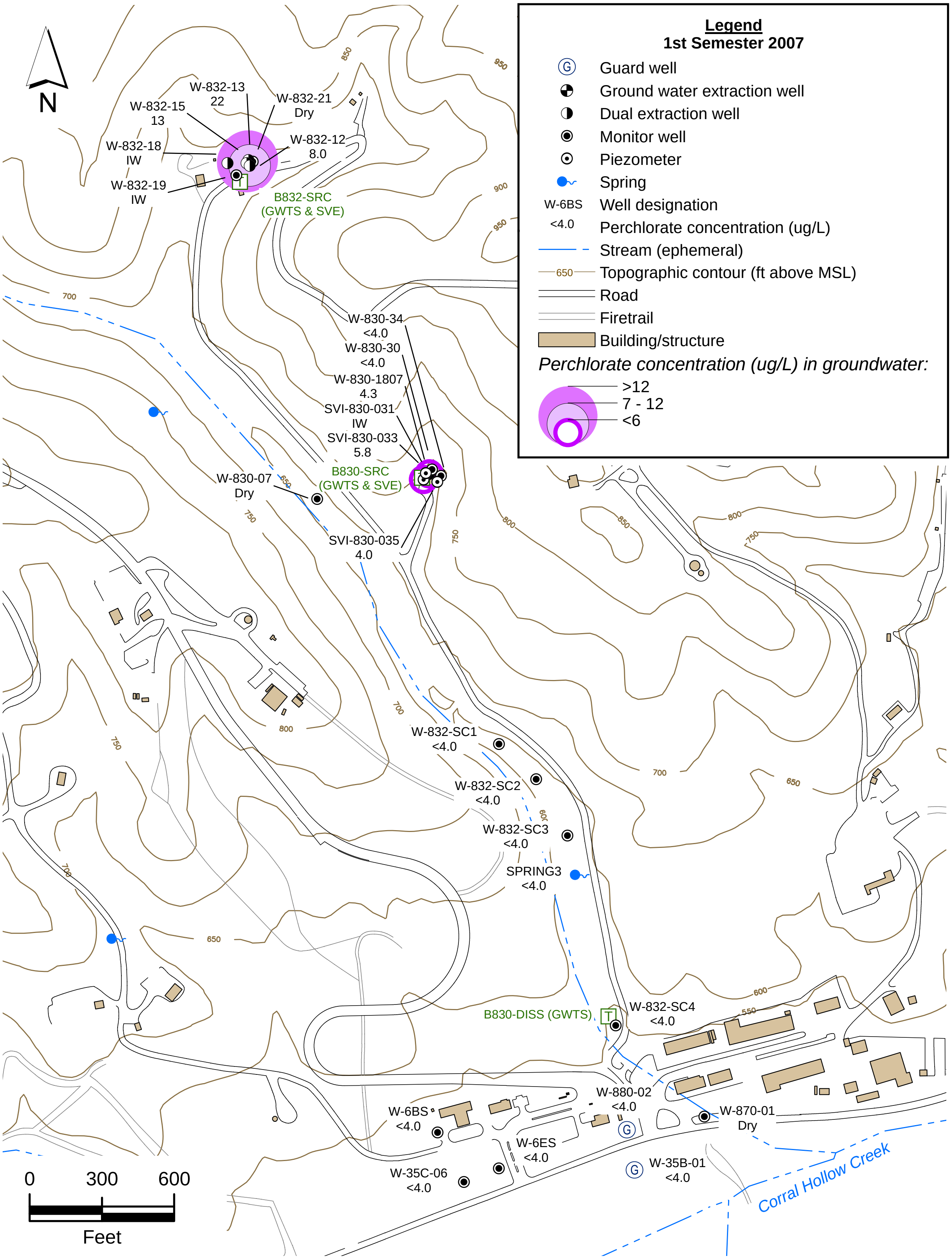

Figure 2.7-10. Building 832 Canyon OU map showing perchlorate concentrations for the Qal/WBR HSU.

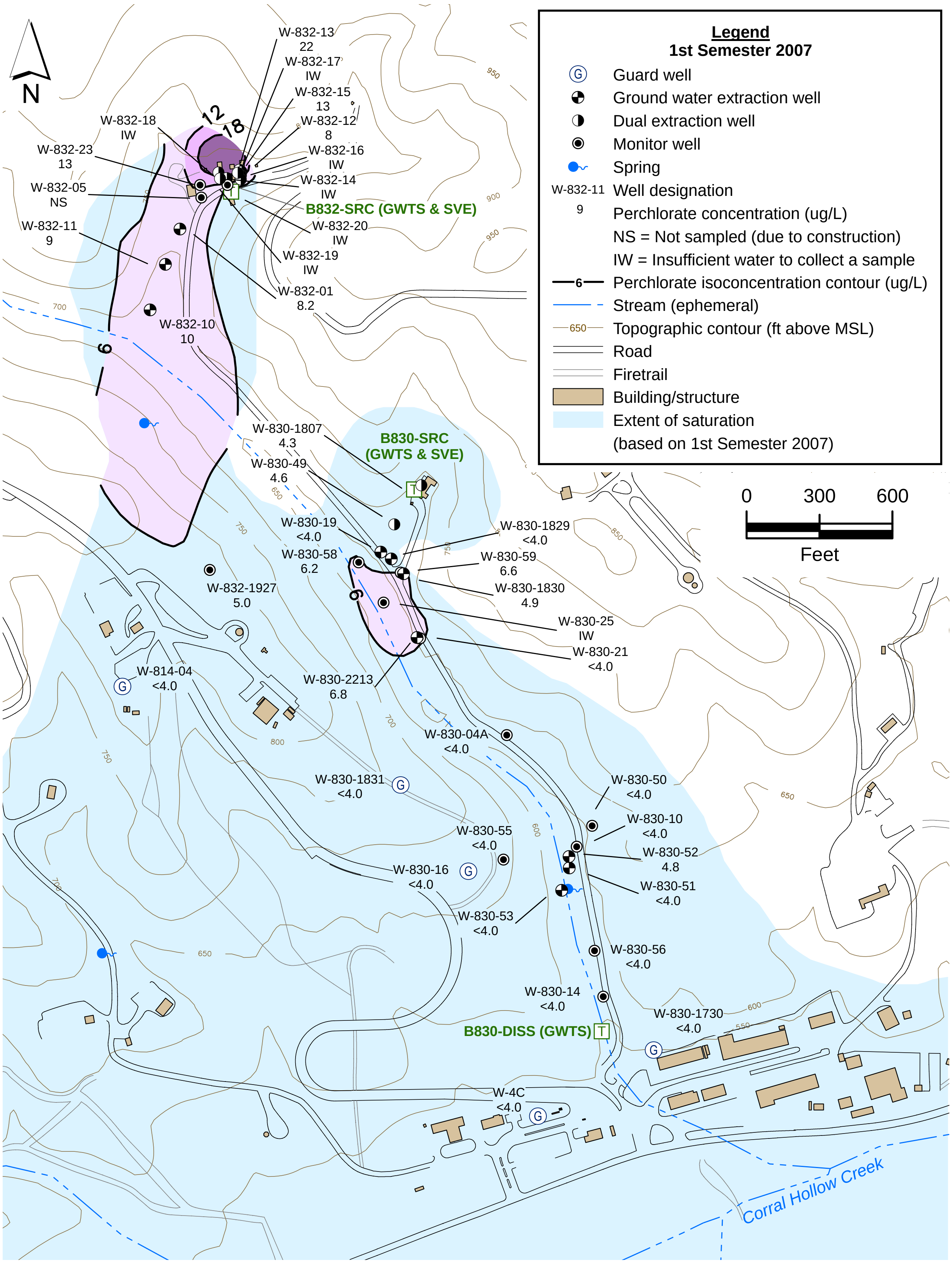

Figure 2.7-11. Building 832 Canyon OU perchlorate isoconcentration contour map for the Tnsc$_{1b}$ HSU.

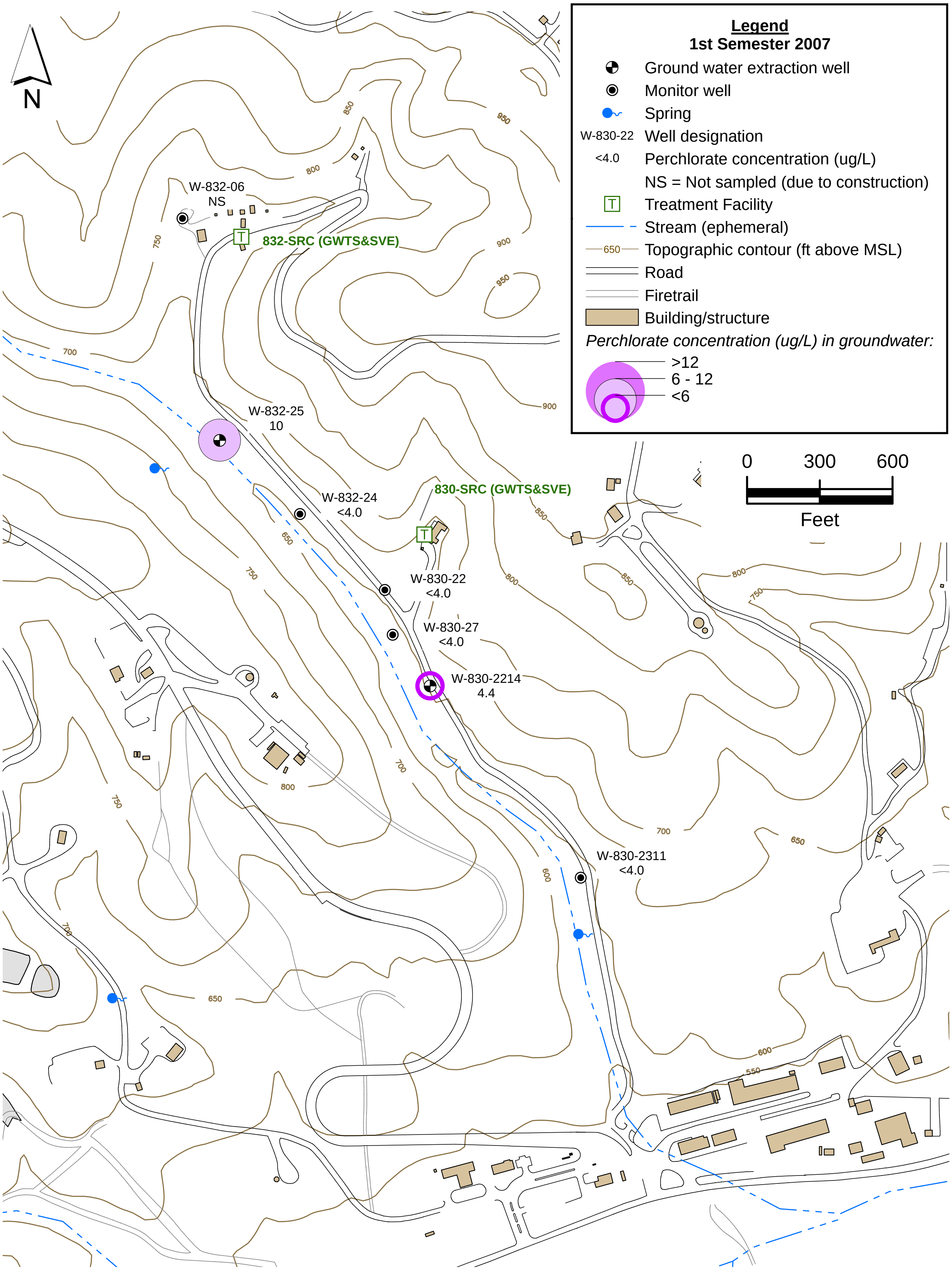

Figure 2.7-12. Building 832 Canyon OU map showing perchlorate concentrations for the $Tnsc_{1a}$ HSU.

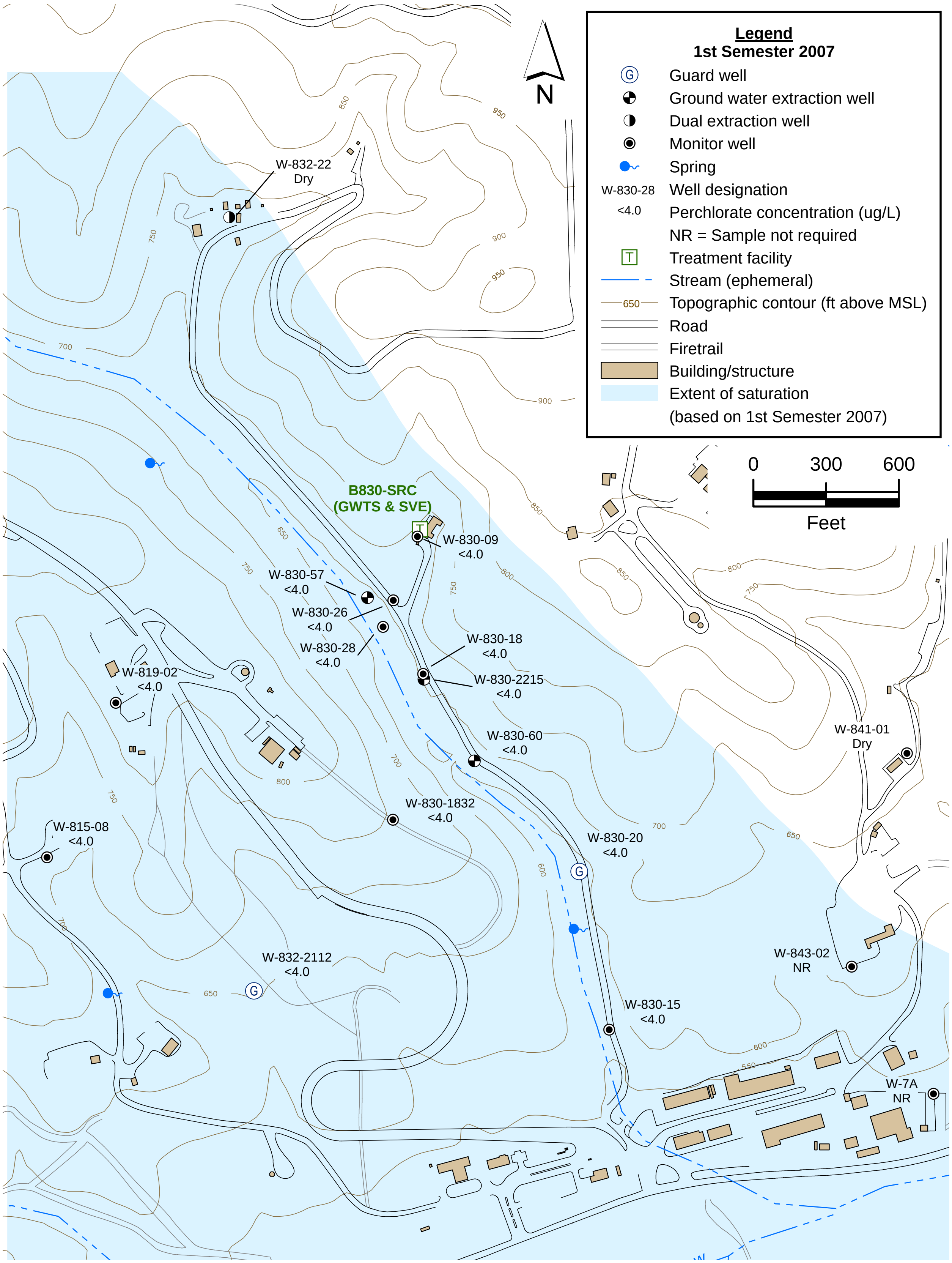

Figure 2.7-13. Building 832 Canyon OU map showing perchlorate concentrations for the Upper Tnbs$_1$ HSU.

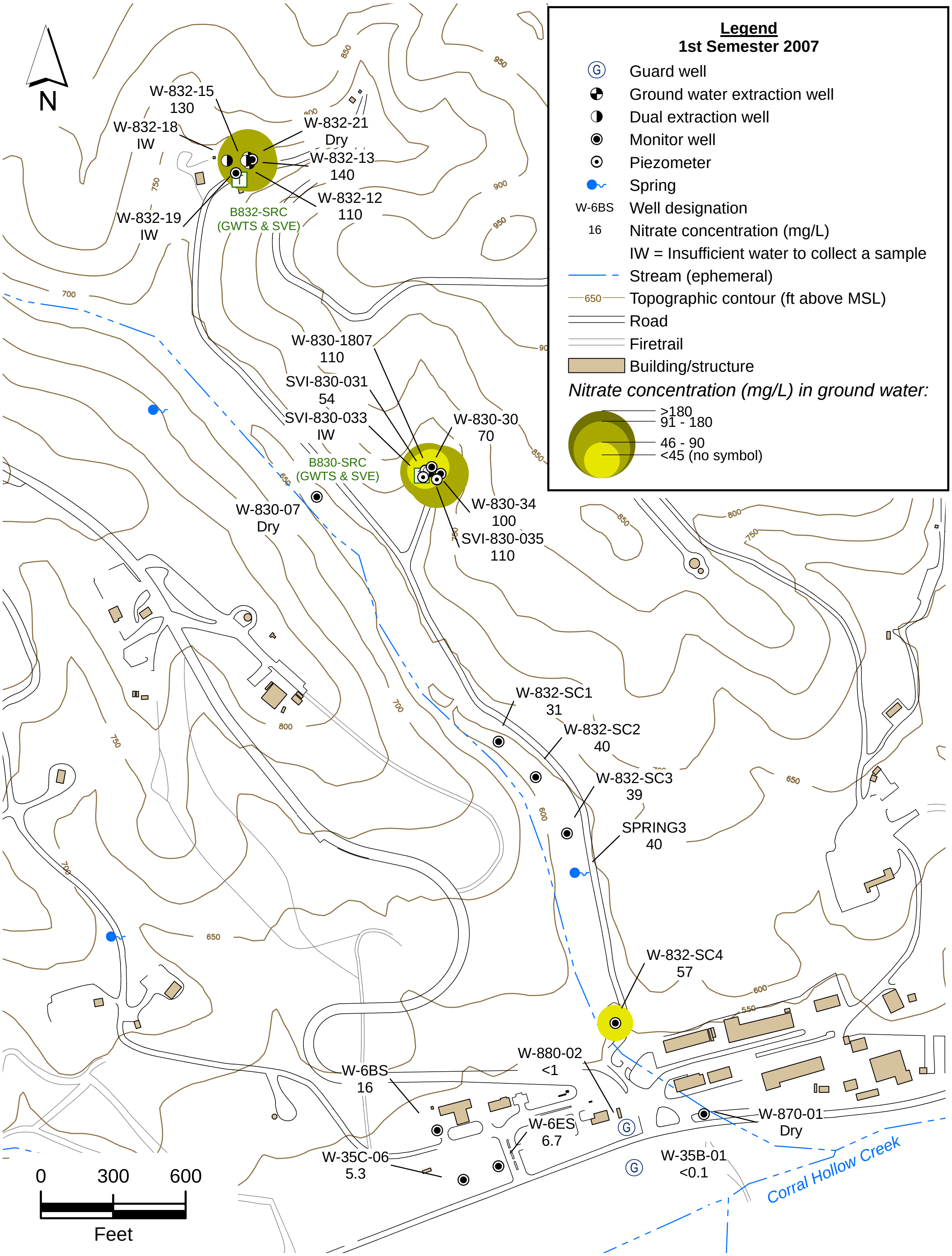

Figure 2.7-14. Building 832 Canyon OU map showing nitrate concentrations for the Qal/WBR HSU.

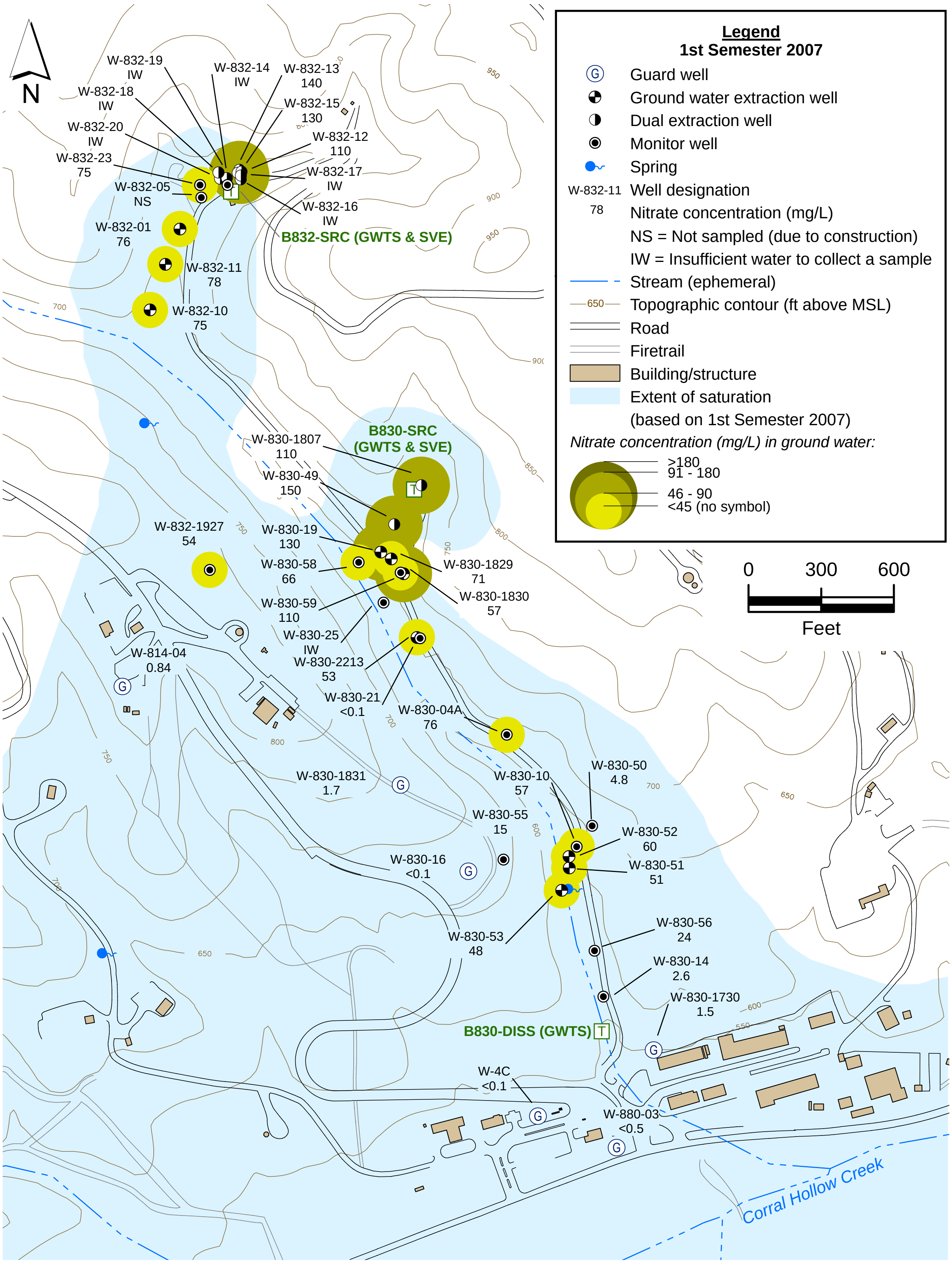

Figure 2.7-15. Building 832 Canyon OU map showing nitrate concentrations for the $Tnsc_{1b}$ HSU.

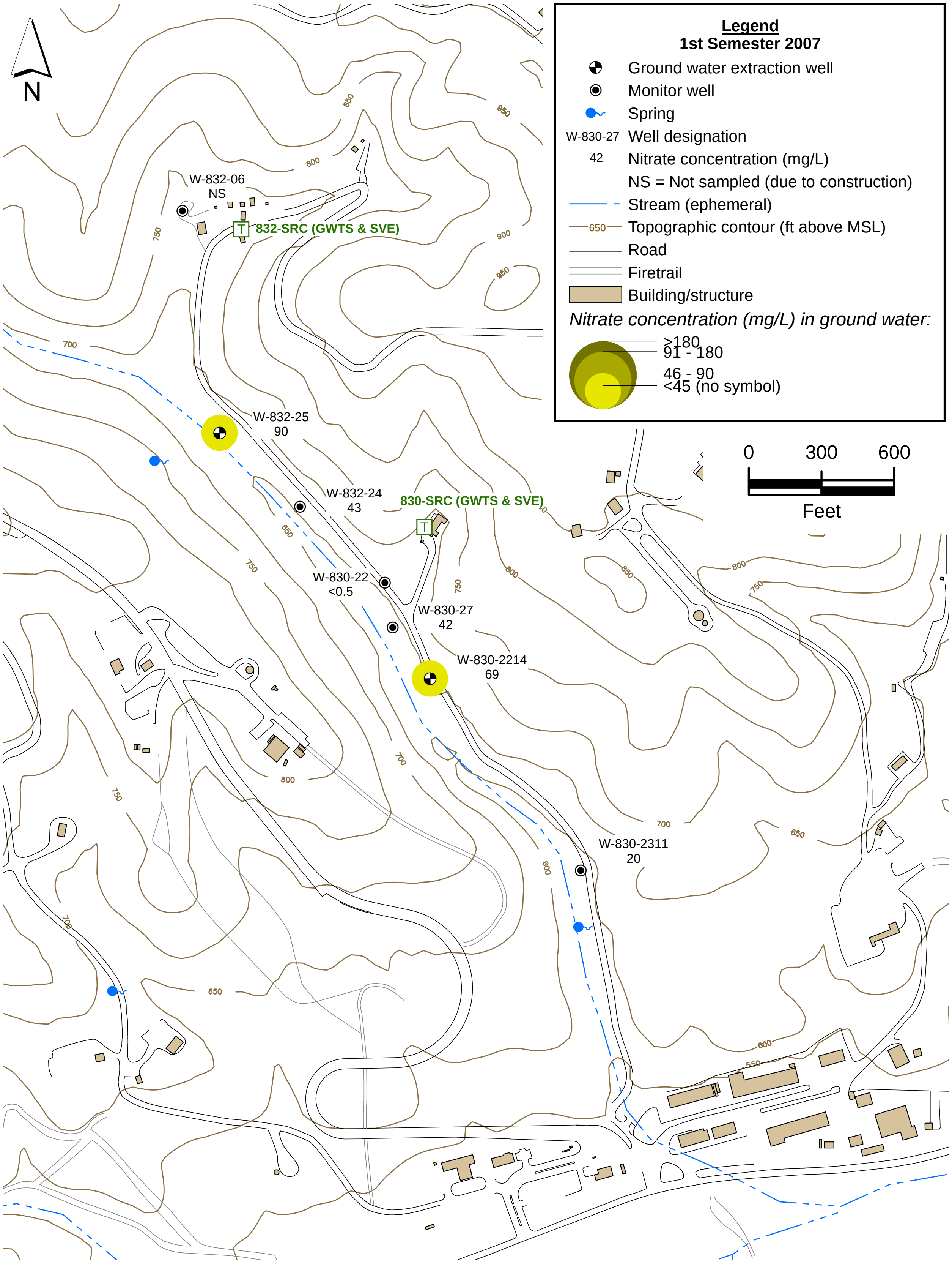

Figure 2.7-16. Building 832 Canyon OU map showing nitrate concentrations for the Tnsc$_{1a}$ HSU.

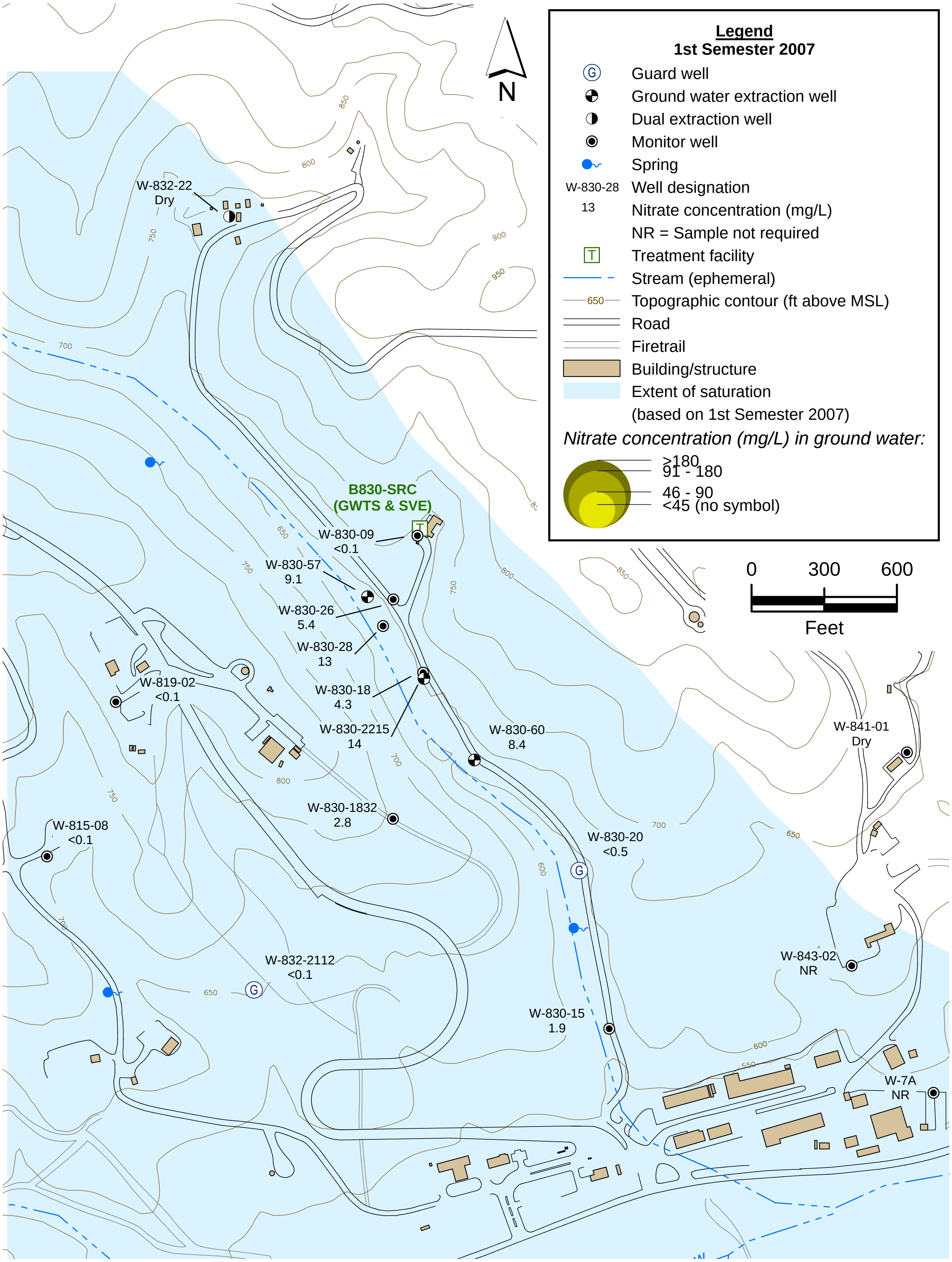

Figure 2.7-17. Building 832 Canyon OU map showing nitrate concentrations for the Upper Tnbs$_1$ HSU.

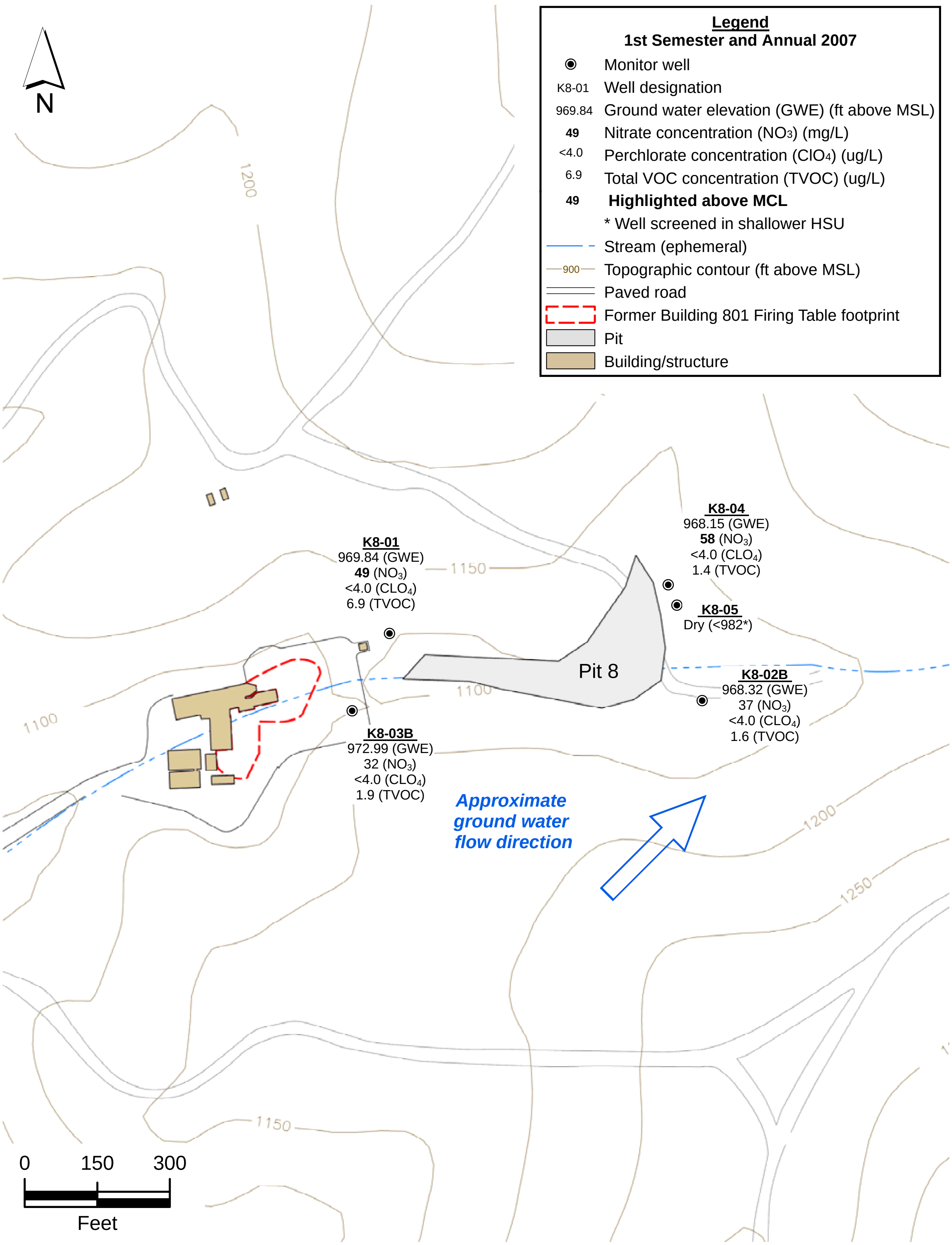

Figure 2.8-1. Building 801 Firing Table and Pit 8 Landfill site map showing monitor well locations, ground water elevations, and nitrate, perchlorate and total VOC concentrations, and ground water flow direction in the $Tnbs_1$/$Tnbs_0$ HSU.

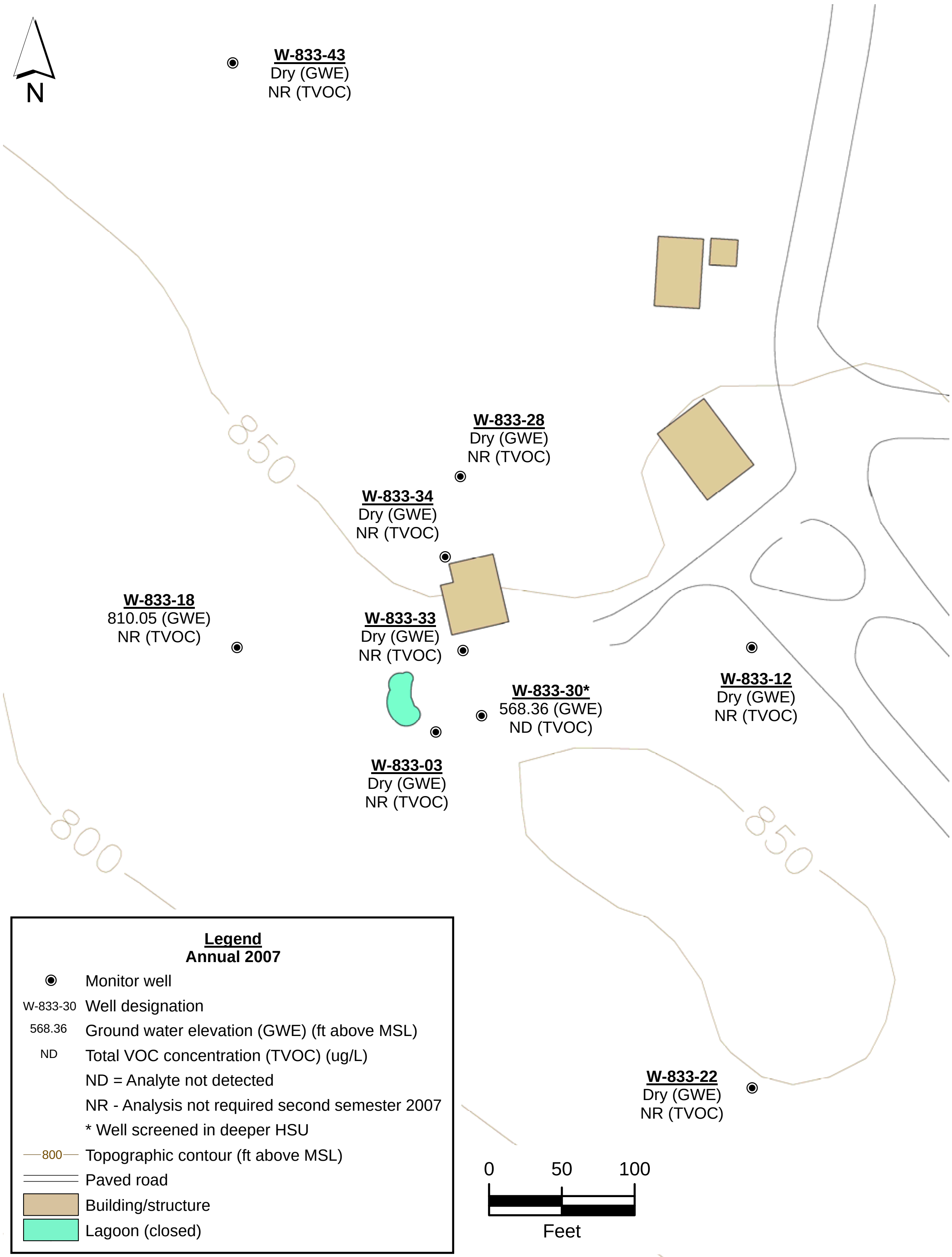

Figure 2.8-2. Building 833 site map showing monitor well locations, ground water elevations, and total VOC concentrations in the Tpsg HSU.

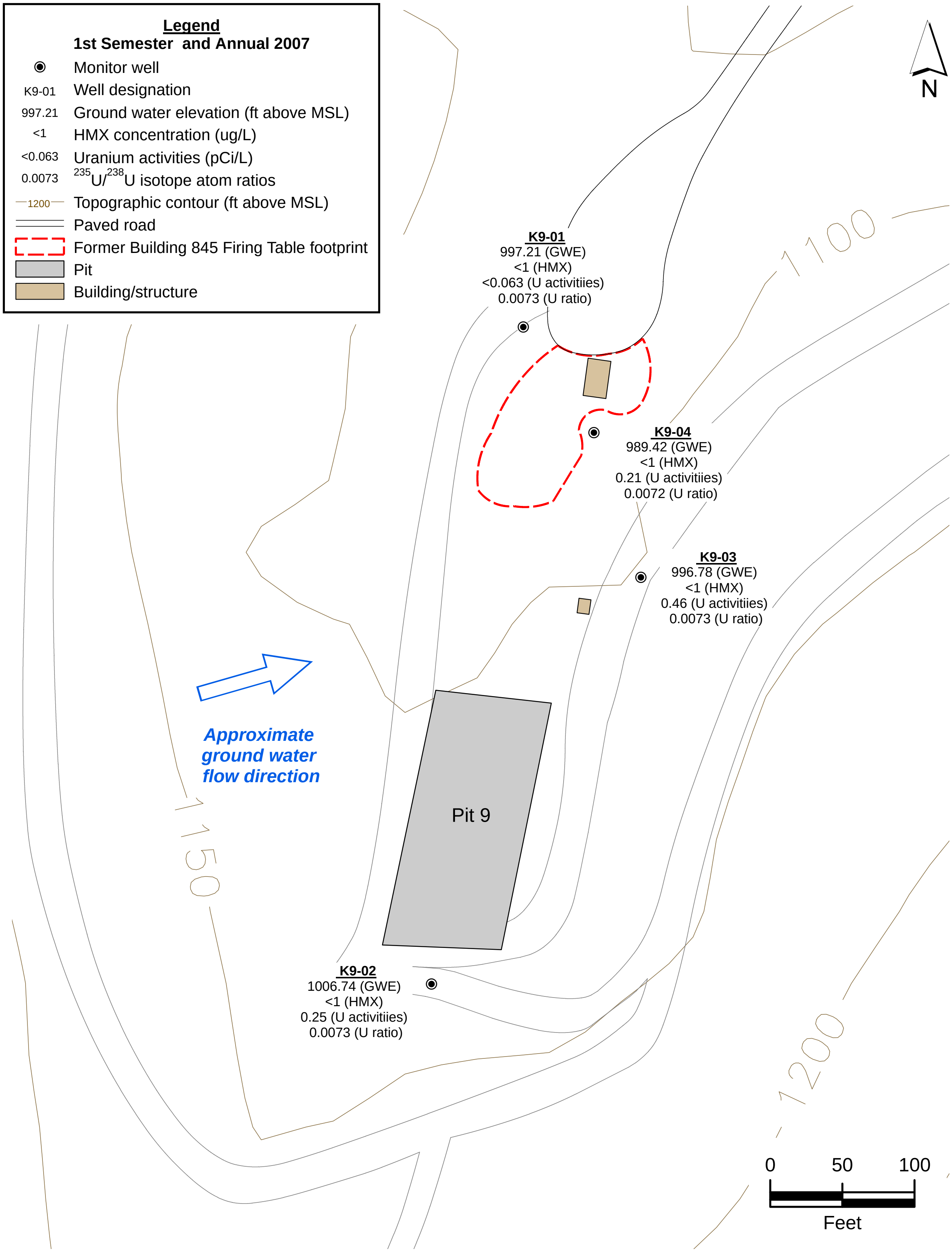

Figure 2.8-3. Building 845 Firing Table and Pit 9 Landfill site map showing monitor well locations, ground water elevations, ground water flow direction, HMX concentrations, uranium activites and $^{235}U/^{238}U$ isotope atom ratios in the $Tnsc_0$ HSU.

Figure 2.8-4. Building 851 Firing Table site map showing monitor well locations, ground water elevations, tritium and uranium activities, and $^{235}U/^{238}U$ isotope atom ratios in the Tmss HSU.

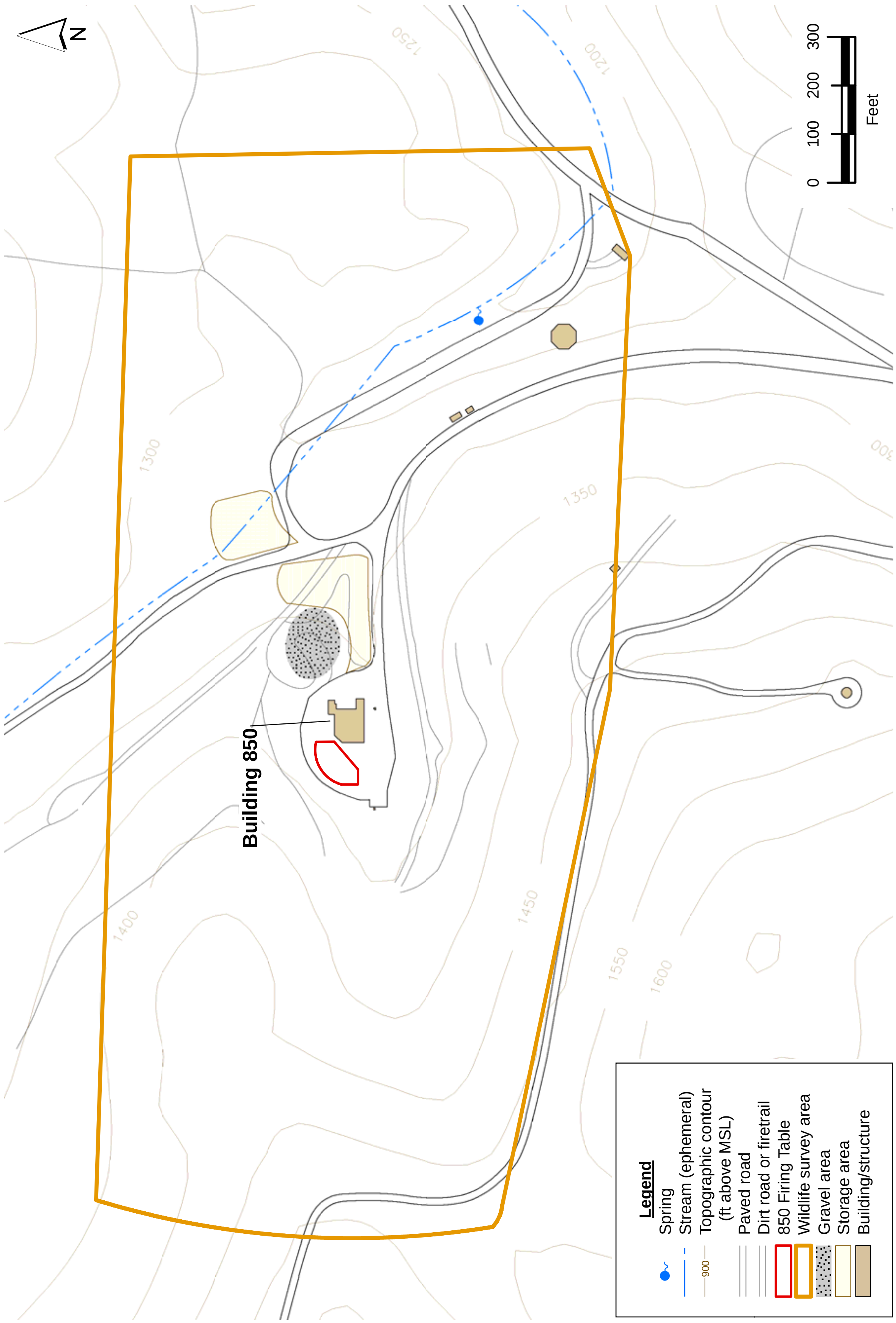

Figure 4.2-1. Area surveyed for important burrowing species at Building 850.

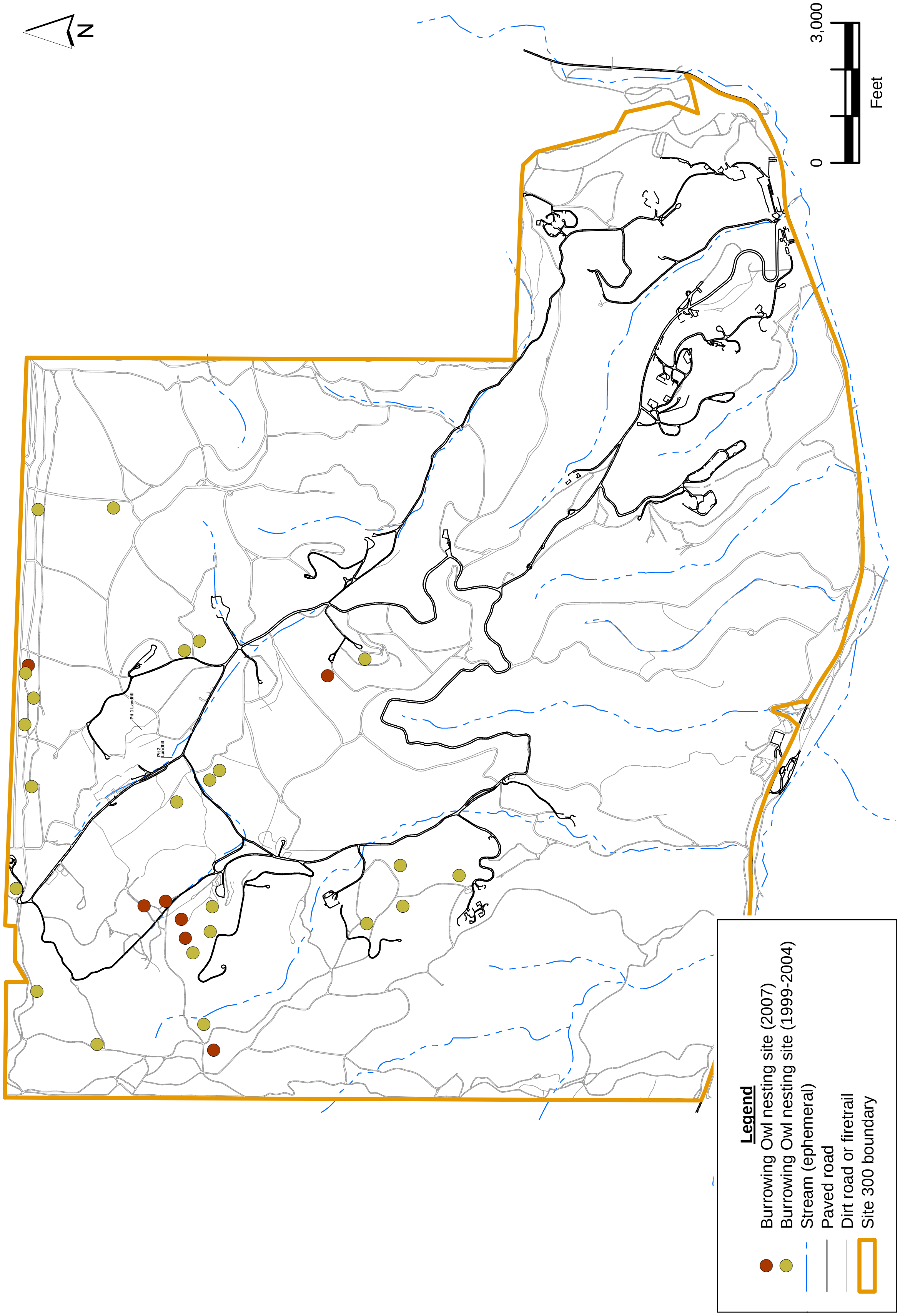

Figure 4.2-2. Site 300 burrowing oil locations.

Tables

EPA	Environmental Protection Agency
ERD	Environmental Restoration Department
E	Effluent
ES&H	Environmental Safety and Health
EV	Effluent vapor
EW	Extraction well
ft	Feet
ft^3	Cubic feet
g	Gram(s)
GAC	Granular activated carbon
gal	gallon(s)
gpd	Gallons per day
gpm	Gallons per minute
GSA	General Services Area
GTU	Ground Water Treatment Unit.
GW	Guard well
GWTS	Ground Water Treatment System
HE	High Explosives
HEPA	High Explosives Process Area
HMX	High-Melting Explosive
HSU	Hydrostratigraphic unit
I	Influent
ITS	Issues Tracking System
IV	Influent vapor
IW	Injection well
kg	kilograms
km	Kilometers
lb	Pounds
LLNL	Lawrence Livermore National Laboratory
µg/L	Micrograms per liter
$\mu g/m^3$	Micrograms per meters cubed
µmhos/cm	Micro ohms per centimeter
M	Monthly
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
MNA	Monitored Natural Attenuation
MTU	Miniature Treatment Unit
MWB	Monitor well used for background
MWPT	Monitor well used for plume tracking
N	No
NO_3	Nitrate
NA	Not applicable
NTU	Nephelometric turbidity units

OU	Operable unit
O&M	Operations and Maintenance
PCBs	Polychlorinated biphenyls
PCE	Tetrachloroethylene
pCi/L	PicoCuries per liter
pH	A measure of the acidity or alkalinity of an aqueous solution
$ppm_{v/v}$	Parts per million on a volume-to-volume basis
PRX	Proximal
PRXN	Proximal north
PSDMP	Post-Monitoring Shutdown Plan
Q	Quarterly
QAPP	Quality Assurance Project Plan
QA/QC	Quality assurance/quality control
QIF	Quality Improvement Form
R1	Receiving water sampling point located 100 ft upstream
R2	Receiving water sampling point located 100 ft downstream
RDX	Research Department explosive
REX	Resample
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
S	Semi-annual
Scfm	Standard cubic feet per minute
SOP	Standard Operating Procedure
SRC	Source
SPR	Spring
STU	Solar-powered Treatment Unit
SVE	Soil Vapor Extraction
SVTS	Soil Vapor Treatment System
SVI	Soil Vapor Influent
TBOS	Tetrabutyl orthosilicate
TKEBS	Tetrakis (2-ethylbutyl) silane
TCE	Trichloroethylene
TDS	Total dissolved solids
TF	Treatment facility
Trans-1,2-DCE	Trans-1,2-dichloroethene
$^{235}U/^{238}U$	Atom ratio of the isotopes uranium-235 and uranium-238
U.S.	United States
VCF4I	Fourth vapor phase granular activated carbon filter influent
VE	Vapor effluent
VES	Vapor extraction system
VI	Vapor influent
VOC	Volatile organic compound

WGMG	Water Guidance and Monitoring Group
WS	Water supply well
Y	Yes

Hydrogeologic Units

Lower $Tnbs_1$ = Lower member of the Neroly lower blue sandstone, below claystone marker bed (regional aquifer).

Qal = Quaternary alluvium.

Qls = Quaternary landslide.

Qt = Quaternary terrace.

Tmss = Miocene Cierbo Formation—lower siltstone/claystone member.

$Tnsc_{1a}$, $Tnsc_{1b}$, $Tnsc_{1c}$ = Sandstone bodies within the $Tnsc_1$ Neroly middle siltstone/claystone (1a = deepest).

$Tnbs_1$ = Lower member of the Neroly lower blue sandstone.

$Tnbs_0$ = Neroly silty sandstone.

$Tnbs_2$ = Miocene Neroly upper blue sandstone.

$Tnsc_0$ = Tertiary Neroly Formation—lower siltstone/claystone member.

$Tnsc_2$ = Miocene Neroly Formation—upper siltstone/claystone member.

Tps = Pliocene non-marine unit.

Tpsg = Miocene non-marine unit (gravel facies).

Tts = Tesla Formation.

Upper $Tnbs_1$ = Upper member of the Neroly lower blue sandstone, above claystone marker bed.

Data Qualifier Flag Definitions

B = Analyte found in method blank, sample results should be evaluated.

D = Analysis performed at a secondary dilution or concentration (i.e., vapor samples).

E = The analyte was detected below the LLNL reporting limit, but above the analytical laboratory minimum detection limit.

F = Analyte found in field blank, trip blank, or equipment blank.

G = Quantitated using fuel calibration, but does not match typical fuel fingerprint.

H = Sample analyzed outside of holding time, sample results should be evaluated.

I = Surrogate recoveries were outside of QC limits.

J = Analyte was positively identified; the associated numerical value is the proximate concentration of the analyte in the sample.

L = Spike accuracy not within control limits.

O = Duplicate spike or sample precision not within control limits.

R = Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

S = Analytical results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.

T = Analyte is tentatively identified compound; result is approximate.

Requested Analyses

AS:THISO = Thorium isotopes performed by alpha spectrometry.
AS:UISO = Uranium isotopes performed by alpha spectrometry.
CMPTRIMET = Thorium, uranium, and lithium performed by EPA Method 200.7.
DWMETALS = Drinking water metals suite performed by various analytical methods.
E200.7:Ba = Barium performed by EPA Method 200.7.
E200.7:Cd = Cadmium performed by EPA Method 200.7.
E200.7:Cu = Copper performed by EPA Method 200.7.
E200.7:SI = Silica performed by EPA Method 200.7.
E200.7:Zn = Zinc performed by EPA Method 200.7.
E210.2 = Beryllium performed by EPA Method 210.2.
E218.2 = Chromium performed by EPA Method 218.2.
E239.2 = Lead performed by EPA Method 239.2.
E245.2 = Mercury performed by EPA Method 245.2.
E300.0:NO3 = Nitrate performed by EPA Method 300.0.
E300.0:PERC = Perchlorate performed by EPA Method 300.0.
E340.2 = Fluoride performed by EPA method 340.2.
E502.2 = Volatile organic compounds performed by EPA Method 502.2.
E601 = Halogenated volatile organic compounds performed by EPA Method 601.
E624 = Volatile organic compounds performed by EPA Method 624.
E8082A = Polychlorinated biphenyls performed by EPA Method 8082A.
E8260 = Volatile organic compounds performed by EPA Method 8260.
E8330 = High explosive compounds performed by EPA Method 8330.
E8330:R+H = High explosive compounds RDX and HMX performed by EPA Method 8330.
E8330:TNT = Trinitrotoluene performed by EPA Method 8330.
E900 = Gross alpha and beta performed by EPA Method 900.
E906 = Tritium performed by EPA Method 906.
EM8015:DIESEL = Diesel range organic compounds performed by modified EPA Method 8015.
GENMIN = General minerals suite performed by various analytical methods.
ICMSRAD = Uranium isotopes performed by mass spectrometry.
KPA = Kinetic phosphorescence analysis.
MS:THISO = Thorium isotopes performed by mass spectrometry.
MS:UISO = Uranium isotopes performed by mass spectrometry.
T26METALS = Title 26 metals.
TBOS = Tetrabutylorthosilicate.

Table Summ-1. Mass removed, January 1, 2007 through December 31, 2007.

Treatment facility	Volume of ground water treated (thousands of gal)	Volume of soil vapor treated (thousands of ft^3)	Estimated total VOC mass removed (g)	Estimated total perchlorate mass removed (g)	Estimated total nitrate mass removed (kg)	Estimated total RDX mass removed (g)	Estimated total TBOS mass removed (g)
EGSA GWTS	2,971	NA	20	NA	NA	NA	NA
CGSA GWTS	884	NA	200	NA	NA	NA	NA
CGSA SVTS	NA	7,335	1,400	NA	NA	NA	NA
834 GWTS	78	NA	1,400	NA	20	NA	2.9
834 SVTS	NA	28,137	14,000	NA	NA	NA	NA
815-SRC GWTS	591	NA	17	30	220	150	NA
815-PRX GWTS	585	NA	59	15	180	NA	NA
815-DSB GWTS	1,778	NA	71	NA	NA	NA	NA
817-SRC GWTS	7	NA	NA	0.75	2.1	1.1	NA
817-PRX GWTS	208	NA	8.7	22	70	6.6	NA
829-SRC GWTS	1	NA	0.071	0.040	0.35	NA	NA
854-SRC GWTS	974	NA	260	8.9	170	NA	NA
854-SRC SVTS	NA	7,080	360	NA	NA	NA	NA
854-PRX GWTS	233	NA	32	11	40	NA	NA
854-DIS GWTS	10	NA	1.6	0.12	0.72	NA	NA
832-SRC GWTS	139	NA	42	5.0	48	NA	NA
832-SRC SVTS	NA	1,315	89	NA	NA	NA	NA
830-SRC GWTS	698	NA	460	2.2	56	NA	NA
830-SRC SVTS	NA	9,947	43,000	NA	NA	NA	NA
830-DISS GWTS	485	NA	260	0.013	100	NA	NA
Total	9,641	53,813	62,000	95	910	160	2.9

Notes:

815 = Building 815.
817 = Building 817.
829 = Building 829.
830 = Building 830.
832 = Building 832.
834 = Building 834.
854 = Building 854.
CGSA = Central General Services Area.
DIS = Distal.
DISS = Distal south.
DSB = Distal site boundary.
EGSA = Eastern General Services Area.
ft^3 = Cubic feet.
g = Grams.
gal = Gallons.
GWTS = Ground water treatment system.
kg = Kilograms.
NA = Not applicable.
PRX = Proximal.
RDX = Research Department Explosive.
SRC = Source.
SVTS = Soil vapor treatment system.
TBOS = Tetra 2-ethylbutylorthosilicate.
VOC = Volatile organic compound.
*Nitrate re-injected into the $Tnbs_2$ HSU undergoes in-situ biotransformation to benign N_2 gas by anaerobic denitrifying bacteria.

Table Summ-2. Summary of cumulative remediation.

Treatment facility	Volume of ground water treated (thousands of gallons)	Volume of soil vapor treated (thousands of ft³)	Estimated total VOC mass removed (kg)	Estimated total perchlorate mass removed (g)	Estimated total nitrate mass removed (kg)	Estimated total RDX mass removed (kg)	Estimated total TBOS mass removed (kg)
EGSA GWTS	309,379	NA	7.6	NA	NA	NA	NA
CGSA GWTS	16,247	NA	25	NA	NA	NA	NA
CGSA SVTS	NA	94,652	69	NA	NA	NA	NA
834 GWTS	605	NA	39	NA	130	NA	9.4
834 SVTS	NA	165,212	300	NA	NA	NA	NA
815-SRC GWTS	3,163	NA	0.081	190	1,100	0.91	NA
815-PRX GWTS	4,602	NA	0.53	110	1,300	0	NA
815-DSB GWTS	8,779	NA	0.29	NA	NA	NA	NA
817-SRC GWTS	22	NA	0	2.2	7.1	0.0037	NA
817-PRX GWTS	1,120	NA	0.042	110	360	0.025	NA
829-SRC GWTS	3	NA	0.00022	0.10	0.88	NA	NA
854-SRC GWTS	5,714	NA	4.7	160	1,100	NA	NA
854-SRC SVTS	NA	28,999	7.9	NA	NA	NA	NA
854-PRX GWTS	1,846	NA	0.49	81	310	NA	NA
854-DIS GWTS	12	NA	0.0016	0.15	0.90	0	NA
832-SRC GWTS	499	NA	0.16	14	200	NA	NA
832-SRC SVTS	NA	17,777	1.9	NA	NA	NA	NA
830-SRC GWTS	807	NA	1.4	3.4	93	NA	NA
830-SRC SVTS	NA	13,013	47	NA	NA	NA	NA
830-PRXN GWTS	1,949	NA	0.26	NA	22	NA	NA
830-DISS GWTS	2,694	NA	1.0	27	640	NA	NA
Total	357,440	319,653	510	700	5,300	0.94	9.4

Notes:

815 = Building 815.
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CGSA = Central General Services Area.
DIS = Distal.
DISS = Distal south.
DSB = Distal site boundary.
EGSA = Eastern General Services Area.
ft³ = Cubic feet.
g = Grams.
GWTS = Ground water treatment system.
kg = Kilograms.
NA = Not applicable.
PRX = Proximal.
PRXN = Proximal North.
RDX = Research Department Explosive.
SRC = Source.
SVTS = Soil vapor treatment system.
TBOS = Tetra 2-ethylbutylorthosilicate.
VOC = Volatile organic compound.
*** Historical 815-SRC GWTS and 815-PRX GWTS mass removed values were recalculated using extraction well concentrations.**

Table 2-1. Wells and boreholes installed during 2007.

Well name	Well type	OU	Well/Borehole installation date	HSU	Drill Depth (ft)	Casing depth (ft)	Screened interval (ft-bgs)	Primary COCs	Primary COC sampling frequency	Secondary COCs	Secondary COC sampling frequency
W-850-2312	MWPT	OU5	1/3/07	$Tnbs_0$	132	118.5	113-118	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-850-2315	MWPT	OU5	1/30/07	$Tnbs_0$	110	65.4	55-65	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-850-2316	MWPT	OU5	2/21/07	$Tnbs_0$	240	237.5	227-237	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-PIT7-2309	MWPT	OU5 (Non-CMP)	3/2/07	$Tnbs_0$	79.5	30.5	20-30	NA	NA	NA	NA
B-PIT7-2308	Grouted borehole	OU5 (Non-CMP)	3/27/07	$Tnbs_0$	89.5	NA	NA	NA	NA	NA	NA
W-830-2311	MWPT	OU7	4/17/07	$Tnsc_{1a}$	90	77.5	67-77	VOCs	S	perchlorate, nitrate	A
W-PIT7-2306	EW	OU5 (Non-CMP)	4/24/07	Qal/WBR	50	40.5	25-40	NA	NA	NA	NA
W-PIT7-2305	EW	OU5 (Non-CMP)	5/1/07	Qal/WBR	38	36.5	16-36	NA	NA	NA	NA
W-PIT7-2307	EW	OU5 (Non-CMP)	6/7/07	Qal/WBR	62	47.5	17-47	NA	NA	NA	NA
W-850-2314	MWPT	OU5	6/28/07	$Tnbs_0$	201	181.5	171-181	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-850-2313	MWPT	OU5	7/25/07	$Tnbs_0$	38	34.5	24-34	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-812-2321	MWPT	OU9 (Non-CMP)	9/13/07	Qal/WBR	48	40.5	25-40	NA	NA	NA	NA
W-PIT1-2326	MWPT	OU5 (Non-CMP)	10/9/07	$Tnbs_1$	282	235.12	215-235	NA	NA	NA	NA
W-PIT2-2226	MWPT	OU8	11/7/07	$Tnbs_1/Tnbs_0$	442	415	394-414	Tritium	S	NA	NA
W-850-2416	MWPT	OU5	11/15/07	$Tnbs_0$	161	84.5	74-84	Tritium	S	Uranium, Perchlorate, Nitrate	A
W-850-2417	MWPT	OU5	12/11/07	$Tnbs_1$	61	45.5	30-45	Tritium	S	Uranium, Perchlorate, Nitrate	A

Notes:

See Table Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.1-1. Central General Services Area (CGSA) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
CGSA	July	816	816	1,121	68,408
	August	0	720	0	49,105
	September	0	648	0	40,017
	October	0	696	0	52,864
	November	504	672	1,014	44,948
	December	168	168	409	12,277
Total		1,488	3,720	2,544	267,619

2.1-2. Central General Services Area OU VOCs in ground water treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
Central General Services Area															
CGSA-GWTS-E	7/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-E	8/1/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-E	9/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-E	10/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-E	11/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CGSA-GWTS-I	7/3/07	55	2.1	0.78	<0.5	<0.5	<0.5	<0.5	<0.5	0.72	<0.5	<0.5	0.51	<0.5	<0.5
CGSA-GWTS-I	10/4/07	39	<0.5	0.59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.3	<0.5	<0.5

Notes:

See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.1-2 (Cont.). Analyte detected but not reported in main table.

Location	Date	Detection frequency
Central General Services Area		
CGSA-GWTS-E	7/3/07	0 of 18
CGSA-GWTS-E	8/1/07	0 of 18
CGSA-GWTS-E	9/12/07	0 of 18
CGSA-GWTS-E	10/4/07	0 of 18
CGSA-GWTS-E	11/7/07	0 of 18
CGSA-GWTS-E	12/4/07	0 of 18
CGSA-GWTS-I	7/3/07	0 of 18
CGSA-GWTS-I	10/4/07	0 of 18

Notes:

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.1-3. Central General Services Area OU VOCs in soil vapor extraction treatment system influent.

Reported Compounds (ppm $_{(v/v)}$)	CGSA-SVE-I 7/23/07	CGSA-SVE-I 11/14/07
Bromomethane	<0.005	<0.005
Carbon tetrachloride	<0.005	<0.005
Chlorobenzene	<0.005	<0.005
Chloroethane	<0.005	<0.005
Chloroform	<0.005	<0.005
Chloromethane	<0.005	<0.005
1,2-Dichlorobenzene	<0.005	<0.005
1,3-Dichlorobenzene	<0.005	<0.005
1,4-Dichlorobenzene	<0.005	<0.005
Dichlorodifluoromethane	<0.005	<0.005
1,1-Dichloroethane	<0.005	<0.005
1,2-Dichloroethane	<0.005	<0.005
1,1-Dichloroethene	0.0091	0.02
cis-1,2-Dichloroethene	<0.005	0.019
trans-1,2-Dichloroethene	0.0072	<0.005
1,2-Dichloroethene (total)	<0.005	0.019
1,2-Dichloropropane	<0.005	<0.005
Ethylene Dibromide	<0.005	<0.005
Freon 113	0.011	<0.005
Methylene chloride	<0.005	0.0061
1,1,2,2-Tetrachloroethane	<0.005	<0.005
Tetrachloroethene	0.086	0.25
1,1,1-Trichloroethane	<0.005	<0.005
1,1,2-Trichloroethane	<0.005	<0.005
Trichloroethene	0.52	1.1
Trichlorofluoromethane	<0.005	<0.005
Vinyl chloride	<0.005	<0.005

Notes:
See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.1-4. Central General Services Area OU treatment facility sampling and analysis plan.

Sample Location	Sample Identification	Parameter	Frequency
CGSA GWTS			
Influent Port	CGSA-I	VOCs	Quarterly
		pH	Quarterly
		Nitrate[a]	Quarterly
Effluent Port	CGSA-E	VOCs	Monthly
		pH	Monthly
		Nitrate[a]	Monthly
Vapor Samples	CGSA-CFI	VOCs	Weekly[d]
	CGSA -CFE	VOCs	Weekly[d]
	CGSA -CF2I	VOCs	Weekly[d]
CGSA SVTS System			
Influent Vapor	CGSA-VI	No Monitoring Requirements	
Effluent Vapor	CGSA-VE	VOCs	Weekly[b]
Intermediate GAC	CGSA-VCF4I	VOCs	Weekly[b]

Notes:

One duplicate and one blank (given fictitious labels) shall be taken for every 12 samples.

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

[a] **Nitrate monitoring included as of June 2006 due to the addition of extracted water from 830-DISS.**

[b] **Weekly monitoring for VOCs will consist of the use of a flame-ionization detector, photo-ionization detector, or other District-approved VOC detection device.**

Table 2.1-5. Central General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-35A-01	MWPT	Qal	B	CGSA CMP	E200.7:Cd	2	Y	Next sample required 2ndQ 2009.
W-35A-01	MWPT	Qal	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-35A-01	MWPT	Qal		DIS	E601	1	Y	
W-35A-01	MWPT	Qal	S	CGSA CMP	E601	2	Y	
W-35A-01	MWPT	Qal		DIS	E601	3	Y	
W-35A-01	MWPT	Qal	S	CGSA CMP	E601	4	Y	
W-35A-02	MWPT	Qal	B	CGSA CMP	E200.7:Zn	2	Y	Next sample required 2ndQ 2009.
W-35A-02	MWPT	Qal	S	CGSA CMP	E601	2	Y	
W-35A-02	MWPT	Qal	S	CGSA CMP	E601	4	Y	
W-35A-03	MWPT	Qal	S	CGSA CMP	E601	2	Y	
W-35A-03	MWPT	Qal	S	CGSA CMP	E601	4	Y	
W-35A-04	MWPT	Qal	B	CMP/WGMG	E200.7:Cu	2	Y	Next sample required 2ndQ 2009.
W-35A-04	MWPT	Qal		WGMG	E502.2	3	Y	
W-35A-04	MWPT	Qal	S	CMP/WGMG	E601	2	Y	
W-35A-04	MWPT	Qal	S	CMP/WGMG	E601	4	Y	
W-35A-05	MWPT	$Tnbs_2$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-35A-05	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-35A-05	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-35A-06	MWPT	Qal	S	CGSA CMP	E601	2	Y	
W-35A-06	MWPT	Qal	S	CGSA CMP	E601	4	Y	
W-35A-07	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-35A-07	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-35A-08	GW	$Tnbs_2$	Q	CGSA CMP	E601	1	Y	
W-35A-08	GW	$Tnbs_2$	Q	CGSA CMP	E601	2	Y	
W-35A-08	GW	$Tnbs_2$	Q	CGSA CMP	E601	3	Y	
W-35A-08	GW	$Tnbs_2$	Q	CGSA CMP	E601	4	Y	
W-35A-09	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-35A-09	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-35A-10	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-35A-10	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-35A-11	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-35A-11	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-35A-12	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-35A-12	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-35A-13	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-35A-13	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-35A-14	GW	$Tnbs_2$	Q	CGSA CMP	E601	1	Y	
W-35A-14	GW	$Tnbs_2$	Q	CGSA CMP	E601	2	Y	
W-35A-14	GW	$Tnbs_2$	Q	CGSA CMP	E601	3	Y	
W-35A-14	GW	$Tnbs_2$	Q	CGSA CMP	E601	4	Y	
W-7A	MWPT	$Tnbs_1$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-7A	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7A	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7B	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7B	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7C	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7C	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7E	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	2	Y	
W-7E	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	4	Y	
W-7ES	MWPT	Qal	S	CMP/WGMG	E601	1	Y	
W-7ES	MWPT	Qal	S	CMP/WGMG	E601	3	Y	

Table 2.1-5 (Cont.). Central General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-7F	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-7F	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-7G	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7G	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7H	MWPT	Qal	S	CGSA CMP	E601	2	Y	
W-7H	MWPT	Qal	S	CGSA CMP	E601	4	Y	
W-7I	EW	$Tnbs_2$	B	CMP-TF	E245.2	4	NA	CGSA extraction well. Next sample required 4thQ 2008.
W-7I	EW	$Tnbs_2$	S	CMP-TF	E601	2	N	CGSA extraction well. Insufficient water.
W-7I	EW	$Tnbs_2$	S	CMP-TF	E601	4	Y	CGSA extraction well.
W-7J	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-7J	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-7K	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7K	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7L	MWPT	$Tnbs_1$	B	CGSA CMP	E200.7:Cu	2	Y	Next sample required 2ndQ 2009.
W-7L	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7L	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7M	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7M	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7N	MWPT	$Tnbs_1$	B	CGSA CMP	E245.2	2	Y	Next sample required 2ndQ 2009.
W-7N	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-7N	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-7O	EW	Qal	B	CMP-TF	E200.7:Cu	2	Y	CGSA extraction well. Next sample required 2ndQ 2009.
W-7O	EW	Qal	B	CMP-TF	E200.7:Zn	2	Y	CGSA extraction well. Next sample required 2ndQ 2009.
W-7O	EW	Qal	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-7O	EW	Qal	S	CMP-TF	E601	4	N	CGSA extraction well. Insufficient water.
W-7P	EW	$Tnbs_1$	S	CMP-TF	E601	2	N	CGSA extraction well. Insufficient water.
W-7P	EW	$Tnbs_1$	S	CMP-TF	E601	4	N	CGSA extraction well. Insufficient water.
W-7PS	MWPT	Qal	Q	CMP/WGMG	E601	1	N	Dry.
W-7PS	MWPT	Qal	Q	CMP/WGMG	E601	2	Y	
W-7PS	MWPT	Qal	Q	CMP/WGMG	E601	3	N	Dry.
W-7PS	MWPT	Qal	Q	CMP/WGMG	E601	4	N	Dry.
W-7Q	MWPT	$Tnbs_2$		DIS	E601	1	Y	
W-7Q	MWPT	$Tnbs_2$		DIS	E601	2	Y	
W-7Q	MWPT	$Tnbs_2$		DIS	E601	3	Y	
W-7Q	MWPT	$Tnbs_2$		DIS	E601	4	Y	
W-7R	EW	Qal	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-7R	EW	Qal	S	CMP-TF	E601	4	Y	CGSA extraction well.
W-7S	MWPT	Qal		DIS	E601	1	Y	
W-7S	MWPT	Qal		DIS	E601	2	Y	
W-7S	MWPT	Qal		DIS	E601	3	Y	
W-7S	MWPT	Qal		DIS	E601	4	Y	
W-7T	MWPT	Qal		DIS	E601	1	Y	
W-7T	MWPT	Qal		DIS	E601	2	Y	
W-7T	MWPT	Qal		DIS	E601	3	Y	

Table 2.1-5 (Cont.). Central General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-7T	MWPT	Qal		DIS	E601	4	Y	
W-843-01	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-843-01	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-843-02	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-843-02	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-872-01	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Cu	2	N	Next sample required 2ndQ 2009. Insufficient water.
W-872-01	MWPT	$Tnbs_2$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-872-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-872-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-872-02	EW	$Tnbs_2$	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-872-02	EW	$Tnbs_2$	S	CMP-TF	E601	4	N	CGSA extraction well. Insufficient water.
W-873-01	MWPT	$Tnbs_1$	S	CGSA CMP	E601	2	Y	
W-873-01	MWPT	$Tnbs_1$	S	CGSA CMP	E601	4	Y	
W-873-02	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-873-02	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-873-03	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-873-03	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-873-04	MWPT	$Tnsc_1$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-873-04	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-873-04	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-873-06	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Cd	2	Y	Next sample required 2ndQ 2009.
W-873-06	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-873-06	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-873-07	EW	$Tnbs_2$	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-873-07	EW	$Tnbs_2$	S	CMP-TF	E601	4	Y	CGSA extraction well.
W-875-01	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Cd	2	Y	Next sample required 2ndQ 2009.
W-875-01	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Cu	2	Y	Next sample required 2ndQ 2009.
W-875-01	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Zn	2	Y	Next sample required 2ndQ 2009.
W-875-01	MWPT	$Tnbs_2$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-875-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-875-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-875-02	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-875-02	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-875-03	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	N	Dry.
W-875-03	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-875-04	MWPT	$Tnbs_2$	B	CGSA CMP	E239.2	2	Y	Next sample required 2ndQ 2009.
W-875-04	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-875-04	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-875-05	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-875-05	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-875-06	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-875-06	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-875-07	EW	$Tnbs_2$	B	CMP-TF	E239.2	2	Y	CGSA extraction well. Next sample required 2ndQ 2009.
W-875-07	EW	$Tnbs_2$	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-875-07	EW	$Tnbs_2$	S	CMP-TF	E601	4	N	CGSA extraction well. Insufficient water.
W-875-08	EW	$Tnbs_2$	S	CMP-TF	E601	2	Y	CGSA extraction well.
W-875-08	EW	$Tnbs_2$	S	CMP-TF	E601	4	Y	CGSA extraction well.

Table 2.1-5 (Cont.). Central General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-875-09	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	N	CGSA extraction well. Insufficient water.
W-875-09	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	N	CGSA extraction well. Insufficient water.
W-875-10	MWPT	$Tnbs_2$	B	CGSA CMP	E200.7:Ba	2	NA	Next sample required 2ndQ 2008.
W-875-10	MWPT	$Tnbs_2$	B	CGSA CMP	E239.2	2	NA	Next sample required 2ndQ 2008.
W-875-10	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	N	CGSA extraction well. Insufficient water.
W-875-10	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	N	CGSA extraction well. Insufficient water.
W-875-11	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	N	CGSA extraction well. Insufficient water.
W-875-11	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	N	CGSA extraction well. Insufficient water.
W-875-15	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	N	CGSA extraction well. Insufficient water.
W-875-15	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	N	CGSA extraction well. Insufficient water.
W-876-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	2	Y	
W-876-01	MWPT	$Tnbs_2$	S	CGSA CMP	E601	4	Y	
W-879-01	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-879-01	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-889-01	MWPT	$Tnsc_1$	S	CGSA CMP	E601	2	Y	
W-889-01	MWPT	$Tnsc_1$	S	CGSA CMP	E601	4	Y	
W-CGSA-1732	MWPT	Qal		DIS	E601	1	N	Insufficient water.
W-CGSA-1733	MWPT	Qal		DIS	E601	1	N	Dry.
W-CGSA-1733	MWPT	Qal		DIS	E601	2	Y	
W-CGSA-1733	MWPT	Qal		DIS	E601	3	N	Dry.
W-CGSA-1733	MWPT	Qal		DIS	E601	4	N	Dry.
W-CGSA-1735	MWPT	Qal		DIS	E601	1	N	Dry.
W-CGSA-1736	MWPT	Qal		DIS	E601	2	Y	
W-CGSA-1736	MWPT	Qal		DIS	E601	4	Y	
W-CGSA-1737	MWPT	Qal		DIS	E601	2	Y	
W-CGSA-1737	MWPT	Qal		DIS	E601	4	Y	
W-CGSA-1739	MWPT	Qal		DIS	E601	1	Y	
W-CGSA-1739	MWPT	Qal		DIS	E601	2	Y	
W-CGSA-1739	MWPT	Qal		DIS	E601	3	Y	
W-CGSA-1739	MWPT	Qal		DIS	E601	4	Y	

Notes:

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.1-6. Eastern General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
CDF-1	WS	Qal-$Tnsc_0$		WGMG	E502.2	1	Y	
CDF-1	WS	Qal-$Tnsc_0$		WGMG	E502.2	2	Y	
CDF-1	WS	Qal-$Tnsc_0$		WGMG	E502.2	3	Y	
CDF-1	WS	Qal-$Tnsc_0$		WGMG	E502.2	4	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CDF-1	WS	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-1	WS	$Tnsc_0$		WGMG	E502.2	1	Y	
CON-1	WS	$Tnsc_0$		WGMG	E502.2	2	Y	
CON-1	WS	$Tnsc_0$		WGMG	E502.2	3	Y	
CON-1	WS	$Tnsc_0$		WGMG	E502.2	4	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-1	WS	$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	N	Inadvertantly left off plan.
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	1	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	2	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	3	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
CON-2	MWPT	Qal-$Tnsc_0$	M	CMP/WGMG	E601	4	Y	
W-24P-03	MWPT	Qal	A	PSDMP	E601	1	Y	
W-25D-01	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25D-02	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25M-01	MWPT	Qal	A	PSDMP	E601	3	Y	
W-25M-02	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25M-03	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25N-01	EW	Qal	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.

Table 2.1-6 (Cont.). Eastern General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-25N-01	EW	Qal	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-01	EW	Qal	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-25N-04	MWPT	Tmss	A	PSDMP	E601	2	N	Inadvertantly left off plan.
W-25N-05	MWPT	$Tnbs_1$	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-25N-05	MWPT	$Tnbs_1$	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-05	MWPT	$Tnbs_1$	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-05	MWPT	$Tnbs_1$	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-25N-06	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25N-07	GW	Qal	Q	PSDMP	E601	1	Y	
W-25N-07	GW	Qal	Q	PSDMP	E601	2	Y	
W-25N-07	GW	Qal		DIS	E601	2	Y	
W-25N-07	GW	Qal		DIS	E601	2	Y	
W-25N-07	GW	Qal	Q	PSDMP	E601	3	Y	
W-25N-07	GW	Qal		DIS	E601	3	Y	
W-25N-07	GW	Qal		DIS	E601	3	Y	
W-25N-07	GW	Qal	Q	PSDMP	E601	4	Y	
W-25N-08	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-09	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-10	GW	$Tnbs_1$	Q	PSDMP	E601	1	Y	
W-25N-10	GW	$Tnbs_1$	Q	PSDMP	E601	2	Y	
W-25N-10	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-10	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-10	GW	$Tnbs_1$	Q	PSDMP	E601	3	Y	
W-25N-10	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-10	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-10	GW	$Tnbs_1$	Q	PSDMP	E601	4	Y	
W-25N-11	GW	$Tnbs_1$	Q	PSDMP	E601	1	Y	
W-25N-11	GW	$Tnbs_1$	Q	PSDMP	E601	2	Y	
W-25N-11	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-11	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-11	GW	$Tnbs_1$	Q	PSDMP	E601	3	Y	
W-25N-11	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-11	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-11	GW	$Tnbs_1$	Q	PSDMP	E601	4	Y	
W-25N-12	GW	$Tnbs_1$	Q	PSDMP	E601	1	Y	
W-25N-12	GW	$Tnbs_1$	Q	PSDMP	E601	2	Y	
W-25N-12	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-12	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-12	GW	$Tnbs_1$	Q	PSDMP	E601	3	Y	
W-25N-12	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-12	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-12	GW	$Tnbs_1$	Q	PSDMP	E601	4	Y	
W-25N-13	GW	$Tnbs_1$	Q	PSDMP	E601	1	Y	
W-25N-13	GW	$Tnbs_1$	Q	PSDMP	E601	2	Y	
W-25N-13	GW	$Tnbs_1$		DIS	E601	2	Y	
W-25N-13	GW	$Tnbs_1$		DIS	E601	2	Y	

Table 2.1-6 (Cont.). Eastern General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-25N-13	GW	$Tnbs_1$	Q	PSDMP	E601	3	Y	
W-25N-13	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-13	GW	$Tnbs_1$		DIS	E601	3	Y	
W-25N-13	GW	$Tnbs_1$	Q	PSDMP	E601	4	Y	
W-25N-15	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25N-18	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-20	MWPT	Qal	A	PSDMP	E601	2	Y	
W-25N-21	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-22	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-23	MWPT	$Tnbs_1$	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-25N-23	MWPT	$Tnbs_1$	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-23	MWPT	$Tnbs_1$	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-23	MWPT	$Tnbs_1$	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-25N-24	EW	Qal	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-25N-25	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-26	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-25N-28	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-26R-01	MWPT	$Tnbs_1$	Q	WGMG/PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$	Q	WGMG/PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$	Q	WGMG/PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-01	MWPT	$Tnbs_1$	Q	WGMG/PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-26R-02	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-26R-03	EW	Qal	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-03	EW	Qal	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-04	MWPT	Qal	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.

Table 2.1-6 (Cont.). Eastern General Services Area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-26R-05	MWPT	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-05	MWPT	Qal	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$	Q	PSDMP	E601	1	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$	Q	PSDMP	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$		DIS	E601	2	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$	Q	PSDMP	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$		DIS	E601	3	Y	Quarterly for 1 yr. then semiannually.
W-26R-06	MWPT	$Tnbs_1$	Q	PSDMP	E601	4	Y	Quarterly for 1 yr. then semiannually.
W-26R-07	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-26R-08	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-26R-11	MWPT	Qal	S	CMP	E601	2	Y	
W-26R-11	MWPT	Qal	S	CMP	E601	4	Y	
W-7D	MWPT	$Tnbs_1$	A	PSDMP	E601	2	Y	
W-7DS	MWPT	Qal		WGMG	E601	1	Y	
W-7DS	MWPT	Qal	A	WGMG/PSDMP	E601	2	Y	

Notes:

PSDMP = Post-shutdown Monitoring Plan.

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.1-7. Central General Services Area (CGSA) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
CGSA	July	110	11	NA	NA	NA	NA
	August	0	5.6	NA	NA	NA	NA
	September	0	5.1	NA	NA	NA	NA
	October	0	5.5	NA	NA	NA	NA
	November	360	8.8	NA	NA	NA	NA
	December	150	2.8	NA	NA	NA	NA
Total		620	39	NA	NA	NA	NA

Table 2.2-1. Building 834 (834) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
834	July	25	816	168	1,726
	August	0	696	0	1,498
	September	0	672	0	1,440
	October	0	840	0	2,318
	November	459	624	2,962	9,042
	December	289	288	1,840	4,413
Total		773	3,936	4,970	20,437

2.2-2. Building 834 OU VOCs in ground water extraction treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
834-GWTS-E	7/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-E	8/1/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-E	9/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-E	10/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-E	11/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-E	12/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
834-GWTS-I	7/2/07	2,100 D	16	300 D	<25 D	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.79	<0.5	<0.5	<0.5
834-GWTS-I	10/2/07	2,900 D	17	740 D	<25 D	<0.5	0.75	<0.5	<0.5	0.67	<0.5	1.1	<0.5	<0.5	<0.5

Notes:

See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.2-2 (Cont.). Analyte detected but not reported in main table.

Location	Date	Detection frequency	1,2-DCE (total) (µg/L)
834-GWTS-E	7/2/07	0 of 18	–
834-GWTS-E	8/1/07	0 of 18	–
834-GWTS-E	9/4/07	0 of 18	–
834-GWTS-E	10/2/07	0 of 18	–
834-GWTS-E	11/7/07	0 of 18	–
834-GWTS-E	12/3/07	0 of 18	–
834-GWTS-I	7/2/07	0 of 18	300 D
834-GWTS-I	10/2/07	0 of 18	740 D

Notes:

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.2-3. Building 834 OU nitrate in ground water extraction treatment system influent and effluent.

Location	Date	Nitrate (as NO3) (mg/L)
834-GWTS-E	7/2/07	87
834-GWTS-E	8/1/07	84
834-GWTS-E	9/4/07	82
834-GWTS-E	10/2/07	73
834-GWTS-E	11/7/07	55
834-GWTS-E	12/3/07	56
834-GWTS-I	7/2/07	57
834-GWTS-I	10/2/07	54

Notes:
See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.2-4. Building 834 OU diesel range organic compounds in ground water extraction treatment system influent and effluent.

Location	Date	Diesel Range Organics (C12-C24) (µg/L)
834-GWTS-E	7/2/07	<200 D
834-GWTS-E	8/1/07	<200
834-GWTS-E	9/4/07	<200
834-GWTS-E	10/2/07	<200 D
834-GWTS-E	11/7/07	<200
834-GWTS-E	12/3/07	<200 D
834-GWTS-I	7/2/07	380 D
834-GWTS-I	8/1/07	240
834-GWTS-I	9/4/07	320
834-GWTS-I	10/2/07	1,000
834-GWTS-I	11/7/07	340 J
834-GWTS-I	12/3/07	290 D

Notes:
See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.2-5. Building 834 OU TBOS in ground water extraction treatment system influent and effluent.

Location	Date	TBOS (μg/L)
834-GWTS-E	7/2/07	<10 D
834-GWTS-E	8/1/07	<10 DO
834-GWTS-E	9/4/07	<10
834-GWTS-E	10/2/07	<10 DO
834-GWTS-E	11/7/07	<10
834-GWTS-E	12/3/07	<10 D
834-GWTS-I	7/2/07	<10 D
834-GWTS-I	8/1/07	28 DLO
834-GWTS-I	9/4/07	21
834-GWTS-I	10/2/07	<10 DLO
834-GWTS-I	11/7/07	<10
834-GWTS-I	12/3/07	14

Notes:
See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.2-6. Building 834 OU treatment facility sampling and analysis plan.

Sample location	Sample identification	Parameter	Frequency
834 GWTS			
Influent Port	**834-I**	**VOCs**	**Quarterly**
		TBOS	**Quarterly**
		Diesel	**Quarterly**
		Nitrate	**Quarterly**
		pH	**Quarterly**
Effluent Port	**834-E**	**VOCs**	**Monthly**
		TBOS	**Monthly**
		Diesel	**Monthly**
		Nitrate	**Monthly**
		pH	**Monthly**
834 SVTS			
Influent Port	**834-VI**	**No Monitoring Requirements**	
Effluent Port	**834-VE**	**VOCs**	**Weekly**[a]
Intermediate GAC	**834-VCF4I**	**VOCs**	**Weekly**[a]

Notes:

One duplicate and one blank (given fictitious labels) shall be taken for every 12 samples.

[a] **Weekly monitoring for VOCs will consist of the use of a flame-ionization detector, photo-ionization detector, or other District-approved VOC detection device.**

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.2-7. Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-1709	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-1709	MWPT	Tpsg		DIS	E300.0:PERC	3	Y	
W-834-1709	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-1709	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-1709	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-1711	MWPT	Tps		DIS	DMETALS	3	Y	
W-834-1711	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-834-1711	MWPT	Tps	S	CMP	E601	1	Y	
W-834-1711	MWPT	Tps	S	CMP	E601	3	Y	
W-834-1711	MWPT	Tps	A	CMP	TBOS	1	Y	
W-834-1824	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-1824	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-1824	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-1824	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-1824	MWPT	Tpsg	A	DIS	TBOS	1	Y	
W-834-1825	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-1825	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-1825	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-1825	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-1825	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-1833	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-1833	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-1833	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-1833	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-1833	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-2001	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-2001	EW	Tpsg	S	CMP-TF	E624	1	Y	B834 extraction well.
W-834-2001	EW	Tpsg	S	CMP-TF	E624	3	Y	B834 extraction well.
W-834-2001	EW	Tpsg	A	CMP-TF	EM8015:DIESEL	1	Y	B834 extraction well.
W-834-2001	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-2113	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-2113	MWPT	Tpsg	S	CMP	E624	1	Y	
W-834-2113	MWPT	Tpsg		DIS	E624	2	Y	
W-834-2113	MWPT	Tpsg	S	CMP	E624	3	Y	
W-834-2113	MWPT	Tpsg		DIS	E624	4	Y	
W-834-2113	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-2113	MWPT	Tpsg		DIS	TBOS	3	Y	
W-834-2117	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-2117	MWPT	Tpsg	S	CMP	E624	1	Y	
W-834-2117	MWPT	Tpsg		DIS	E624	2	Y	
W-834-2117	MWPT	Tpsg	S	CMP	E624	3	Y	
W-834-2117	MWPT	Tpsg		DIS	E624	4	Y	
W-834-2117	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-2118	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-2118	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-2118	MWPT	Tpsg		DIS	E300.0:PERC	3	Y	
W-834-2118	MWPT	Tpsg	S	CMP	E624	1	Y	

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-2118	MWPT	Tpsg		DIS	E624	2	Y	
W-834-2118	MWPT	Tpsg	S	CMP	E624	3	Y	
W-834-2118	MWPT	Tpsg		DIS	E624	4	Y	
W-834-2118	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-2119	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-2119	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-2119	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-2119	MWPT	Tpsg	S	CMP	E624	1	Y	
W-834-2119	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-A1	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-834-A1	MWPT	Tps	S	CMP	E601	3	Y	
W-834-A1	MWPT	Tps	S	CMP	E624	1	Y	
W-834-A1	MWPT	Tps	A	CMP	EM8015:DIESEL	1	Y	
W-834-A1	MWPT	Tps	A	CMP	TBOS	1	Y	
W-834-A2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Insufficient water.
W-834-A2	MWPT	Tpsg	S	CMP	E601	1	N	Insufficient water.
W-834-A2	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-A2	MWPT	Tpsg	A	CMP	EM8015:DIESEL	1	N	Insufficient water.
W-834-A2	MWPT	Tpsg	A	CMP	TBOS	1	N	Insufficient water.
W-834-B2	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-B2	EW	Tpsg		DIS	E300.0:PERC	1	Y	B834 extraction well.
W-834-B2	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-B2	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-B2	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-B3	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-B3	EW	Tpsg		DIS	E300.0:PERC	1	Y	B834 extraction well.
W-834-B3	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-B3	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-B3	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-B4	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-B4	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-B4	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-B4	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-C2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-C2	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-C2	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-C2	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-C4	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-C4	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-C4	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-C4	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-C5	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-C5	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-C5	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-C5	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D10	MWPT	Tps	A	CMP	E300.0:NO3	1	N	Dry.
W-834-D10	MWPT	Tps	S	CMP	E624	1	N	Dry.

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-D10	MWPT	Tps	S	CMP	E624	3	N	Dry.
W-834-D10	MWPT	Tps	A	CMP	EM8015:DIESEL	1	N	Dry.
W-834-D10	MWPT	Tps	A	CMP	TBOS	1	N	Dry.
W-834-D11	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-D11	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-D11	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-D11	MWPT	Tpsg	S	CMP	E601	3	N	Insufficient water.
W-834-D11	MWPT	Tpsg	A	CMP	EM8015:DIESEL	1	N	Insufficient water.
W-834-D11	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D12	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-D12	EW	Tpsg		DIS	E300.0:PERC	1	Y	B834 extraction well.
W-834-D12	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-D12	EW	Tpsg	S	CMP-TF	E624	1	Y	B834 extraction well.
W-834-D12	EW	Tpsg	A	CMP-TF	EM8015:DIESEL	1	Y	B834 extraction well.
W-834-D12	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-D13	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-D13	EW	Tpsg		DIS	E300.0:PERC	1	Y	B834 extraction well.
W-834-D13	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-D13	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-D13	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-D14	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-D14	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-D14	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-D14	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D15	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-D15	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-D15	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-D15	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D16	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-D16	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-D16	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-D16	MWPT	Tpsg	A	CMP	EM8015:DIESEL	1	N	Dry.
W-834-D16	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-D17	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-D17	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-D17	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-D17	MWPT	Tpsg	A	CMP	EM8015:DIESEL	1	N	Dry.
W-834-D17	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-D18	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-D18	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-D18	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-D18	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D2	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	N	Dry.
W-834-D2	MWPT	$Tnbs_1$	A	CMP	E601	1	N	Dry.
W-834-D2	MWPT	$Tnbs_1$	A	CMP	TBOS	1	N	Dry.
W-834-D3	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-D3	MWPT	Tpsg	S	CMP	E601	1	Y	

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-D3	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-D3	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-D4	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-D4	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-D4	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-D4	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-D5	MWPT	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	
W-834-D5	MWPT	Tpsg	S	CMP-TF	E601	1	Y	
W-834-D5	MWPT	Tpsg	S	CMP-TF	E601	3	Y	
W-834-D5	MWPT	Tpsg	A	CMP-TF	TBOS	1	Y	
W-834-D6	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-D6	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-D6	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-D6	EW	Tpsg		DIS	EM8015:DIESEL	1	Y	B834 extraction well.
W-834-D6	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-D7	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-D7	EW	Tpsg	S	CMP-TF	E624	1	Y	B834 extraction well.
W-834-D7	EW	Tpsg	S	CMP-TF	E624	3	Y	B834 extraction well.
W-834-D7	EW	Tpsg	A	CMP-TF	EM8015:DIESEL	1	Y	B834 extraction well.
W-834-D7	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-D9A	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	N	Dry.
W-834-D9A	MWPT	$Tnbs_2$	A	CMP	E601	1	N	Dry.
W-834-D9A	MWPT	$Tnbs_2$	A	CMP	TBOS	1	N	Dry.
W-834-G3	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-G3	MWPT	Tpsg	A	CMP	E601	1	N	Dry.
W-834-G3	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-H2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Insufficient water.
W-834-H2	MWPT	Tpsg	S	CMP	E601	1	N	Insufficient water.
W-834-H2	MWPT	Tpsg	S	CMP	E601	3	N	Insufficient water.
W-834-H2	MWPT	Tpsg	A	CMP	TBOS	1	N	Insufficient water.
W-834-J1	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-J1	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-J1	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-J1	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-J2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-J2	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-J2	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-J2	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-J2	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-J3	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-J3	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-J3	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-J3	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-K1A	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-K1A	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-K1A	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-K1A	MWPT	Tpsg	A	CMP	EM8015:DIESEL	1	N	Dry.

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-K1A	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-M1	MWPT	Tpsg		DIS	E218.2	1	Y	
W-834-M1	MWPT	Tpsg		DIS	E218.2	3	Y	
W-834-M1	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-M1	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-M1	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-M1	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-M2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-M2	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-M2	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-M2	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-S1	EW	Tpsg		DIS	E218.2	1	Y	B834 extraction well.
W-834-S1	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-S1	EW	Tpsg	S	CMP-TF	E624	1	Y	B834 extraction well.
W-834-S1	EW	Tpsg	S	CMP-TF	E624	3	Y	B834 extraction well.
W-834-S1	EW	Tpsg	A	CMP-TF	EM8015:DIESEL	1	Y	B834 extraction well.
W-834-S1	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-S10	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-S10	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-S10	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-S10	MWPT	Tpsg	S	CMP	EM8015:DIESEL	1	N	Dry.
W-834-S10	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-S12A	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-S12A	EW	Tpsg		DIS	E300.0:PERC	1	Y	B834 extraction well.
W-834-S12A	EW	Tpsg	S	CMP-TF	E624	1	Y	B834 extraction well.
W-834-S12A	EW	Tpsg	S	CMP-TF	E624	3	Y	B834 extraction well.
W-834-S12A	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-S13	EW	Tpsg	A	CMP-TF	E300.0:NO3	1	Y	B834 extraction well.
W-834-S13	EW	Tpsg	S	CMP-TF	E601	1	Y	B834 extraction well.
W-834-S13	EW	Tpsg	S	CMP-TF	E601	3	Y	B834 extraction well.
W-834-S13	EW	Tpsg	A	CMP-TF	TBOS	1	Y	B834 extraction well.
W-834-S4	MWPT	Tpsg		DIS	E218.2	1	Y	
W-834-S4	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-S4	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-S4	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-S4	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-S5	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-S5	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-S5	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-S5	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-S6	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-S6	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-S6	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-S6	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-S7	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-S7	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-S7	MWPT	Tpsg		DIS	E300.0:PERC	3	Y	

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-S7	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-S7	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-S7	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-S8	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-834-S8	MWPT	$Tnsc_2$	S	CMP	E624	1	Y	
W-834-S8	MWPT	$Tnsc_2$	S	CMP	E624	3	Y	
W-834-S8	MWPT	$Tnsc_2$	A	CMP	EM8015:DIESEL	1	Y	
W-834-S8	MWPT	$Tnsc_2$	A	CMP	TBOS	1	Y	
W-834-S9	MWPT	$Tnsc_2$		DIS	E218.2	1	Y	
W-834-S9	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-834-S9	MWPT	$Tnsc_2$	S	CMP	E624	1	Y	
W-834-S9	MWPT	$Tnsc_2$	S	CMP	E624	3	Y	
W-834-S9	MWPT	$Tnsc_2$	A	CMP	EM8015:DIESEL	1	Y	
W-834-S9	MWPT	$Tnsc_2$	A	CMP	TBOS	1	Y	
W-834-T1	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-834-T1	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-834-T1	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
W-834-T1	GW	$Tnbs_1$	Q	CMP	E601	2	Y	
W-834-T1	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
W-834-T1	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
W-834-T1	GW	$Tnbs_1$	S	CMP	TBOS	1	Y	
W-834-T1	GW	$Tnbs_1$	S	CMP	TBOS	3	Y	
W-834-T11	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-T11	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-T11	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-T11	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-T2	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-T2	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-T2	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-T2	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-T2A	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-T2A	MWPT	Tpsg		DIS	E300.0:PERC	1	Y	
W-834-T2A	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-T2A	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-T2A	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-T2B	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-T2B	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-T2B	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-T2B	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-T2C	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-T2C	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-T2C	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-T2C	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-T2D	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-T2D	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-T2D	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-T2D	MWPT	Tpsg	A	CMP	TBOS	1	Y	

Table 2.2-7 (Cont.). Building 834 OU ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-834-T3	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-834-T3	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-834-T3	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
W-834-T3	GW	$Tnbs_1$	Q	CMP	E601	2	Y	
W-834-T3	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
W-834-T3	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
W-834-T3	GW	$Tnbs_1$	S	CMP	TBOS	1	Y	
W-834-T3	GW	$Tnbs_1$	S	CMP	TBOS	3	Y	
W-834-T5	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-T5	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-T5	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-T5	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-T7A	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-834-T7A	MWPT	Tpsg	S	CMP	E601	1	Y	
W-834-T7A	MWPT	Tpsg	S	CMP	E601	3	Y	
W-834-T7A	MWPT	Tpsg	A	CMP	TBOS	1	Y	
W-834-T8A	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-T8A	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-T8A	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-T8A	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-T9	MWPT	Tpsg	A	CMP	E300.0:NO3	1	N	Dry.
W-834-T9	MWPT	Tpsg	S	CMP	E601	1	N	Dry.
W-834-T9	MWPT	Tpsg	S	CMP	E601	3	N	Dry.
W-834-T9	MWPT	Tpsg	A	CMP	TBOS	1	N	Dry.
W-834-U1	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-834-U1	MWPT	Tps	S	CMP	E601	1	Y	
W-834-U1	MWPT	Tps	S	CMP	E624	3	Y	
W-834-U1	MWPT	Tps	A	CMP	EM8015:DIESEL	1	Y	
W-834-U1	MWPT	Tps	A	CMP	TBOS	1	Y	

Notes:
Building 834 primary COC: VOCs (E601, 502.2, or E624).
Building 834 secondary COC: Nitrate (E300.0:NO3).
Building 834 secondary COC: TBOS/TKEBS.
Building 834 secondary COC: Diesel.
See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.2-8. Building 834 (834) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
834	July	80	26	NA	0.25	NA	0.022
	August	0	45	NA	0.19	NA	0.021
	September	0	44	NA	0.19	NA	0.014
	October	0	72	NA	0.31	NA	0.024
	November	760	190	NA	2.4	NA	0.15
	December	450	85	NA	1.2	NA	0.068
Total		1,300	460	NA	4.6	NA	0.30

Table 2.3-1. Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
BC6-10	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
BC6-10	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
BC6-10	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
BC6-10	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
BC6-10	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
BC6-10	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
BC6-13 (SPRING 7)	MWPT	Qt/$Tnbs_1$	A	CMP	E300.0:NO3	1	N	Dry.
BC6-13 (SPRING 7)	MWPT	Qt/$Tnbs_1$	A	CMP	E300.0:PERC	1	N	Dry.
BC6-13 (SPRING 7)	MWPT	Qt/$Tnbs_1$	A	CMP	E601	1	N	Dry.
BC6-13 (SPRING 7)	MWPT	Qt/$Tnbs_1$	A	CMP	E906	1	N	Dry.
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	3	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	4	Y	
CARNRW1	WS	$Tnbs_1$/Tmss	M	CMP/WGMG	E601	4	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
CARNRW1	WS	Tnbs$_1$/Tmss		WGMG	E624	1	Y	
CARNRW1	WS	Tnbs$_1$/Tmss		WGMG	E624	3	Y	
CARNRW1	WS	Tnbs$_1$/Tmss		WGMG	E624	4	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW1	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:NO3	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E300.0:PERC	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss		WGMG	E502.2	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss		WGMG	E502.2	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss		WGMG	E502.2	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	3	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E601	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	1	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	2	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	3	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW2	WS	Tnbs$_1$/Tmss	M	CMP/WGMG	E906	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:NO3	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E300.0:PERC	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	4	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E601	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	1	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	2	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	3	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	4	Y	
CARNRW3	WS	Tnbs$_1$/Tmss	M	CMP	E906	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:NO3	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E300.0:PERC	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E601	4	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
CARNRW4	WS	Qal/Tts	M	CMP	E906	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	1	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	2	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	3	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	4	Y	
CARNRW4	WS	Qal/Tts	M	CMP	E906	4	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	1	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	2	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	3	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	4	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	1	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	2	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	3	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	4	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E624	1	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E8260	2	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E8260	3	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E8260	4	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E906	1	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E906	2	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E906	3	Y	
EP6-06*	DMW	$Qt/Tnbs_1$		WGMG	E906	4	Y	
EP6-07	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
EP6-07	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
EP6-07	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
EP6-07	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
EP6-07	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
EP6-07	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E624	1	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
EP6-08*	DMW	$Tnbs_1$		WGMG	E906	4	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E624	1	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
EP6-09*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E601	1	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E601	3	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K6-01**	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E624	1	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E8260	2	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E8260	3	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E8260	4	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E906	1	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E906	2	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E906	3	Y	
K6-01S*	DMW	$Qt/Tnbs_1$		WGMG	E906	4	Y	
K6-03	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	1	Y	
K6-03	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:PERC	1	Y	
K6-03	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	1	Y	
K6-03	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	3	Y	
K6-03	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	1	Y	
K6-03	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	3	Y	
K6-04	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-04	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-04	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-04	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-04	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-04	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K6-14	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-14	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-14	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-14	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-14	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-14	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
K6-15	MWPT	$Qt/Tnbs_1$	A	CMP/WGMG	E300.0:NO3	1	N	Dry.
K6-15	MWPT	$Qt/Tnbs_1$	A	CMP/WGMG	E300.0:PERC	1	N	Dry.
K6-15	MWPT	$Qt/Tnbs_1$	S	CMP/WGMG	E601	1	N	Dry.
K6-15	MWPT	$Qt/Tnbs_1$	S	CMP/WGMG	E601	3	N	Dry.
K6-15	MWPT	$Qt/Tnbs_1$	S	CMP/WGMG	E906	1	N	Dry.
K6-15	MWPT	$Qt/Tnbs_1$	S	CMP/WGMG	E906	3	N	Dry.
K6-16	MWPT	$Qt/Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-16	MWPT	$Qt/Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-16	MWPT	$Qt/Tnbs_1$	S	CMP	E601	1	Y	
K6-16	MWPT	$Qt/Tnbs_1$	S	CMP	E601	3	Y	
K6-16	MWPT	$Qt/Tnbs_1$	S	CMP	E906	1	Y	
K6-16	MWPT	$Qt/Tnbs_1$	S	CMP	E906	3	Y	
K6-17	GW	$Qt/Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
K6-17	GW	$Qt/Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
K6-17	GW	$Qt/Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
K6-17	GW	$Qt/Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E601	1	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E601	2	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E601	3	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E601	4	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E906	1	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E906	2	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E906	3	Y	
K6-17	GW	$Qt/Tnbs_1$	Q	CMP	E906	4	Y	
K6-18	MWPT	$Qt/Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-18	MWPT	$Qt/Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-18	MWPT	$Qt/Tnbs_1$	S	CMP	E601	1	Y	
K6-18	MWPT	$Qt/Tnbs_1$	S	CMP	E601	3	Y	
K6-18	MWPT	$Qt/Tnbs_1$	S	CMP	E906	1	Y	
K6-18	MWPT	$Qt/Tnbs_1$	S	CMP	E906	3	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E624	1	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E8260	2	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E8260	3	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E8260	4	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E906	1	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E906	2	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E906	3	Y	
K6-19*	DMW	$Qt/Tnbs_1$		WGMG	E906	4	Y	
K6-21	MWPT	Qt	A	CMP	E300.0:NO3	1	N	Dry.
K6-21	MWPT	Qt	A	CMP	E300.0:PERC	1	N	Dry.
K6-21	MWPT	Qt	A	CMP	E601	1	N	Dry.
K6-21	MWPT	Qt	A	CMP	E906	1	N	Dry.
K6-22	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
K6-22	GW	$Tnbs_1$		DIS	E300.0:NO3	2	Y	
K6-22	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
K6-22	GW	$Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
K6-22	GW	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
K6-22	GW	$Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E601	2	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E906	1	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E906	2	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E906	3	Y	
K6-22	GW	$Tnbs_1$	Q	CMP	E906	4	Y	
K6-23	MWPT	Tmss	A	CMP	E300.0:NO3	1	Y	
K6-23	MWPT	Tmss	A	CMP	E300.0:PERC	1	Y	
K6-23	MWPT	Tmss	S	CMP	E601	1	Y	
K6-23	MWPT	Tmss	S	CMP	E601	3	Y	
K6-23	MWPT	Tmss	S	CMP	E906	1	Y	
K6-23	MWPT	Tmss	S	CMP	E906	3	Y	
K6-24	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-24	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-24	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-24	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-24	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-24	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
K6-25	MWPT	Tmss	A	CMP	E300.0:NO3	1	Y	
K6-25	MWPT	Tmss	A	CMP	E300.0:PERC	1	Y	
K6-25	MWPT	Tmss	S	CMP	E601	1	Y	
K6-25	MWPT	Tmss	S	CMP	E601	3	Y	
K6-25	MWPT	Tmss	S	CMP	E906	1	Y	
K6-25	MWPT	Tmss	S	CMP	E906	3	Y	
K6-26	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-26	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-26	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-26	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-26	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-26	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
K6-27	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-27	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-27	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-27	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-27	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-27	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K6-32	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	1	Y	
K6-32	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:PERC	1	Y	
K6-32	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	1	Y	
K6-32	MWPT	$Tnbs_1$	S	CMP/WGMG	E601	3	Y	
K6-32	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	1	Y	
K6-32	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	3	Y	
K6-33	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-33	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-33	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-33	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-33	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-33	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
K6-34	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
K6-34	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
K6-34	GW	$Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
K6-34	GW	$Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E601	2	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E906	1	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E906	2	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E906	3	Y	
K6-34	GW	$Tnbs_1$	Q	CMP	E906	4	Y	
K6-35	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
K6-35	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
K6-35	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
K6-35	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
K6-35	MWPT	$Tnbs_1$	S	CMP	E906	1	Y	
K6-35	MWPT	$Tnbs_1$	S	CMP	E906	3	Y	
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4		
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E624	1	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E8260	2	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E8260	3	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E8260	4	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E906	1	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E906	2	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E906	3	N	Dry.
K6-36*	DMW	$Tnbs_1$		WGMG	E906	4	N	Dry.
SPRING15	SPR	Qt	A	CMP	E300.0:NO3	1	N	Dry.
SPRING15	SPR	Qt	A	CMP	E300.0:PERC	1	N	Dry.
SPRING15	SPR	Qt	A	CMP	E601	1	N	Dry.
SPRING15	SPR	Qt	A	CMP	E906	1	N	Dry.

Table 2.3-1 (Cont.). Pit 6 Landfill OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
SPRING8	SPR	Qt		DIS	DWMETALS	4	Y	
SPRING8	SPR	Qt		DIS	E210.2	4	Y	
SPRING8	SPR	Qt		DIS	E300.0:PERC	4	Y	
SPRING8	SPR	Qt		DIS	E601	4	Y	
SPRING8	SPR	Qt		DIS	E8330:R+H	4	Y	
SPRING8	SPR	Qt		DIS	E906	4	Y	
W-33C-01	MWPT	Tts	A	CMP	E300.0:NO3	1	Y	
W-33C-01	MWPT	Tts	A	CMP	E300.0:PERC	1	Y	
W-33C-01	MWPT	Tts	S	CMP	E601	1	Y	
W-33C-01	MWPT	Tts	S	CMP	E601	3	Y	
W-33C-01	MWPT	Tts	S	CMP	E906	1	Y	
W-33C-01	MWPT	Tts	S	CMP	E906	3	Y	
W-34-01	MWB	$Tnsc_1$		DIS	E300.0:NO3	1	Y	
W-34-01	MWB	$Tnsc_1$		DIS	E300.0:PERC	1	Y	
W-34-01	MWB	$Tnsc_1$		DIS	E601	1	Y	
W-34-01	MWB	$Tnsc_1$		DIS	E906	1	Y	
W-34-02	MWB	Upper $Tnbs_1$		DIS	E300.0:NO3	1	Y	
W-34-02	MWB	Upper $Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-34-02	MWB	Upper $Tnbs_1$		DIS	E601	1	Y	
W-34-02	MWB	Upper $Tnbs_1$		DIS	E906	1	Y	
W-PIT6-1819	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-PIT6-1819	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-PIT6-1819	GW	$Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
W-PIT6-1819	GW	$Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E601	2	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E906	1	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E906	2	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E906	3	Y	
W-PIT6-1819	GW	$Tnbs_1$	Q	CMP	E906	4	Y	

Notes:
*** = Non CMP well. DWM Analytes and sampling frequency are specified in the Pit 6 Landfill Post-Closure Plan.**
**** = K6-01 to be sampled quarterly if K6-01S is dry.**
Pit 6 primary COC: VOCs (E601, E502.2, or E624).
Pit 6 primary COC: tritium (E906).
Pit 6 secondary COC: nitrate (E300:NO3).
Pit 6 secondary COC: perchlorate (E300.0:PERC).
See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.4-1. Building 815-Source (815-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
815-SRC	July	NA	836	NA	55,407
	August	NA	665	NA	43,941
	September	NA	672	NA	46,268
	October	NA	833	NA	62,222
	November	NA	664	NA	54,268
	December	NA	717	NA	62,154
Total		NA	4,387	NA	324,260

Table 2.4-2. Building 815-Proximal (815-PRX) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
815-PRX	July	NA	772	NA	89,673
	August	NA	561	NA	61,772
	September	NA	658	NA	64,736
	October	NA	845	NA	83,410
	November	NA	674	NA	61,128
	December	NA	340	NA	30,516
Total		NA	3,850	NA	391,235

Table 2.4-3. Building 815-Distal Site Boundary (815-DSB) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
815-DSB	July	NA	867	NA	186,807
	August	NA	718	NA	152,992
	September	NA	647	NA	105,076
	October	NA	680	NA	123,172
	November	NA	666	NA	106,714
	December	NA	671	NA	146,849
Total		NA	4,249	NA	821,610

Table 2.4-4. Building 817-Source (817-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
817-SRC	July	NA	33	NA	642
	August	NA	28	NA	506
	September	NA	27	NA	474
	October	NA	32	NA	604
	November	NA	25	NA	477
	December	NA	14	NA	252
Total		NA	159	NA	2,955

Table 2.4-5. Building 817-Proximal (817-PRX) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
817-PRX	July	NA	6	NA	742
	August	NA	223	NA	12,525
	September	NA	665	NA	42,314
	October	NA	846	NA	54,358
	November	NA	674	NA	40,947
	December	NA	223	NA	13,701
Total		NA	2,637	NA	164,587

Table 2.4-6. Building 829-Source (829-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
829-SRC	July	NA	206	NA	155
	August	NA	73	NA	61
	September	NA	447	NA	201
	October	NA	779	NA	423
	November	NA	644	NA	305
	December	NA	165	NA	91
Total		NA	2,314	NA	1,236

2.4-7. High Explosive Process Area OU VOCs in ground water treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
Building 815-Distal Site Boundry															
815-DSB-GWTS-E	7/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-E	8/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-E	9/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-E	10/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-E	11/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-I	7/5/07	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-DSB-GWTS-I	10/4/07	8.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 815-Proximal															
815-PRX-GWTS-E	7/9/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-E	8/6/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-E	9/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-E	10/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-I	7/9/07	37	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-PRX-GWTS-I	10/2/07	28	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 815-Source															
815-SRC-GWTS-E	7/9/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-E	8/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-E	9/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-E	10/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-I	7/9/07	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
815-SRC-GWTS-I	10/3/07	5.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5

2.4-7. High Explosive Process Area OU VOCs in ground water treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
Building 817-Proximal															
817-PRX-GWTS-E	7/24/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E	8/8/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E[a]	8/13/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E[a]	8/20/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E	9/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E	10/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-I	7/24/07	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-I	8/8/07	13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-I[a]	8/13/07	27	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-I[a]	8/20/07	27	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-PRX-GWTS-I	10/3/07	9.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 817-Source															
817-SRC-GWTS-E	7/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-E	8/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-E	9/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-E	10/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-I	7/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
817-SRC-GWTS-I	10/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

2.4-7. High Explosive Process Area OU VOCs in ground water treatment system influent and effluent.

Location	Date	(μg/L)	(μg/L)	DCE	1,2-	tetra-	form	DCA	DCA	DCE	TCA	TCA	11	113	chloride
Building 829-Source															
829-SRC-GWTS-E	7/18/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E[b]	7/26/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E	8/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E	9/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E	10/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-I	7/18/07	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
829-SRC-GWTS-I	10/4/07	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

[a] **Additional start-up sampling after well field modification**

[b] **Additional start-up sampling due to extended non-operational status; system not operated since July 2006**

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.4-8. High Explosive Process Area OU nitrate and perchlorate in ground water treatment system influent and effluent.

Location	Date	Nitrate (as NO3) (mg/L)	Perchlorate (μg/L)
Building 815-Distal Site Boundry			
815-DSB-GWTS-E	7/5/07	<0.5	NR
815-DSB-GWTS-E	8/2/07	<0.5 E	NR
815-DSB-GWTS-E	9/12/07	<0.5	NR
815-DSB-GWTS-E	10/4/07	<0.5	NR
815-DSB-GWTS-E	11/7/07	0.73	NR
815-DSB-GWTS-E	12/4/07	<0.5	NR
815-DSB-GWTS-I	7/5/07	<0.5	NR
815-DSB-GWTS-I	10/4/07	<0.5	NR
Building 815-Proximal			
815-PRX-GWTS-E	7/9/07	75	<4
815-PRX-GWTS-E	8/6/07	68	<4
815-PRX-GWTS-E	9/5/07	63	<4
815-PRX-GWTS-E	10/2/07	69	<4
815-PRX-GWTS-E	11/5/07	66	<4
815-PRX-GWTS-E	12/4/07	80	<4
815-PRX-GWTS-I	7/9/07	80	8.4
815-PRX-GWTS-I	10/2/07	82	5.8
Building 815-Source			
815-SRC-GWTS-E	7/9/07	93 D	<4
815-SRC-GWTS-E	8/7/07	87	<4
815-SRC-GWTS-E	9/5/07	93 D	<4
815-SRC-GWTS-E	10/3/07	96 D	<4
815-SRC-GWTS-E	11/5/07	96 D	<4
815-SRC-GWTS-E	12/4/07	97 D	<4
815-SRC-GWTS-I	7/9/07	99 D	11
815-SRC-GWTS-I	10/3/07	98 D	10
Building 817-Proximal			
817-PRX-GWTS-E	7/24/07	95 DO	<4
817-PRX-GWTS-E	8/8/07	76	<4
817-PRX-GWTS-E[a]	8/13/07	120 D	<4
817-PRX-GWTS-E[a]	8/20/07	110 D	<4
817-PRX-GWTS-E	9/11/07	96 D	<4
817-PRX-GWTS-E	10/3/07	94 D	<4
817-PRX-GWTS-E	11/5/07	98 D	<4
817-PRX-GWTS-E	12/4/07	0.75	<4
817-PRX-GWTS-I	7/24/07	79 O	25
817-PRX-GWTS-I[a]	8/8/07	93 D	23
817-PRX-GWTS-I[a]	8/13/07	100 D	20
817-PRX-GWTS-I	8/20/07	110 D	19 LO
817-PRX-GWTS-I	10/3/07	91 D	27

2.4-8. High Explosive Process Area OU nitrate and perchlorate in ground water treatment system influent and effluent.

Location	Date	Nitrate (as NO3) (mg/L)	Perchlorate (µg/L)
Building 817-Source			
817-SRC-GWTS-E	7/3/07	67	<4
817-SRC-GWTS-E	8/7/07	55	<4
817-SRC-GWTS-E	9/5/07	63	<4
817-SRC-GWTS-E	10/3/07	52	<4
817-SRC-GWTS-E	11/5/07	60	<4
817-SRC-GWTS-E	12/4/07	51	<4
817-SRC-GWTS-I	7/3/07	80	28
817-SRC-GWTS-I	10/3/07	84	26
Building 829-Source			
829-SRC-GWTS-E	7/18/07	2.6 D	<4
829-SRC-GWTS-E[b]	7/26/07	3.4 D	<4
829-SRC-GWTS-E	8/2/07	<1 DE	<4
829-SRC-GWTS-E	9/12/07	<1 D	<4
829-SRC-GWTS-E	10/4/07	<1 D	<4
829-SRC-GWTS-E	11/5/07	<0.5	<4
829-SRC-GWTS-E	12/4/07	<0.5	<4
829-SRC-GWTS-I	7/18/07	93 D	9.1
829-SRC-GWTS-I	10/4/07	85 D	8.3

Notes:

[a] **Additional start-up sampling after well field modification.**

[b] **Additional start-up sampling due to extended non-operational status; system not operated since July 2006.**

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.4-9. High Explosive Process Area OU high explosive compounds in ground water treatment system influent and effluent.

Location	Date	HMX (μg/L)	RDX (μg/L)
Building 815-Proximal			
815-PRX-GWTS-E	7/9/07	<1 L	<1 L
815-PRX-GWTS-E	8/6/07	<1	<1 L
815-PRX-GWTS-E	9/5/07	<1 D	<1 DL
815-PRX-GWTS-E	10/2/07	<1	<1
815-PRX-GWTS-E	11/5/07	<1	<1 O
815-PRX-GWTS-E	12/4/07	<1 D	<1 D
815-PRX-GWTS-I	7/9/07	<1 L	<1 L
815-PRX-GWTS-I	10/2/07	<1	<1
Building 815-Source			
815-SRC-GWTS-E	7/9/07	<1 L	<1 L
815-SRC-GWTS-E	8/7/07	<1	<1 L
815-SRC-GWTS-E	9/5/07	<1 D	<1 DL
815-SRC-GWTS-E	10/3/07	<1	<1
815-SRC-GWTS-E	11/5/07	<1	<1 O
815-SRC-GWTS-E	12/4/07	<1	<1
815-SRC-GWTS-I	7/9/07	6.7 L	69 L
815-SRC-GWTS-I	10/3/07	5.4 D	77 D
Building 817-Proximal			
817-PRX-GWTS-E	7/24/07	<1	<1
817-PRX-GWTS-E	8/8/07	<1 D	<1 DL
817-PRX-GWTS-E[a]	8/13/07	<1	<1
817-PRX-GWTS-E[a]	8/20/07	<1	<1
817-PRX-GWTS-E	9/11/07	<1	<1
817-PRX-GWTS-E	10/3/07	<1 D	<1 D
817-PRX-GWTS-E	11/5/07	<1	<1
817-PRX-GWTS-E	12/4/07	<1 D	<1 D
817-PRX-GWTS-I	7/24/07	<1	8.2
817-PRX-GWTS-I[a]	8/8/07	<1	7.5
817-PRX-GWTS-I[a]	8/13/07	<1	5.1
817-PRX-GWTS-I	8/20/07	<1	3.5
817-PRX-GWTS-I	10/3/07	<1	10
Building 817-Source			
817-SRC-GWTS-E	7/3/07	<1 L	<1
829-SRC-GWTS-E[b]	8/7/07	<1	<1 L
817-SRC-GWTS-E	9/5/07	<1 D	<1 DL
817-SRC-GWTS-E	10/3/07	<1	<1
817-SRC-GWTS-E	11/5/07	<1	<1
817-SRC-GWTS-E	12/4/07	<1	<1
817-SRC-GWTS-I	7/3/07	17 DJO	33 DJLO
817-SRC-GWTS-I	10/3/07	13	51

Notes appear on following page.

2.4-9 (Cont.). High Explosive Process Area OU high explosive compounds in ground water treatment system influent and effluent.

Notes:

[a] Additional start-up sampling after well field modification.

[b] Additional start-up sampling due to extended non-operational status; system not operated since July 2006.

See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.4-10. High Explosives Process Area OU treatment facility sampling and analysis plan.

Sample location	Sample identification	Parameter	Frequency
815-SRC GWTS			
Influent Port	815-SRC-I	VOCs	Quarterly
		HE Compounds	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	815-SRC-E	VOCs	Monthly
		HE Compounds	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		pH	Monthly
815-PRX GWTS			
Influent Port	815-PRX-I	VOCs	Quarterly
		HE Compounds	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	815-PRX-E	VOCs	Monthly
		HE Compounds	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		pH	Monthly
815-DSB GWTS			
Influent Port	815-DSB-I	VOCs	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	815-DSB-E	VOCs	Monthly
		Nitrate	Monthly
		pH	Monthly

Table 2.4-10 (Cont.). High Explosives Process Area OU treatment facility sampling and analysis plans.

Sample location	Sample identification	Parameter	Frequency
817-SRC GWTS			
Influent Port	817-SRC-I	VOCs	Quarterly
		HE Compounds	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	817-SRC-E	VOCs	Monthly
		HE Compounds	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		pH	Monthly
817-PRX GWTS			
Influent Port	817-PRX-I	VOCs	Quarterly
		HE Compounds	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	817-PRX-E	VOCs	Monthly
		HE Compounds	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		pH	Monthly
829-SRC GWTS			
Influent Port	W-829-06-829-SRC-I	VOCs	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	829-SRC-BTU-I	VOCs	Monthly
Effluent Port	829-SRC-E	Perchlorate	Monthly
		Nitrate	Monthly
		pH	Monthly

Notes:

One duplicate and one blank (given fictitious labels) shall be taken for every 12 samples.

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.4-11. High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	1	Y	
GALLO1	WS	$Tnbs_2$		WGMG	E502.2	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	1	Y	
SPRING14	SPR	$Tnbs_2$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
SPRING14	SPR	$Tnbs_2$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
SPRING14	SPR	$Tnbs_2$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
SPRING14	SPR	$Tnbs_2$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
SPRING5	SPR	Tps	A	CMP	E300.0:NO3	1	N	Dry. Sampled as W-817-03A.
SPRING5	SPR	Tps	A	CMP	E300.0:PERC	1	N	Dry. Sampled as W-817-03A.
SPRING5	SPR	Tps	S	CMP	E601	1	N	Dry. Sampled as W-817-03A.
SPRING5	SPR	Tps	A	CMP	E8330:R+H	1	N	Dry. Sampled as W-817-03A.
W-35B-01	GW	Qal	S	CMP	E300.0:NO3	1	Y	
W-35B-01	GW	Qal	S	CMP	E300.0:PERC	1	Y	
W-35B-01	GW	Qal	Q	CMP	E601	1	Y	
W-35B-01	GW	Qal	S	CMP	E8330:R+H	1	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-35B-02	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-35B-03	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-35B-04	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-35B-05	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-35C-01	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-35C-01	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-35C-01	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-35C-01	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	
W-35C-02	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-35C-02	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-35C-02	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
W-35C-02	MWPT	$Tnbs_1$	A	CMP	E8330:R+H	1	Y	
W-35C-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-DSB extraction well.

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-35C-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-DSB extraction well.
W-35C-04	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-DSB extraction well.
W-35C-04	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-DSB extraction well.
W-35C-05	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-35C-05	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-35C-05	MWPT	Tps	S	CMP	E601	1	Y	
W-35C-05	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-35C-06	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-35C-06	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-35C-06	MWPT	Qal	S	CMP	E601	1	Y	
W-35C-06	MWPT	Qal	A	CMP	E8330:R+H	1	Y	
W-35C-07	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-35C-07	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-35C-07	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-35C-07	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	
W-35C-08	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-35C-08	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-35C-08	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-35C-08	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	
W-4A	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-4A	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-4A	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-4A	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-4AS	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-4AS	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-4AS	MWPT	Tps	S	CMP	E601	1	Y	
W-4AS	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-4B	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-4B	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-4B	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-4B	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-4C	GW	$Tnsc_1$	S	CMP	E300.0:NO3	1	Y	
W-4C	GW	$Tnsc_1$	S	CMP	E300.0:PERC	1	Y	
W-4C	GW	$Tnsc_1$	Q	CMP	E601	1	Y	
W-6BD	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-6BD	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-6BD	MWPT	Tps	S	CMP	E601	1	Y	
W-6BD	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-6BS	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-6BS	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-6BS	MWPT	Tps	S	CMP	E601	1	Y	
W-6BS	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-6CD	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-6CD	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-6CD	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-6CD	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-6CI	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-6CI	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-6CI	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-6CI	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-6CS	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-6CS	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-6CS	MWPT	Tps	S	CMP	E601	1	Y	
W-6CS	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-6EI	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-6EI	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-6EI	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-6EI	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	
W-6ER	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-DSB extraction well.
W-6ER	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-DSB extraction well.
W-6ER	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-DSB extraction well.
W-6ER	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-DSB extraction well.
W-6ES	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-6ES	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-6ES	MWPT	Qal	S	CMP	E601	1	Y	
W-6ES	MWPT	Qal	A	CMP	E8330:R+H	1	Y	
W-6F	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-6F	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-6F	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-6F	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-6G	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-6G	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-6G	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-6G	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-6H	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-6I	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-6I	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-6I	MWPT	Tps	S	CMP	E601	1	Y	
W-6I	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-6J	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-6K	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-6K	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-6K	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-6K	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-6L	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-6L	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-6L	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-6L	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-806-06A	MWB	$Tnsc_1$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-806-06A	MWB	$Tnsc_1$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-806-06A	MWB	$Tnsc_1$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-806-06A	MWB	$Tnsc_1$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
W-806-07	MWB	$Tnbs_2$	B	CMP	E300.0:NO3	1	N	Dry. Next sample required 1stQ 2009.
W-806-07	MWB	$Tnbs_2$	B	CMP	E300.0:PERC	1	N	Dry. Next sample required 1stQ 2009.

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-806-07	MWB	$Tnbs_2$	B	CMP	E601	1	N	Dry. Next sample required 1stQ 2009.
W-806-07	MWB	$Tnbs_2$	B	CMP	E8330:R+H	1	N	Dry. Next sample required 1stQ 2009.
W-808-01	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-808-01	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-808-01	MWPT	Tps	S	CMP	E601	1	Y	
W-808-01	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-808-02	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	N	Dry.
W-808-02	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	N	Dry.
W-808-02	MWPT	$Tnsc_2$	S	CMP	E601	1	N	Dry.
W-808-02	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	N	Dry.
W-808-03	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-808-03	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-808-03	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
W-808-03	MWPT	$Tnbs_1$	A	CMP	E8330:R+H	1	Y	
W-809-01	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-809-01	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-809-01	MWPT	Tps	S	CMP	E601	1	Y	
W-809-01	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-809-02	MWPT	$Tnbs_2$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-809-02	MWPT	$Tnbs_2$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-809-02	MWPT	$Tnbs_2$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-809-02	MWPT	$Tnbs_2$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
W-809-03	MWPT	$Tnbs_2$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-809-03	MWPT	$Tnbs_2$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-809-03	MWPT	$Tnbs_2$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-809-03	MWPT	$Tnbs_2$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
W-809-04	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-809-04	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-809-04	MWPT	Tps	S	CMP	E601	1	Y	
W-809-04	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-810-01	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-810-01	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-810-01	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
W-810-01	MWPT	$Tnbs_1$	A	CMP	E8330:R+H	1	Y	
W-814-01	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-814-01	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-814-01	MWPT	Tps	S	CMP	E601	1	Y	
W-814-01	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-814-02	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-814-02	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-814-02	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-814-02	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-814-03	MWPT	Tps	A	CMP	E300.0:NO3	1	N	Dry.
W-814-03	MWPT	Tps	A	CMP	E300.0:PERC	1	N	Dry.
W-814-03	MWPT	Tps	S	CMP	E601	1	N	Dry.
W-814-03	MWPT	Tps	A	CMP	E8330:R+H	1	N	Dry.
W-814-04	GW	$Tnsc_1$	S	CMP	E300.0:NO3	1	Y	
W-814-04	GW	$Tnsc_1$	S	CMP	E300.0:PERC	1	Y	
W-814-04	GW	$Tnsc_1$	Q	CMP	E601	1	Y	
W-814-04	GW	$Tnsc_1$		DIS	E8330:R+H	1	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-814-2138	MWPT	Tpsg	A	CMP	E300.0:NO3	1	Y	
W-814-2138	MWPT	Tpsg	A	CMP	E300.0:PERC	1	Y	
W-814-2138	MWPT	Tpsg	A	CMP	E601	1	Y	
W-814-2138	MWPT	Tpsg	A	CMP	E8330:R+H	1	Y	
W-815-01	MWPT	Tps	A	CMP	E300.0:NO3	1	N	Dry.
W-815-01	MWPT	Tps	A	CMP	E300.0:PERC	1	N	Dry.
W-815-01	MWPT	Tps	S	CMP	E601	1	N	Dry.
W-815-01	MWPT	Tps	A	CMP	E8330:R+H	1	N	Dry.
W-815-02	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-SRC extraction well.
W-815-02	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-SRC extraction well.
W-815-02	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-SRC extraction well.
W-815-02	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-SRC extraction well.
W-815-03	MWPT	Tps	A	CMP	E300.0:NO3	1	N	Insufficient water.
W-815-03	MWPT	Tps	A	CMP	E300.0:PERC	1	N	Insufficient water.
W-815-03	MWPT	Tps	S	CMP	E601	1	N	Insufficient water.
W-815-03	MWPT	Tps	A	CMP	E8330:R+H	1	N	Insufficient water.
W-815-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-SRC extraction well.
W-815-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-SRC extraction well.
W-815-04	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-SRC extraction well.
W-815-04	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-SRC extraction well.
W-815-05	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-815-05	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-815-05	MWPT	Tps	S	CMP	E601	1	Y	
W-815-05	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-815-06	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-815-06	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-815-06	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-815-06	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-815-07	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-815-07	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-815-07	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-815-07	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
W-815-08	GW	$Tnbs_1$	Q	CMP	E601	1	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E8330:R+H	1	Y	
W-815-1928	MWPT	Tps	A	CMP	E300.0:NO3	1	N	Dry.
W-815-1928	MWPT	Tps	A	CMP	E300.0:PERC	1	N	Dry.
W-815-1928	MWPT	Tps	S	CMP	E601	1	N	Dry.
W-815-1928	MWPT	Tps	A	CMP	E8330:R+H	1	N	Dry.
W-815-2110	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-815-2110	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-815-2110	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-815-2110	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-815-2111	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-815-2217	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-815-2217	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-815-2217	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-815-2217	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-817-01	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B817-SRC extraction well.
W-817-01	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B817-SRC extraction well.
W-817-01	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B817-SRC extraction well.
W-817-01	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B817-SRC extraction well.
W-817-02	IW	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	New B817-PRX injection well.
W-817-02	IW	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	New B817-PRX injection well.
W-817-02	IW	$Tnbs_2$	A	CMP	E601	1	Y	New B817-PRX injection well.
W-817-02	IW	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	New B817-PRX injection well.
W-817-03	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B817-PRX extraction well.
W-817-03	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B817-PRX extraction well.
W-817-03	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B817-PRX extraction well.
W-817-03	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B817-PRX extraction well.
W-817-03A	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-817-03A	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-817-03A	MWPT	Tps	S	CMP	E601	1	Y	
W-817-03A	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-817-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B817-PRX extraction well.
W-817-04	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B817-PRX extraction well.
W-817-04	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B817-PRX extraction well.
W-817-05	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
W-817-05	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
W-817-05	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
W-817-05	MWPT	$Tnsc_1$	A	CMP	E8330:R+H	1	Y	
W-817-07	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-817-07	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-817-07	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-817-07	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-818-01	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-818-01	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-818-01	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-818-01	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-818-03	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-818-03	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-818-03	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-818-03	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-818-04	MWPT	$Tnsc_2$	A	CMP	E300.0:NO3	1	Y	
W-818-04	MWPT	$Tnsc_2$	A	CMP	E300.0:PERC	1	Y	
W-818-04	MWPT	$Tnsc_2$	S	CMP	E601	1	Y	
W-818-04	MWPT	$Tnsc_2$	A	CMP	E8330:R+H	1	Y	
W-818-06	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-818-06	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-818-06	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-818-06	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-818-07	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-818-07	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-818-07	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-818-07	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-818-08	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-PRX extraction well.

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-818-09	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-PRX extraction well.
W-818-11	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-818-11	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-818-11	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-818-11	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-819-02	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
W-819-02	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
W-819-02	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
W-819-02	MWPT	$Tnsc_1$	A	CMP	E8330:R+H	1	Y	
W-823-01	MWPT	Tps	A	CMP	E300.0:NO3	1	Y	
W-823-01	MWPT	Tps	A	CMP	E300.0:PERC	1	Y	
W-823-01	MWPT	Tps	S	CMP	E601	1	Y	
W-823-01	MWPT	Tps	A	CMP	E8330:R+H	1	Y	
W-823-02	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-823-02	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-823-02	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-823-02	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-823-03	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-823-03	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-823-03	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-823-03	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-823-13	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-823-13	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-823-13	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-823-13	MWPT	$Tnbs_2$	A	CMP	E8330:R+H	1	Y	
W-827-01	MWB	$Tnbs_2$	B	CMP	E300.0:NO3	1	N	Next sample required 1stQ 2009. Dry.
W-827-01	MWB	$Tnbs_2$	B	CMP	E300.0:PERC	1	N	Next sample required 1stQ 2009. Dry.
W-827-01	MWB	$Tnbs_2$	B	CMP	E601	1	N	Next sample required 1stQ 2009. Dry.
W-827-01	MWB	$Tnbs_2$	B	CMP	E8330:R+H	1	N	Next sample required 1stQ 2009. Dry.
W-827-02	MWB	$Tnsc_1$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-827-02	MWB	$Tnsc_1$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-827-02	MWB	$Tnsc_1$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-827-02	MWB	$Tnsc_1$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
W-827-03	MWB	$Tnsc_1$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-827-03	MWB	$Tnsc_1$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-827-03	MWB	$Tnsc_1$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-827-03	MWB	$Tnsc_1$	B	CMP	E8330:R+H	1	Y	Next sample required 1stQ 2009.
W-827-05	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-827-05	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-827-05	MWPT	$Tnbs_1$	S	CMP	E601	1	Y	
W-827-05	MWPT	$Tnbs_1$	A	CMP	E8330:R+H	1	Y	
W-829-06	EW	$Tnsc_1$	A	CMP-TF	E300.0:NO3	1	N	B829-SRC extraction well. Pump failure.
W-829-06	EW	$Tnsc_1$	A	CMP-TF	E300.0:PERC	1	N	B829-SRC extraction well. Pump failure.
W-829-06	EW	$Tnsc_1$	S	CMP-TF	E601	1	N	B829-SRC extraction well. Pump failure.
W-829-1938$	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E624	1	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:R+H	1	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:TNT	1	Y	
W-829-1940	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
W-829-1940	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
W-829-1940	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
W-829-1940	MWPT	$Tnsc_1$	A	CMP	E8330:R+H	1	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:NO3	1	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:PERC	1	Y	
W-880-01	GW	$Tnbs_2$	Q	CMP	E601	1	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E8330:R+H	1	Y	
W-880-02	GW	Qal	S	CMP	E300.0:NO3	1	Y	
W-880-02	GW	Qal	S	CMP	E300.0:PERC	1	Y	
W-880-02	GW	Qal	Q	CMP	E601	1	Y	
W-880-02	GW	Qal	S	CMP	E8330:R+H	1	Y	
W-880-03	GW	$Tnsc_1$	S	CMP	E300.0:NO3	1	Y	
W-880-03	GW	$Tnsc_1$	S	CMP	E300.0:PERC	1	Y	
W-880-03	GW	$Tnsc_1$	Q	CMP	E601	1	Y	
W-880-03	GW	$Tnsc_1$	S	CMP	E8330:R+H	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	1	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	1	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	1	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	1	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	2	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E601	2	Y	
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E601	2	Y	
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E601	2	Y	
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E8330:R+H	2	Y	
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E8330:R+H	2	Y	
GALLO1	WS	Tnbs$_2$	M	CMP/WGMG	E8330:R+H	2	Y	
W-35B-01	GW	Qal	Q	CMP	E601	2	Y	
W-35B-02	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-35B-03	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-35B-04	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-35B-05	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-4C	GW	Tnsc$_1$	Q	CMP	E601	2	Y	
W-6H	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-6J	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-814-04	GW	Tnsc$_1$	Q	CMP	E601	2	Y	
W-815-08	GW	Tnbs$_1$	Q	CMP	E601	2	Y	
W-815-2110	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-815-2111	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-817-2318	EW	Tpsg		Baseline	DWMETALS	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg		Baseline	E200.7:SI	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg	S	Baseline	E300.0:NO3	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg	S	Baseline	E300.0:PERC	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg	Q	Baseline	E624	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg	S	Baseline	E8330:R+H	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg		Baseline	E900	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg		Baseline	GENMIN	2	Y	New well. B817-PRX extraction well.
W-817-2318	EW	Tpsg		Baseline	ICMSRAD	2	Y	New well. B817-PRX extraction well.
W-829-06	EW	Tnsc$_1$	A	CMP-TF	E8330:R+H	2	N	B829-SRC extraction well. Pump failure.
W-829-15$	DMW	Tnbs$_1$		WGMG	E300.0:PERC	2	Y	
W-829-15$	DMW	Tnbs$_1$		WGMG	E624	2	Y	
W-829-15$	DMW	Tnbs$_1$		WGMG	E8330:R+H	2	Y	
W-829-1938$	DMW	Tnbs$_1$		WGMG	E300.0:PERC	2	Y	
W-829-1938$	DMW	Tnbs$_1$		WGMG	E624	2	Y	
W-829-1938$	DMW	Tnbs$_1$		WGMG	E8330:R+H	2	Y	
W-829-22$	DMW	Tnbs$_1$		WGMG	E300.0:PERC	2	Y	
W-829-22$	DMW	Tnbs$_1$		WGMG	E624	2	Y	
W-829-22$	DMW	Tnbs$_1$		WGMG	E8330:R+H	2	Y	
W-880-01	GW	Tnbs$_2$	Q	CMP	E601	2	Y	
W-880-02	GW	Qal	Q	CMP	E601	2	Y	
W-880-03	GW	Tnsc$_1$	Q	CMP	E601	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E601	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E601	2	Y	
WELL 18	WS	Tnbs$_1$	M	CMP/WGMG	E601	2	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	2	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	3	Y	
GALLO1	WS	$Tnbs_2$		WGMG	E502.2	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	3	Y	
SPRING5	SPR	Tps	S	CMP	E601	3	N	Dry. Sampled as W-817-03A.
W-35B-01	GW	Qal	S	CMP	E300.0:NO3	3	Y	
W-35B-01	GW	Qal	S	CMP	E300.0:PERC	3	Y	
W-35B-01	GW	Qal	Q	CMP	E601	3	Y	
W-35B-01	GW	Qal	S	CMP	E8330:R+H	3	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-35B-02	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-35B-02	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-35B-03	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-35B-03	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-35B-04	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-35B-04	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-35B-05	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-35B-05	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-35C-01	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-35C-02	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
W-35C-04	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-DSB extraction well.
W-35C-05	MWPT	Tps	S	CMP	E601	3	Y	
W-35C-06	MWPT	Qal	S	CMP	E601	3	Y	
W-35C-07	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	
W-35C-08	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	
W-4A	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-4AS	MWPT	Tps	S	CMP	E601	3	Y	
W-4B	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-4C	GW	$Tnsc_1$	S	CMP	E300.0:NO3	3	Y	
W-4C	GW	$Tnsc_1$	S	CMP	E300.0:PERC	3	Y	
W-4C	GW	$Tnsc_1$	Q	CMP	E601	3	Y	
W-6BD	MWPT	Tps	S	CMP	E601	3	Y	
W-6BS	MWPT	Tps	S	CMP	E601	3	Y	
W-6CD	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-6CI	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	
W-6CS	MWPT	Tps	S	CMP	E601	3	Y	
W-6EI	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	
W-6ER	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-DSB extraction well.
W-6ES	MWPT	Qal	S	CMP	E601	3	Y	
W-6F	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-6G	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-6H	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-6H	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-6I	MWPT	Tps	S	CMP	E601	3	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-6J	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-6J	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-6K	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-6L	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-808-01	MWPT	Tps	S	CMP	E601	3	Y	
W-808-02	MWPT	$Tnsc_2$	S	CMP	E601	3	N	Dry.
W-808-03	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
W-809-01	MWPT	Tps	S	CMP	E601	3	Y	
W-809-02	MWPT	$Tnbs_2$		DIS	E300.0:PERC	3	Y	Next sample required 1stQ 2009.
W-809-03	MWPT	$Tnbs_2$		DIS	E300.0:PERC	3	Y	Next sample required 1stQ 2009.
W-809-04	MWPT	Tps	S	CMP	E601	3	Y	
W-810-01	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
W-814-01	MWPT	Tps	S	CMP	E601	3	Y	
W-814-02	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-814-03	MWPT	Tps	S	CMP	E601	3	N	Dry.
W-814-04	GW	$Tnsc_1$	S	CMP	E300.0:NO3	3	Y	
W-814-04	GW	$Tnsc_1$	S	CMP	E300.0:PERC	3	Y	
W-814-04	GW	$Tnsc_1$	Q	CMP	E601	3	Y	
W-815-01	MWPT	Tps	S	CMP	E601	3	N	Dry.
W-815-02	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-SRC extraction well.
W-815-03	MWPT	Tps	S	CMP	E601	3	N	Dry.

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-815-04	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-SRC extraction well.
W-815-05	MWPT	Tps	S	CMP	E601	3	Y	
W-815-06	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-815-07	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
W-815-08	GW	$Tnbs_1$	Q	CMP	E601	3	Y	
W-815-08	GW	$Tnbs_1$	S	CMP	E8330:R+H	3	Y	
W-815-1928	MWPT	Tps	S	CMP	E601	3	N	Dry.
W-815-2110	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-815-2110	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-815-2110	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-815-2110	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-815-2111	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-815-2111	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-815-2217	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-817-01	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B817-SRC extraction well.
W-817-03	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B817-PRX extraction well.
W-817-03A	MWPT	Tps	S	CMP	E601	3	Y	
W-817-04	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B817-PRX extraction well.
W-817-04	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	3	Y	B817-PRX extraction well.
W-817-05	MWPT	$Tnsc_1$	S	CMP	E601	3	Y	
W-817-07	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-818-01	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-818-03	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-818-04	MWPT	$Tnsc_2$	S	CMP	E601	3	Y	
W-818-06	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-818-07	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-818-08	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-PRX extraction well.
W-818-08	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-PRX extraction well.
W-818-08	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-PRX extraction well.
W-818-08	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-PRX extraction well.
W-818-08	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-PRX extraction well.
W-818-09	EW	$Tnbs_2$	A	CMP-TF	E300.0:NO3	1	Y	B815-PRX extraction well.
W-818-09	EW	$Tnbs_2$	A	CMP-TF	E300.0:PERC	1	Y	B815-PRX extraction well.
W-818-09	EW	$Tnbs_2$	S	CMP-TF	E601	1	Y	B815-PRX extraction well.
W-818-09	EW	$Tnbs_2$	S	CMP-TF	E601	3	Y	B815-PRX extraction well.
W-818-09	EW	$Tnbs_2$	A	CMP-TF	E8330:R+H	1	Y	B815-PRX extraction well.
W-818-11	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-819-02	MWPT	$Tnsc_1$	S	CMP	E601	3	Y	
W-823-01	MWPT	Tps	S	CMP	E601	3	Y	
W-823-02	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-823-02	MWPT	$Tnbs_2$		DIS	EM8015:DIESEL	3	Y	
W-823-03	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-823-13	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-827-05	MWPT	$Tnbs_1$	S	CMP	E601	3	Y	
W-829-06	EW	$Tnsc_1$	S	CMP-TF	E601	3		B829-SRC extraction well.
W-829-1938$	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-829-1938$	DMW	$Tnbs_1$		WGMG	E624	3	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:R+H	3	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:TNT	3	Y	
W-829-1940	MWPT	$Tnsc_1$	S	CMP	E601	3	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:NO3	3	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:PERC	3	Y	
W-880-01	GW	$Tnbs_2$	Q	CMP	E601	3	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E8330:R+H	3	Y	
W-880-02	GW	Qal	S	CMP	E300.0:NO3	3	Y	
W-880-02	GW	Qal	S	CMP	E300.0:PERC	3	Y	
W-880-02	GW	Qal	Q	CMP	E601	3	Y	
W-880-02	GW	Qal	S	CMP	E8330:R+H	3	N	Insufficient water.
W-880-03	GW	$Tnsc_1$	S	CMP	E300.0:NO3	3	Y	
W-880-03	GW	$Tnsc_1$	S	CMP	E300.0:PERC	3	Y	
W-880-03	GW	$Tnsc_1$	Q	CMP	E601	3	Y	
W-880-03	GW	$Tnsc_1$	S	CMP	E8330:R+H	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	3	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	3	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	3	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	3	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:NO3	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E300.0:PERC	4	Y	
GALLO1	WS	$Tnbs_2$		WGMG	E502.2	4	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E601	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	4	Y	
GALLO1	WS	$Tnbs_2$	M	CMP/WGMG	E8330:R+H	4	Y	
W-35B-01	GW	Qal	Q	CMP	E601	4	Y	
W-35B-02	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-35B-03	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-35B-04	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-35B-05	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-4C	GW	$Tnsc_1$	Q	CMP	E601	4	Y	
W-6H	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-6J	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-814-04	GW	$Tnsc_1$	Q	CMP	E601	4	Y	
W-815-08	GW	$Tnbs_1$	Q	CMP	E601	4	Y	
W-815-2110	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-815-2111	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E624	4	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:R+H	4	Y	
W-829-1938$	DMW	$Tnbs_1$		WGMG	E8330:TNT	4	Y	
W-880-01	GW	$Tnbs_2$	Q	CMP	E601	4	Y	
W-880-02	GW	Qal	Q	CMP	E601	4	Y	
W-880-03	GW	$Tnsc_1$	Q	CMP	E601	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	
WELL 18	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:NO3	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E300.0:PERC	4	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	4	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	4	Y	
WELL 20	WS	$Tnbs_1$		WGMG	E502.2	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E601	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	

Table 2.4-11 (Cont.). High Explosives Process Area OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	
WELL 20	WS	$Tnbs_1$	M	CMP/WGMG	E8330:R+H	4	Y	

Notes:

$ = Non-CMP well. Analytes and sampling frequency are specified in the RCRA Closure Plan for the High Explosives Open Burn Facility.

*** = Non-CMP well. Analytes and sampling frequency are specified in the Waste Discharge Requirements for the High Explosives Surface Water Impoundments.**

HEPA primary COC: VOCs (E601, E502.2, or E624).

HEPA secondary COC: nitrate (E300:NO3).

HEPA secondary COC: perchlorate (E300.0:PERC).

HEPA secondary COC: RDX (E8330).

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.4-12. Building 815-Source (815-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
815-SRC	July	NA	1.6	2.8	21	14	NA
	August	NA	1.3	2.2	17	11	NA
	September	NA	1.4	2.3	18	11	NA
	October	NA	1.8	3.2	24	15	NA
	November	NA	1.6	2.8	21	13	NA
	December	NA	1.8	3.3	24	15	NA
Total		NA	9.6	17	120	79	NA

Notes:

***Nitrate re-injected into the Tnbs$_2$ HSU undergoes in-situ biotransformation to benign N_2 gas by anaerobic denitrifying bacteria.**

Table 2.4-13. Building 815-Proximal (815-PRX) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
815-PRX	July	NA	9.1	2.2	27	NA	NA
	August	NA	6.2	1.5	19	NA	NA
	September	NA	6.6	1.6	19	NA	NA
	October	NA	8.6	2.1	25	NA	NA
	November	NA	6.2	1.5	18	NA	NA
	December	NA	3.1	0.76	9.2	NA	NA
Total		NA	40	9.8	120	NA	NA

Notes:

***Nitrate re-injected into the Tnbs$_2$ HSU undergoes in-situ biotransformation to benign N_2 gas by anaerobic denitrifying bacteria.**

Table 2.4-14. Building 815-Distal Site Boundary (815-DSB) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
815-DSB	July	NA	7.4	NA	NA	NA	NA
	August	NA	6.1	NA	NA	NA	NA
	September	NA	4.3	NA	NA	NA	NA
	October	NA	5.0	NA	NA	NA	NA
	November	NA	4.3	NA	NA	NA	NA
	December	NA	5.8	NA	NA	NA	NA
Total		NA	33	NA	NA	NA	NA

Table 2.4-15. Building 817-Source (817-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
817-SRC	July	NA	NA	0.068	0.19	0.080	NA
	August	NA	NA	0.054	0.15	0.063	NA
	September	NA	NA	0.050	0.14	0.059	NA
	October	NA	NA	0.059	0.19	0.12	NA
	November	NA	NA	0.047	0.15	0.092	NA
	December	NA	NA	0.025	0.080	0.049	NA
Total		NA	NA	0.30	0.92	0.46	NA

Notes:

***Nitrate re-injected into the $Tnbs_2$ HSU undergoes in-situ biotransformation to benign N_2 gas by anaerobic denitrifying bacteria.**

Table 2.4-16. Building 817-Proximal (817-PRX) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
817-PRX	July	NA	0.028	0.081	0.25	0.025	NA
	August	NA	0.47	1.4	4.2	0.41	NA
	September	NA	2.6	4.3	15	1.2	NA
	October	NA	2.0	5.9	18	1.8	NA
	November	NA	1.5	4.5	14	1.4	NA
	December	NA	0.51	1.5	4.5	0.45	NA
Total		NA	7.1	18	55	5.2	NA

Notes:

***Nitrate re-injected into the $Tnbs_2$ HSU undergoes in-situ biotransformation to benign N_2 gas by anaerobic denitrifying bacteria.**

Table 2.4-17. Building 829-Source (829-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
829-SRC	July	NA	0.0088	0.0052	0.032	NA	NA
	August	NA	0.0035	0.0020	0.013	NA	NA
	September	NA	0.011	0.0067	0.041	NA	NA
	October	NA	0.024	0.013	0.14	NA	NA
	November	NA	0.017	0.0096	0.098	NA	NA
	December	NA	0.0052	0.0029	0.029	NA	NA
Total		NA	0.070	0.040	0.35	NA	NA

Table 2.5-1. Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E8260	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K1-01C*	DMW	$Tnbs_1$		WGMG	MS:UISO	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:THISO	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:THISO	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:THISO	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:THISO	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:UISO	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:UISO	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:UISO	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	AS:UISO	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:NO3	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:NO3	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:NO3	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:NO3	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:PERC	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:PERC	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:PERC	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E300.0:PERC	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E8260	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E8260	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E8260	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E8260	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E906	1	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E906	2	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E906	3	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	E906	4	Y	
K1-02B*	DMW	$Tnbs_0$		WGMG	MS:UISO	2	Y	
K1-03*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	N	Replaced by W-PIT1-02 due to inoperable and stuck pump.

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K1-03*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E624	1	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E624	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E624	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E624	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E906	1	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E906	2	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E906	3	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	E906	4	N	"
K1-03*	DMW	$Tnbs_1$		WGMG	MS:UISO	2	N	"
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:THISO	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:THISO	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:THISO	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:THISO	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:UISO	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:UISO	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:UISO	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	AS:UISO	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:NO3	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:NO3	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:NO3	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:NO3	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:PERC	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:PERC	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:PERC	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E300.0:PERC	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E8260	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E8260	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E8260	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E8260	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E906	1	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E906	2	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E906	3	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	E906	4	Y	
K1-04*	DMW	$Tnbs_1/Tnbs_0$		WGMG	MS:UISO	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K1-05*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E8260	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K1-05*	DMW	$Tnbs_1$		WGMG	MS:UISO	2	Y	
K1-06	DMW	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
K1-06	DMW	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
K1-06	DMW	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
K1-06	DMW	$Tnbs_1$		DIS	E300.0:PERC	4	Y	
K1-06	DMW	$Tnbs_1$		DIS	E906	1	Y	
K1-06	DMW	$Tnbs_1$	S	CMP	E906	2	Y	
K1-06	DMW	$Tnbs_1$	S	CMP	E906	4	Y	
K1-06	DMW	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E8260	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E906	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K1-07*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K1-07*	DMW	$Tnbs_1$		WGMG	MS:UISO	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E8260	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K1-08*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:THISO	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:THISO	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:NO3	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E8260	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E8260	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E8260	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E8260	4	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E906	1	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E906	2	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E906	3	Y	
K1-09*	DMW	$Tnbs_1$		WGMG	E906	4	Y	
K2-03	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K2-03	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
K2-03	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
K2-03	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
K2-04D	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	2	Y	
K2-04D	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K2-04D	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K2-04D	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K2-04D	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	2	Y	
K2-04D	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	4	Y	
K2-04D	MWPT	$Tnbs_1$	A	CMP/WGMG	MS:UISO	2	Y	
K2-04S	MWPT	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K2-04S	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	2	Y	
K2-04S	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
K2-04S	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	3	Y	
K2-04S	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	4	Y	
K2-04S	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	2	Y	
K2-04S	MWPT	$Tnbs_1$	S	CMP/WGMG	E906	4	Y	
K2-04S	MWPT	$Tnbs_1$	A	CMP/WGMG	MS:UISO	2	Y	
NC2-05	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-05	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-05	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-05	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-05	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-05A	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-05A	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-05A	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-05A	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-05A	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-06	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-06	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-06	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-06	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-06	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-06A	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-06A	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-06A	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-06A	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-06A	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-06A	MWPT	$Tnbs_1$		DIS	MS:UISO	4	Y	
NC2-09	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-09	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-09	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-09	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-09	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-10	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-10	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-10	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-10	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-10	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-11D	MWPT	$Tnbs_1$		WGMG	AS:UISO	2	Y	
NC2-11D	MWPT	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	2	Y	
NC2-11D	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
NC2-11D	MWPT	Tnbs$_1$		WGMG	E300.0:PERC	4	Y	
NC2-11D	MWPT	Tnbs$_1$	S	CMP/WGMG	E906	2	Y	
NC2-11D	MWPT	Tnbs$_1$	S	CMP/WGMG	E906	4	Y	
NC2-11D	MWPT	Tnbs$_1$	A	CMP/WGMG	MS:UISO	2	Y	
NC2-11D	MWPT	Tnbs$_1$		DIS/WGMG	MS:UISO	4	Y	
NC2-11I	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-11I	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-11I	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-11I	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-11S	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-11S	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-11S	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-11S	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-12D	MWPT	Tnbs$_1$		WGMG	AS:UISO	2	Y	
NC2-12D	MWPT	Tnbs$_1$	A	CMP/WGMG	E300.0:NO3	2	Y	
NC2-12D	MWPT	Tnbs$_1$		WGMG	E300.0:PERC	2	Y	
NC2-12D	MWPT	Tnbs$_1$		WGMG	E300.0:PERC	4	Y	
NC2-12D	MWPT	Tnbs$_1$	S	CMP/WGMG	E906	2	Y	
NC2-12D	MWPT	Tnbs$_1$	S	CMP/WGMG	E906	4	Y	
NC2-12D	MWPT	Tnbs$_1$		DIS	MS:UISO	1	Y	
NC2-12D	MWPT	Tnbs$_1$	A	CMP/WGMG	MS:UISO	2	Y	
NC2-12D	MWPT	Tnbs$_1$		DIS	MS:UISO	4	Y	
NC2-12I	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-12I	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-12I	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-12I	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-12S	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-12S	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-12S	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-12S	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-13	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-13	MWPT	Tnbs$_1$		DIS	E300.0:PERC	1	Y	
NC2-13	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-13	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-13	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-14S	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-14S	MWPT	Tnbs$_1$		DIS	E300.0:PERC	1	Y	
NC2-14S	MWPT	Tnbs$_1$		DIS	E300.0:PERC	2	Y	
NC2-14S	MWPT	Tnbs$_1$		DIS	E300.0:PERC	3	Y	
NC2-14S	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-14S	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-14S	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-15	MWPT	Tnbs$_1$	A	CMP	E300.0:NO3	2	Y	
NC2-15	MWPT	Tnbs$_1$		DIS	E300.0:PERC	2	Y	
NC2-15	MWPT	Tnbs$_1$	S	CMP	E906	2	Y	
NC2-15	MWPT	Tnbs$_1$	S	CMP	E906	4	Y	
NC2-15	MWPT	Tnbs$_1$	A	CMP	MS:UISO	2	Y	
NC2-16	MWPT	Tnbs$_1$		DIS	E300.0:PERC	2	Y	
NC2-16	MWPT	Tnbs$_1$	S	CMP	E300.0:NO3	2	Y	
NC2-16	MWPT	Tnbs$_1$		DIS	E300.0:PERC	1	Y	
NC2-16	MWPT	Tnbs$_1$		DIS	E300.0:PERC	3	Y	
NC2-16	MWPT	Tnbs$_1$	A	CMP	E906	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
NC2-16	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-16	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-17	MWPT	$Tnbs_1$			E300.0:NO3	2	Y	
NC2-17	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	4	Y	
NC2-17	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-17	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-17	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-17	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-18	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-18	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-18	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-18	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-18	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-19	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-19	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-19	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-19	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-19	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC2-20	MWPT	$Tnbs_0$	A	CMP	E300.0:NO3	2	Y	
NC2-20	MWPT	$Tnbs_0$		DIS	E300.0:PERC	2	Y	
NC2-20	MWPT	$Tnbs_0$	S	CMP	E906	2	Y	
NC2-20	MWPT	$Tnbs_0$	S	CMP	E906	4	Y	
NC2-20	MWPT	$Tnbs_0$	A	CMP	MS:UISO	2	Y	
NC2-21	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-21	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC2-21	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC2-21	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC2-21	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-10	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-10	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-10	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-10	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-10	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-10	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-10	MWPT	$Tnbs_1$	A	DIS	MS:UISO	2	Y	
NC7-11	MWPT	$Qal/Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-11	MWPT	$Qal/Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-11	MWPT	$Qal/Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-11	MWPT	$Qal/Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-11	MWPT	$Qal/Tnbs_1$	S	CMP	E906	2	Y	
NC7-11	MWPT	$Qal/Tnbs_1$	S	CMP	E906	4	Y	
NC7-11	MWPT	$Qal/Tnbs_1$	A	DIS	MS:UISO	2	Y	
NC7-14	MWPT	$Qal/Tnbs_1$	A	CMP	E300.0:NO3	2	N	Dry.
NC7-14	MWPT	$Qal/Tnbs_1$		DIS	E300.0:PERC	2	N	Dry.
NC7-14	MWPT	$Qal/Tnbs_1$	S	CMP	E906	2	N	Dry.
NC7-14	MWPT	$Qal/Tnbs_1$	S	CMP	E906	4	N	Dry.
NC7-14	MWPT	$Qal/Tnbs_1$	A	CMP	MS:UISO	2	N	Dry.
NC7-15	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-15	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-15	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-15	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-15	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
NC7-19	MWPT	$Qal/Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-19	MWPT	$Qal/Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-19	MWPT	$Qal/Tnbs_1$	S	CMP	E906	2	Y	
NC7-19	MWPT	$Qal/Tnbs_1$	S	CMP	E906	4	Y	
NC7-19	MWPT	$Qal/Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-27	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
NC7-27	MWPT	$Tnsc_0$		DIS	E300.0:PERC	2	Y	
NC7-27	MWPT	$Tnsc_0$	S	CMP	E906	2	Y	
NC7-27	MWPT	$Tnsc_0$	S	CMP	E906	4	Y	
NC7-27	MWPT	$Tnsc_0$	A	CMP	MS:UISO	2	Y	
NC7-28	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	E300.0:PERC	4	Y	
NC7-28	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-28	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	MS:UISO	1	Y	
NC7-28	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	MS:UISO	3	Y	
NC7-28	MWPT	$Tnbs_1$		DIS	MS:UISO	4	Y	
NC7-29	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-29	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-29	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-29	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-29	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-29	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-29	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-43	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-43	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-43	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-43	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-43	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-43	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-43	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-44	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-44	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-44	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-44	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-44	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-45	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	N	Cannot be sampled-bent casing.
NC7-45	MWPT	$Tnbs_1$	S	CMP	E906	2	N	Cannot be sampled-bent casing.
NC7-45	MWPT	$Tnbs_1$	S	CMP	E906	4	N	Cannot be sampled-bent casing.
NC7-45	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	N	Cannot be sampled-bent casing.
NC7-46	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-46	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-46	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-46	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-46	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-54	MWPT	Qal	A	CMP	E300.0:NO3	2	Y	
NC7-54	MWPT	Qal		DIS	E300.0:PERC	3	Y	
NC7-54	MWPT	Qal	S	CMP	E906	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
NC7-54	MWPT	Qal	S	CMP	E906	4	Y	
NC7-54	MWPT	Qal	A	CMP	MS:UISO	2	Y	
NC7-54	MWPT	Qal		DIS	MS:UISO	4	Y	
NC7-55	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	N	Dry.
NC7-55	MWPT	$Tnbs_1$	S	CMP	E906	2	N	Dry.
NC7-55	MWPT	$Tnbs_1$	S	CMP	E906	4	N	Dry.
NC7-55	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	N	Dry.
NC7-56	MWPT	Qal/$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-56	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-56	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-56	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-56	MWPT	Qal/$Tnbs_1$	S	CMP	E906	2	Y	
NC7-56	MWPT	Qal/$Tnbs_1$	S	CMP	E906	4	Y	
NC7-56	MWPT	Qal/$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-57	MWPT	Qal	A	CMP	E300.0:NO3	2	N	Dry.
NC7-57	MWPT	Qal	S	CMP	E906	2	N	Dry.
NC7-57	MWPT	Qal	S	CMP	E906	4	N	Dry.
NC7-57	MWPT	Qal	A	CMP	MS:UISO	2	N	Dry.
NC7-58	MWPT	Qal	A	CMP	E300.0:NO3	2	Y	
NC7-58	MWPT	Qal		DIS	E300.0:PERC	1	Y	
NC7-58	MWPT	Qal		DIS	E300.0:PERC	2	Y	
NC7-58	MWPT	Qal		DIS	E300.0:PERC	3	Y	
NC7-58	MWPT	Qal	S	CMP	E906	2	Y	
NC7-58	MWPT	Qal	S	CMP	E906	4	Y	
NC7-58	MWPT	Qal	A	CMP	MS:UISO	2	Y	
NC7-59	MWPT	Qal/$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-59	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-59	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-59	MWPT	Qal/$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-59	MWPT	Qal/$Tnbs_1$	S	CMP	E906	2	Y	
NC7-59	MWPT	Qal/$Tnbs_1$	S	CMP	E906	4	Y	
NC7-59	MWPT	Qal/$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-60	MWPT	$Tnbs_0$	A	CMP	E300.0:NO3	2	Y	
NC7-60	MWPT	$Tnbs_0$		DIS	E300.0:PERC	1	Y	
NC7-60	MWPT	$Tnbs_0$		DIS	E300.0:PERC	2	Y	
NC7-60	MWPT	$Tnbs_0$		DIS	E300.0:PERC	3	Y	
NC7-60	MWPT	$Tnbs_0$	S	CMP	E906	2	Y	
NC7-60	MWPT	$Tnbs_0$	S	CMP	E906	4	Y	
NC7-60	MWPT	$Tnbs_0$	A	CMP	MS:UISO	2	Y	
NC7-61	MWPT	$Tnbs_0$		WGMG	AS:UISO	2	Y	
NC7-61	MWPT	$Tnbs_0$	A	CMP/WGMG	E300.0:NO3	2	Y	
NC7-61	MWPT	$Tnbs_0$		WGMG	E300.0:PERC	1	Y	
NC7-61	MWPT	$Tnbs_0$		WGMG	E300.0:PERC	2	Y	
NC7-61	MWPT	$Tnbs_0$		DIS	E300.0:PERC	3	Y	
NC7-61	MWPT	$Tnbs_0$	S	CMP/WGMG	E906	2	Y	
NC7-61	MWPT	$Tnbs_0$	S	CMP/WGMG	E906	4	Y	
NC7-61	MWPT	$Tnbs_0$		DIS	MS:UISO	1	Y	
NC7-61	MWPT	$Tnbs_0$	A	CMP/WGMG	MS:UISO	2	Y	
NC7-61	MWPT	$Tnbs_0$		DIS	MS:UISO	3	Y	
NC7-62	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-62	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-62	MWPT	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
NC7-62	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-62	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-62	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-62	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-69	MWPT	Tmss		WGMG	AS:UISO	2	Y	
NC7-69	MWPT	Tmss	A	CMP/WGMG	E300.0:NO3	2	Y	
NC7-69	MWPT	Tmss		WGMG	E300.0:PERC	2	Y	
NC7-69	MWPT	Tmss		WGMG	E300.0:PERC	4	Y	
NC7-69	MWPT	Tmss		WGMG	E601	2	Y	
NC7-69	MWPT	Tmss		WGMG	E601	4	Y	
NC7-69	MWPT	Tmss	S	CMP/WGMG	E906	2	Y	
NC7-69	MWPT	Tmss	S	CMP/WGMG	E906	4	Y	
NC7-69	MWPT	Tmss	A	CMP/WGMG	MS:UISO	2	Y	
NC7-70	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-70	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-70	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	MS:UISO	1	Y	
NC7-70	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	MS:UISO	3	Y	
NC7-70	MWPT	$Tnbs_1$		DIS	MS:UISO	4	Y	
NC7-71	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	E300.0:PERC	4	Y	
NC7-71	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-71	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-71	MWPT	$Tnbs_1$	A	CMP	MS:UISO	1	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	MS:UISO	2	Y	
NC7-71	MWPT	$Tnbs_1$		DIS	MS:UISO	3	Y	
NC7-72	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-72	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-72	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-72	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-72	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-72	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-72	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-73	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-73	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC7-73	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-73	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC7-73	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-73	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-73	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
NC7-76	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC7-76	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
NC7-76	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
NC7-76	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
NC7-76	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
SPRING24	SPR	$Tnbs_0/Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
SPRING24	SPR	$Tnbs_0/Tnbs_1$		DIS	E300.0:PERC	2	Y	
SPRING24	SPR	$Tnbs_0/Tnbs_1$	S	CMP	E906	2	Y	
SPRING24	SPR	$Tnbs_0/Tnbs_1$	S	CMP	E906	4	N	Dry.
SPRING24	SPR	$Tnbs_0/Tnbs_1$	A	CMP	MS:UISO	2	Y	
W-850-05	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-850-05	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-850-05	MWPT	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
W-850-05	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
W-850-05	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
W-850-05	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
W-850-05	MWPT	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
W-850-05	MWPT	$Tnbs_1$		DIS	MS:UISO	4	Y	
W-850-2145	MWPT	$Tnbs_1/Tnbs_0$	A	CMP	E300.0:NO3	2	Y	
W-850-2145	MWPT	$Tnbs_1/Tnbs_0$		DIS	E300.0:PERC	2	Y	
W-850-2145	MWPT	$Tnbs_1/Tnbs_0$	S	CMP	E906	2	Y	
W-850-2145	MWPT	$Tnbs_1/Tnbs_0$	S	CMP	E906	4	Y	
W-850-2145	MWPT	$Tnbs_1/Tnbs_0$	A	CMP	MS:UISO	2	N	Inadvertantly left off the sampling plan.
W-850-2315	MWPT	$Tnbs_0$		Baseline	DWMETALS	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	DWMETALS	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E200.7:SI	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	E200.7:SI	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E300.0:NO3	3	Y	
W-850-2315	MWPT	$Tnbs_0$	A	CMP	E300.0:NO3	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E300.0:PERC	3	Y	
W-850-2315	MWPT	$Tnbs_0$	A	CMP	E300.0:PERC	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E624	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	E624	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E8330:R+H	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	E8330:R+H	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E900	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	E900	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	E906	3	Y	
W-850-2315	MWPT	$Tnbs_0$	S	CMP	E906	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	GENMIN	3	Y	
W-850-2315	MWPT	$Tnbs_0$		DIS	GENMIN	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	KPA	4	Y	
W-850-2315	MWPT	$Tnbs_0$		Baseline	MS:UISO	3	Y	
W-850-2315	MWPT	$Tnbs_0$	A	CMP	MS:UISO	4	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E300.0:PERC	2	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E300.0:PERC	4	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E601	1	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E601	3	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$	S	CMP	E906	2	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$	S	CMP	E906	4	Y	
W-865-1802	MWPT	$Tnbs_0$-$Tnsc_0$	A	CMP	MS:UISO	2	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E300.0:PERC	2	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E300.0:PERC	4	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E601	1	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$		DIS	E601	3	Y	

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$	S	CMP	E906	2	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$	S	CMP	E906	4	Y	
W-865-1803	MWPT	$Tnbs_0$-$Tnsc_0$	A	CMP	MS:UISO	2	Y	
W8SPRNG	SPR	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W8SPRNG	SPR	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
W8SPRNG	SPR	$Tnbs_1$		DIS	E300.0:PERC	2	Y	
W8SPRNG	SPR	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
W8SPRNG	SPR	$Tnbs_1$	S	CMP	E906	2	Y	
W8SPRNG	SPR	$Tnbs_1$	S	CMP	E906	4	Y	
W8SPRNG	SPR	$Tnbs_1$	A	CMP	MS:UISO	2	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	AS:THISO	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	AS:THISO	2	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	DWMETALS	1	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	E300.0:NO3	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E300.0:NO3	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E300.0:NO3	2	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E300.0:PERC	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E300.0:PERC	2	Y	
W-PIT1-02	DMW	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	E601	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		DIS	E601	3	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	E602	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		DIS	E602	3	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E624	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E624	2	Y	
W-PIT1-02	MWPT	$Tnbs_1$		DIS	E906	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E906	1	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	E906	2	Y	
W-PIT1-02	DMW	$Tnbs_1$		DIS	E906	3	Y	
W-PIT1-02	DMW	$Tnbs_1$		WGMG	MS:UISO	2	Y	
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	DWMETALS	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E200.7:SI	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E300.0:NO3	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong	A	CMP	E300.0:NO3	2	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E300.0:PERC	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong	A	CMP	E300.0:PERC	2	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E624	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E624	3	Y	
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E8330:R+H	1	N	Dry.

Table 2.5-1 (Cont.). Building 850 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E900	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E906	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong	S	CMP	E906	2	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	E906	3	Y	
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong	S	CMP	E906	4	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	GENMIN	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong		Baseline	MS:UISO	1	N	Dry.
W-PIT1-2204	MWPT	Qal/$Tnbs_1$-cong	A	CMP	MS:UISO	2	N	Dry.
W-PIT1-2209	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E300.0:NO3	3	Y	
W-PIT1-2209	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E601	1	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E601	3	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E906	1	Y	
W-PIT1-2209	MWPT	$Tnbs_1$	S	CMP	E906	2	Y	
W-PIT1-2209	MWPT	$Tnbs_1$		DIS	E906	3	Y	
W-PIT1-2209	MWPT	$Tnbs_1$	S	CMP	E906	4	Y	
W-PIT1-2209	MWPT	$Tnbs_1$	A	CMP	MS:UISO	4	Y	
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	DWMETALS	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E200.7:SI	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E300.0:NO3	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E300.0:PERC	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E624	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E8330:R+H	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	E900	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP/Baseline	E906	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	2	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	3	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	4	Y	
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	GENMIN	1	N	Waiting for pump equipment installation.
W-PIT1-2225	GW	$Tnbs_1$/$Tnbs_0$		Baseline	MS:UISO	1	N	Waiting for pump equipment installation.
W-PIT7-16	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-PIT7-16	MWPT	$Tnsc_0$	S	CMP	E906	2	Y	
W-PIT7-16	MWPT	$Tnsc_0$	S	CMP	E906	4	Y	
W-PIT7-16	MWPT	$Tnsc_0$	A	CMP	MS:UISO	2	Y	

Notes:
* = NON-CMP WELL. Analytes and sampling frequency for detection monitoring wells (DMW) are specified in Waste Discharge Requirements for the Pit 1 Landfill.
Building 850 primary COC: tritium (E906).
Building 850 secondary COC: nitrate (E300.0:NO3).
Building 850 secondary COC: perchlorate (E300.0:PERC) for select wells.
Building 850 secondary COC: uranium (MS:UISO).
Contaminants of Concern in the Vadose Zone not detected in Ground Water: PCBs.
See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.6-1. Building 854-Source (854-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
854-SRC	July	117	164	322	20,916
	August	607	0	1,662	0
	September	674	0	1,818	0
	October	640	0	1,752	0
	November	0	531	0	105,473
	December	0	673	0	127,939
Total		2,038	1,368	5,554	254,328

Table 2.6-2. Building 854-Proximal (854-PRX) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
854-PRX	July	NA	380	NA	30,765
	August	NA	25	NA	2,031
	September	NA	0	NA	0
	October	NA	494	NA	36,690
	November	NA	672	NA	56,575
	December	NA	312	NA	26,319
Total		NA	1,883	NA	152,380

Table 2.6-3. Building 854-Distal (854-DIS) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
854-DIS	July	NA	19	NA	1,124
	August	NA	16	NA	942
	September	NA	13	NA	765
	October	NA	18	NA	1,016
	November	NA	15	NA	774
	December	NA	6	NA	346
Total		NA	87	NA	4,967

2.6-4. Building 854 OU VOCs in ground water treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
Building 854-Distal															
854-DIS-GWTS-E	7/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-E	8/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-E	9/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-E	10/15/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-I	7/3/07	36	<0.5	0.62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-DIS-GWTS-I	10/15/07	41	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 854-Proximal[a]															
854-PRX-GWTS-E	7/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-E	7/17/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-E	8/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-E	10/29/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-I	7/11/07	31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-PRX-GWTS-I	10/29/07	37	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 854-Source[b]															
854-SRC-GWTS-E	7/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-SRC-GWTS-E	11/7/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-SRC-GWTS-E	12/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-SRC-GWTS-I	7/2/07	99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
854-SRC-GWTS-I	11/7/07	82 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

[a] Additional sample in July as part of the start-up sampling following the effluent perchlorate detection in June; no samples collected in September due to construction activities.

[b] No samples collected in August through October due to system interlock and pump problems.

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.6-5. Building 854 OU nitrate and perchlorate in ground water treatment system influent and effluent.

Location	Date	Nitrate (as NO3) (mg/L)	Perchlorate (µg/L)
Building 854-Distal			
854-DIS-GWTS-E	7/3/07	<0.5	<4
854-DIS-GWTS-E	8/2/07	<0.5 E	<4
854-DIS-GWTS-E	9/5/07	<0.5	<4
854-DIS-GWTS-E	10/15/07	<0.5	<4
854-DIS-GWTS-E	11/5/07	<0.5	<4
854-DIS-GWTS-E	12/4/07	<0.5	<4
854-DIS-GWTS-I	7/3/07	25	4.8
854-DIS-GWTS-I	10/15/07	7.6	5.3
Building 854-Proximal[a]			
854-PRX-GWTS-E	7/11/07	<1 D	<4
854-PRX-GWTS-E	7/17/07	3.3	<4
854-PRX-GWTS-E	8/2/07	12	<4
854-PRX-GWTS-E	10/29/07	5.3	<4
854-PRX-GWTS-E	11/5/07	10	<4
854-PRX-GWTS-E	12/4/07	23	<4
854-PRX-GWTS-I	7/11/07	44	14
854-PRX-GWTS-I	10/29/07	46	11
Building 854-Source[b]			
854-SRC-GWTS-E	7/2/07	47	<4
854-SRC-GWTS-E	11/7/07	1.1	<4
854-SRC-GWTS-E	12/4/07	44	<4
854-SRC-GWTS-I	7/2/07	48	4.2
854-SRC-GWTS-I	11/7/07	46	4.5

Notes:

[a] Additional sample in July as part of the start-up sampling following the effluent perchlorate detection in June; no samples collected in September due to construction activities.

[b] No samples collected in August through October due to system interlock and pump problems.

See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.6-6. Building 854 OU treatment facility sampling and analysis plan.

Sample location	Sample identification	Parameter	Frequency
854-SRC GWTS			
Influent Port	**854-SRC-I**	**VOCs**	**Quarterly**
		Perchlorate	**Quarterly**
		Nitrate	**Quarterly**
		pH	**Quarterly**
Effluent Port	**854-SRC-E**	**VOCs**	**Monthly**
		Perchlorate	**Monthly**
		Nitrate	**Monthly**
		pH	**Monthly**
854-SRC SVTS			
Influent Port	**W-854-1834-854-SRC-VI**	**No Monitoring Requirements**	
Effluent Port	**854-SRC-E**	**VOCs**	**Weekly**[a]
Intermediate GAC	**854-SRC-VCF3I**	**VOCs**	**Weekly**[a]
854-PRX GWTS			
Influent Port	**W-854-03-854-PRX-I**	**VOCs**	**Quarterly**
		Perchlorate	**Quarterly**
		Nitrate	**Quarterly**
		pH	**Quarterly**
Effluent Port	**854-PRX-BTU-I**	**VOCs**	**Monthly**
Effluent Port	**854-PRX-E**	**Perchlorate**	**Monthly**
		Nitrate	**Monthly**
		pH	**Monthly**
854-DIS GWTS			
Influent Port	**W-854-2139-854-DIS-I**	**VOCs**	**Quarterly**
		Perchlorate	**Quarterly**
		Nitrate	**Quarterly**
		pH	**Quarterly**
Effluent Port	**854-DIS-E**	**VOCs**	**Monthly**
		Perchlorate	**Monthly**
		Nitrate	**Monthly**
		pH	**Monthly**

Notes:

One duplicate and one blank (given fictitious labels) shall be taken for every 12 samples.

[a] **Weekly monitoring for VOCs will consist of the use of a flame-ionization detector, photo-ionization detector, or other District-approved VOC detection device.**

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.6-7. Building 854 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
SPRING10	SPR	Qls	Q	CMP	E601	1	Y	
SPRING10	SPR	Qls	Q	CMP	E601	2	Y	
SPRING10	SPR	Qls	Q	CMP	E601	3	Y	
SPRING10	SPR	Qls	Q	CMP	E601	4	Y	
SPRING10	SPR	Qls	A	CMP	E300.0:NO3	2	Y	
SPRING10	SPR	Qls	A	CMP	E300.0:PERC	2	Y	
SPRING11	SPR	Qls-$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
SPRING11	SPR	Qls-$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
SPRING11	SPR	Qls-$Tnbs_1$	Q	CMP	E601	1	Y	
SPRING11	SPR	Qls-$Tnbs_1$	Q	CMP	E601	2	Y	
SPRING11	SPR	Qls-$Tnbs_1$	Q	CMP	E601	3	Y	
SPRING11	SPR	Qls-$Tnbs_1$	Q	CMP	E601	4	Y	
SPRING18	SPR	$Tnbs_1$		DIS	AS:UISO	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	DWMETALS	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	E210.2	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	E601	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	E8330:R+H	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	E900	2	N	Dry.
SPRING18	SPR	$Tnbs_1$		DIS	E906	2	N	Dry.
W-854-01	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-01	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-01	MWPT	$Tnbs_1$	S	CMP	E601	2	Y	
W-854-01	MWPT	$Tnbs_1$	S	CMP	E601	4	Y	
W-854-02	EW	$Tnbs_1$	A	CMP-TF	E300.0:NO3	2	Y	B854-SRC extraction well.
W-854-02	EW	$Tnbs_1$	A	CMP-TF	E300.0:PERC	2	Y	B854-SRC extraction well.
W-854-02	EW	$Tnbs_1$	S	CMP-TF	E601	2	Y	B854-SRC extraction well.
W-854-02	EW	$Tnbs_1$	S	CMP-TF	E601	4	Y	B854-SRC extraction well.
W-854-03	EW	$Tnbs_1$	A	CMP-TF	E300.0:NO3	2	Y	B854-PRX extraction well.
W-854-03	EW	$Tnbs_1$	A	CMP-TF	E300.0:PERC	2	Y	B854-PRX extraction well.
W-854-03	EW	$Tnbs_1$	S	CMP-TF	E601	2	Y	B854-PRX extraction well.
W-854-03	EW	$Tnbs_1$	S	CMP-TF	E601	4	Y	B854-PRX extraction well.
W-854-04	MWPT	Tmss	A	CMP	E300.0:NO3	2	Y	
W-854-04	MWPT	Tmss	A	CMP	E300.0:PERC	2	Y	
W-854-04	MWPT	Tmss	S	CMP	E601	2	Y	
W-854-04	MWPT	Tmss	S	CMP	E601	4	Y	
W-854-05	MWPT	Qls-$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-05	MWPT	Qls-$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-05	MWPT	Qls-$Tnbs_1$	S	CMP	E601	2	Y	
W-854-05	MWPT	Qls-$Tnbs_1$	S	CMP	E601	4	Y	
W-854-06	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-06	MWPT	$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-06	MWPT	$Tnsc_0$	S	CMP	E601	2	Y	
W-854-06	MWPT	$Tnsc_0$	S	CMP	E601	4	Y	
W-854-07	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-07	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-07	MWPT	$Tnbs_1$	S	CMP	E601	2	Y	
W-854-07	MWPT	$Tnbs_1$	S	CMP	E601	4	Y	
W-854-08	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-08	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-08	MWPT	$Tnbs_1$	S	CMP	E601	2	Y	
W-854-08	MWPT	$Tnbs_1$	S	CMP	E601	4	Y	
W-854-09	MWPT	$Tnsbs_0$	A	CMP	E300.0:NO3	2	Y	
W-854-09	MWPT	$Tnsbs_0$	A	CMP	E300.0:PERC	2	Y	
W-854-09	MWPT	$Tnsbs_0$	S	CMP	E601	2	Y	
W-854-09	MWPT	$Tnsbs_0$	S	CMP	E601	4	Y	
W-854-10	MWPT	$Tnsbs_0$	A	CMP	E300.0:NO3	2	Y	

Table 2.6-7 (Cont.). Building 854 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-854-10	MWPT	$Tnsbs_0$	A	CMP	E300.0:PERC	2	Y	
W-854-10	MWPT	$Tnsbs_0$	S	CMP	E601	2	Y	
W-854-10	MWPT	$Tnsbs_0$	S	CMP	E601	4	Y	
W-854-11	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	N	Dry.
W-854-11	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	N	Dry.
W-854-11	MWPT	$Tnbs_1$	S	CMP	E601	2	N	Dry.
W-854-11	MWPT	$Tnbs_1$	S	CMP	E601	4	N	Dry.
W-854-12	MWPT	Tmss	B	CMP	E300.0:NO3	2	NA	Next sample required 2ndQ 2008.
W-854-12	MWPT	Tmss		DIS	E300.0:NO3	3	Y	Next sample required 2ndQ 2008.
W-854-12	MWPT	Tmss	B	CMP	E300.0:PERC	2	NA	Next sample required 2ndQ 2008.
W-854-12	MWPT	Tmss	B	CMP	E601	2	NA	Next sample required 2ndQ 2008.
W-854-13	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-13	MWPT	$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-13	MWPT	$Tnsc_0$	S	CMP	E601	2	Y	
W-854-13	MWPT	$Tnsc_0$	S	CMP	E601	4	Y	
W-854-13	MWPT	$Tnsc_0$	B	CMP	E8082A	2	Y	Next sample required 2ndQ 2007.
W-854-14	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-14	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-14	MWPT	$Tnbs_1$	A	CMP	E601	2	Y	
W-854-15	MWPT	Qls	A	CMP	E300.0:NO3	2	Y	
W-854-15	MWPT	Qls	A	CMP	E300.0:PERC	2	Y	
W-854-15	MWPT	Qls	S	CMP	E601	2	Y	
W-854-15	MWPT	Qls	S	CMP	E601	4	Y	
W-854-17	EW	$Tnsbs_0$-$Tnsc_0$	A	CMP-TF	E300.0:NO3	2	Y	B854-SRC extraction well.
W-854-17	EW	$Tnsbs_0$-$Tnsc_0$	A	CMP-TF	E300.0:PERC	2	Y	B854-SRC extraction well.
W-854-17	EW	$Tnsbs_0$-$Tnsc_0$	S	CMP-TF	E601	2	Y	B854-SRC extraction well.
W-854-17	EW	$Tnsbs_0$-$Tnsc_0$	S	CMP-TF	E601	4	Y	B854-SRC extraction well.
W-854-1701	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-1701	MWPT	$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-1701	MWPT	$Tnsc_0$	S	CMP	E601	2	Y	
W-854-1701	MWPT	$Tnsc_0$	S	CMP	E601	4	Y	
W-854-1706	MWPT	Qal-$Tnbs_1$	A	CMP	E300.0:NO3	2	N	Dry.
W-854-1706	MWPT	Qal-$Tnbs_1$	A	CMP	E300.0:PERC	2	N	Dry.
W-854-1706	MWPT	Qal-$Tnbs_1$	A	CMP	E601	2	N	Dry.
W-854-1707	MWPT	$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-1707	MWPT	$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-1707	MWPT	$Tnsc_0$	S	CMP	E601	2	Y	
W-854-1707	MWPT	$Tnsc_0$	S	CMP	E601	4	Y	
W-854-1731	MWPT	Tmss	A	CMP	E300.0:NO3	2	Y	
W-854-1731	MWPT	Tmss	A	CMP	E300.0:PERC	2	Y	
W-854-1731	MWPT	Tmss	S	CMP	E601	2	Y	
W-854-1731	MWPT	Tmss	S	CMP	E601	4	Y	
W-854-1822	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-1822	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-1822	MWPT	$Tnbs_1$	S	CMP	E601	2	Y	
W-854-1822	MWPT	$Tnbs_1$	S	CMP	E601	4	Y	
W-854-1823	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-1823	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-1823	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	2	Y	
W-854-1823	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	4	Y	
W-854-18A	EW	$Tnbs_1$	A	CMP-TF	E300.0:NO3	2	Y	B854-SRC extraction well.
W-854-18A	EW	$Tnbs_1$	A	CMP-TF	E300.0:PERC	2	Y	B854-SRC extraction well.
W-854-18A	EW	$Tnbs_1$	S	CMP-TF	E601	2	Y	B854-SRC extraction well.
W-854-18A	EW	$Tnbs_1$	S	CMP-TF	E601	4	Y	B854-SRC extraction well.
W-854-19	MWPT	Qls	A	CMP	E300.0:NO3	2	N	Dry.
W-854-19	MWPT	Qls	A	CMP	E300.0:PERC	2	N	Dry.

Table 2.6-7 (Cont.). Building 854 OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-854-19	MWPT	Qls	A	CMP	E601	2	N	Dry.
W-854-1902	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-1902	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-1902	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	2	Y	
W-854-1902	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	4	Y	
W-854-2115	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:NO3	2	Y	
W-854-2115	MWPT	$Tnsbs_1$-$Tnsc_0$	A	CMP	E300.0:PERC	2	Y	
W-854-2115	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	2	Y	
W-854-2115	MWPT	$Tnsbs_1$-$Tnsc_0$	S	CMP	E601	4	Y	
W-854-2139	EW	$Tnsbs_1$-$Tnsc_0$	A	CMP-TF	E300.0:NO3	2	Y	B854-DIS extraction well.
W-854-2139	EW	$Tnsbs_1$-$Tnsc_0$	A	CMP-TF	E300.0:PERC	2	Y	B854-DIS extraction well.
W-854-2139	EW	$Tnsbs_1$-$Tnsc_0$	S	CMP-TF	E601	2	Y	B854-DIS extraction well.
W-854-2139	EW	$Tnsbs_1$-$Tnsc_0$	S	CMP-TF	E601	4	Y	B854-DIS extraction well.
W-854-2218	EW	$Tnbs_1$	A	CMP-TF	E300.0:NO3	2	Y	B854-SRC extraction well.
W-854-2218	EW	$Tnbs_1$	A	CMP-TF	E300.0:PERC	2	Y	B854-SRC extraction well.
W-854-2218	EW	$Tnbs_1$	S	CMP-TF	E601	2	Y	B854-SRC extraction well.
W-854-2218	EW	$Tnbs_1$	S	CMP-TF	E601	4	Y	B854-SRC extraction well.
W-854-45	MWPT	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-854-45	MWPT	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-854-45	MWPT	$Tnbs_1$	S	CMP	E601	2	Y	
W-854-45	MWPT	$Tnbs_1$	S	CMP	E601	4	Y	
W-854-F2	MWPT	Qls-$Tnbs_1$	B	CMP	E300.0:NO3	2	N	Dry.
W-854-F2	MWPT	Qls-$Tnbs_1$	B	CMP	E300.0:PERC	2	N	Dry.
W-854-F2	MWPT	Qls-$Tnbs_1$	B	CMP	E601	2	N	Dry.

Notes:
Building 854 primary Contaminants of Concern in Ground Water: VOCs (E601 or E624).
Building 854 secondary COC: nitrate (E300:NO3).
Building 854 secondary COC: perchlorate (E300.0:PERC).
Contaminants of Concern in the Vadose Zone not detected in Ground Water: PCBs.

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.6-8. Building 854-Source (854-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
854-SRC	July	1.6	6.0	0.16	3.7	NA	NA
	August	10	0	0	0	NA	NA
	September	11	0	0	0	NA	NA
	October	11	0	0	0	NA	NA
	November	0	24	0.63	17	NA	NA
	December	0	30	0.88	21	NA	NA
Total		34	60	1.7	42	NA	NA

Table 2.6-9. Building 854-Proximal (854-PRX) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
854-PRX	July	NA	3.6	1.6	5.1	NA	NA
	August	NA	0.24	0.11	0.34	NA	NA
	September	NA	0	0	0	NA	NA
	October	NA	5.1	1.5	6.4	NA	NA
	November	NA	7.9	2.4	9.9	NA	NA
	December	NA	3.7	1.1	4.6	NA	NA
Total		NA	21	6.7	26	NA	NA

Table 2.6-10. Building 854-Distal (854-DIS) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
854-DIS	July	NA	0.16	0.020	0.11	NA	NA
	August	NA	0.13	0.017	0.089	NA	NA
	September	NA	0.11	0.014	0.072	NA	NA
	October	NA	0.16	0.020	0.029	NA	NA
	November	NA	0.12	0.016	0.022	NA	NA
	December	NA	0.055	0.0069	0.010	NA	NA
Total		NA	0.73	0.094	0.33	NA	NA

Table 2.7-1. Building 832-Source (832-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
832-SRC	July	552	552	89	2,784
	August	679	679	77	15,212
	September	672	672	102	6,696
	October	840	840	165	6,097
	November	672	672	121	4,919
	December	672	672	141	3,257
Total		4,087	4,087	695	38,965

Table 2.7-2. Building 830-Source (830-SRC) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
830-SRC	July	584	286	983	19,514
	August	697	318	1,281	23,012
	September	509	54	1,063	5,837
	October	839	231	1,760	136,820
	November	671	268	1,467	174,514
	December	672	672	1,064	202,921
Total		3,972	1,829	7,618	562,618

Table 2.7-3. Building 830-Distal South (830-DISS) volumes of ground water and soil vapor extracted and discharged, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
830-DISS	July	NA	720	NA	86,272
	August	NA	480	NA	61,335
	September	NA	672	NA	92,152
	October	NA	720	NA	89,890
	November	NA	672	NA	100,450
	December	NA	326	NA	47,475
Total		NA	3,590	NA	477,574

2.7-4. Building 832 Canyon OU VOCs in ground water treatment system influent and effluent.

Location	Date	TCE (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Carbon tetra-chloride (µg/L)	Chloro-form (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	Freon 11 (µg/L)	Freon 113 (µg/L)	Vinyl chloride (µg/L)
Building 830-Distal South[a]															
830-DISS-GWTS-I	7/2/07	73	<0.5	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-DISS-GWTS-I	10/2/07	59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 830-Source															
830-SRC-GWTS-E[b]	7/2/07	43 S	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	7/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	7/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	8/1/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	9/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	10/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-E	12/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-I[b]	7/2/07	<0.5 S	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
830-SRC-GWTS-I	10/2/07	110 D	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Building 832-Source[c]															
832-SRC-GWTS-E	7/2/07	12	<0.5	1.8	<0.5	<0.5	0.69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	7/5/07	15	<0.5	3	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	7/17/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	7/18/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	7/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	8/1/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	9/4/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	10/2/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	11/5/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-E	12/3/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-I	7/2/07	85	<0.5	3.8	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
832-SRC-GWTS-I	10/2/07	97 D	<0.5	4.7	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

[a] No effluent sample required due to VOC treatment at CGSA GWTS.

[b] Influent and effluent samples switched at analytical laboratory.

[c] Additional effluent samples collected in July due to effluent release of VOCs.

See Acronyms and Abbreviations in the Tables section of this report for definitions.

2.7-5. Building 832 Canyon OU nitrate and perchlorate in ground water treatment system influent and effluent.

Location	Date	Nitrate (as NO3) (mg/L)	Perchlorate (μg/L)
Building 830-Distal South			
830-DISS-GWTS-E	7/2/07	73	<4
830-DISS-GWTS-E	8/1/07	56	<4
830-DISS-GWTS-E	9/4/07	55	<4
830-DISS-GWTS-E	10/2/07	60	<4
830-DISS-GWTS-E	11/5/07	58	<4
830-DISS-GWTS-E	12/3/07	56	<4
830-DISS-GWTS-I	7/2/07	48	<4
830-DISS-GWTS-I	10/2/07	47	<4
Building 830-Source			
830-SRC-GWTS-E	7/2/07	37	<4
830-SRC-GWTS-E	8/1/07	41 D	<4
830-SRC-GWTS-E	9/4/07	37 D	<4
830-SRC-GWTS-E	10/2/07	18	<4
830-SRC-GWTS-E	11/5/07	22	<4
830-SRC-GWTS-E	12/3/07	<0.5	<4
830-SRC-GWTS-I	7/2/07	13	<4
830-SRC-GWTS-I	10/2/07	23 D	<4
Building 832-Source			
832-SRC-GWTS-E	7/2/07	62 D	<4
832-SRC-GWTS-E	8/1/07	74 D	<4
832-SRC-GWTS-E	9/4/07	87	<4
832-SRC-GWTS-E	10/2/07	45	<4
832-SRC-GWTS-E	11/5/07	53 D	<4
832-SRC-GWTS-E	12/3/07	57	<4
832-SRC-GWTS-I	7/2/07	68	5.9
832-SRC-GWTS-I	10/2/07	75 D	5.6

Notes:

See Acronyms and Abbreviations in the Tables section of this report for definitions.

Table 2.7-6. Building 832 Canyon OU treatment facility sampling and analysis plan.

Sample location	Sample identification	Parameter	Frequency
832-SRC GWTS			
Influent Port	832-SRC-I	VOCs	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		pH	Quarterly
Effluent Port	832-SRC-E	VOCs	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		PH	Monthly
832-SRC SVTS			
Influent Port	832-SRC-VI	No Monitoring Requirements	
Effluent Port	832-SRC-VE	VOCs	Weekly[a]
Intermediate GAC	832-SRC-VCF3I	VOCs	Weekly[a]
830-SRC GWTS			
Influent Port	830-SRC-I	VOCs	Quarterly
		Perchlorate	Quarterly
		Nitrate	Quarterly
		PH	Quarterly
Effluent Port	830-SRC-E	VOCs	Monthly
		Perchlorate	Monthly
		Nitrate	Monthly
		PH	Monthly
830-SRC SVTS			
Influent Port	830-SRC-VI	No Monitoring Requirements	
Effluent Port	830-SRC-VE	VOCs	Weekly[a]
Intermediate GAC	830-SRC-VCF3I	VOCs	Weekly[a]

Table 2.7-6 (Cont.). Building 832 Canyon treatment facility sampling and analysis plans.

Sample Location	Sample Identification	Parameter	Frequency
830-DISS GWTS			
Influent Port	**830-DISS-I**	**VOCs[b]**	**Quarterly**
		Perchlorate	**Quarterly**
		Nitrate	**Quarterly**
		pH	**Quarterly**
Effluent Port	**830-DISS-E**	**VOCs[b]**	**Monthly**
		Perchlorate	**Monthly**
		Nitrate	**Monthly**
		pH	**Monthly**

Notes:

One duplicate and one blank (given fictitious labels) shall be taken for every 12 samples.

[a] **Weekly monitoring for VOCs will consist of the use of a flame-ionization detector, photo-ionization detector, or other District-approved VOC detection device.**

[b] **Due to combining 830-DISS effluent discharge to the CGSA GWTS, VOC treatment of extracted water now takes place at CGSA. Therefore, no VOC monitoring is required at the 830-DISS GWTS as of June 2006.**

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.7-7. Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
SPRING3	SPR	Qal	A	CMP	E300.0:NO3	1	Y	
SPRING3	SPR	Qal	A	CMP	E300.0:PERC	1	Y	
SPRING3	SPR	Qal	S	CMP	E601	1	Y	
SPRING3	SPR	Qal	S	CMP	E601	3	Y	
SPRING4	SPR	Tps	B	CMP	E300.0:NO3	1	N	Dry. Next sample required 1stQ 2009.
SPRING4	SPR	Tps	B	CMP	E300.0:PERC	1	N	Dry. Next sample required 1stQ 2009.
SPRING4	SPR	Tps	B	CMP	E601	1	N	Dry. Next sample required 1stQ 2009.
SVI-830-031	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
SVI-830-031	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	N	Insufficient water.
SVI-830-031	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
SVI-830-031	MWPT	$Tnsc_1$	S	CMP	E601	3	Y	
SVI-830-032	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	N	Dry.
SVI-830-032	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	N	Dry.
SVI-830-032	MWPT	$Tnsc_1$	S	CMP	E601	1	N	Dry.
SVI-830-032	MWPT	$Tnsc_1$	S	CMP	E601	3	N	Dry.
SVI-830-033	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	N	Insufficient water.
SVI-830-033	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
SVI-830-033	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
SVI-830-033	MWPT	$Tnsc_1$	S	CMP	E601	3	N	Dry.
SVI-830-035	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
SVI-830-035	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
SVI-830-035	MWPT	$Tnsc_1$	S	CMP	E601	1	Y	
SVI-830-035	MWPT	$Tnsc_1$	S	CMP	E601	3	Y	
W-830-04A	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-04A	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-04A	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-04A	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-05	MWPT	$Tnbs_2$-$Tnsc_{1c}$	A	CMP	E300.0:NO3	1	Y	
W-830-05	MWPT	$Tnbs_2$-$Tnsc_{1c}$	A	CMP	E300.0:PERC	1	Y	
W-830-05	MWPT	$Tnbs_2$-$Tnsc_{1c}$	S	CMP	E601	1	Y	
W-830-05	MWPT	$Tnbs_2$-$Tnsc_{1c}$	S	CMP	E601	3	Y	
W-830-07	MWPT	$Tnsc_1$	A	CMP	E300.0:NO3	1	N	Dry.
W-830-07	MWPT	$Tnsc_1$	A	CMP	E300.0:PERC	1	N	Dry.
W-830-07	MWPT	$Tnsc_1$	S	CMP	E601	1	N	Dry.
W-830-07	MWPT	$Tnsc_1$	S	CMP	E601	3	N	Dry.
W-830-09	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-09	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-09	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-09	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-10	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-10	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-10	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-10	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-11	MWPT	$Tnsc_{1c}$	A	CMP	E300.0:NO3	1	Y	
W-830-11	MWPT	$Tnsc_{1c}$	A	CMP	E300.0:PERC	1	Y	
W-830-11	MWPT	$Tnsc_{1c}$	S	CMP	E601	1	Y	
W-830-11	MWPT	$Tnsc_{1c}$	S	CMP	E601	3		
W-830-12	MWPT	Lower $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-12	MWPT	Lower $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-12	MWPT	Lower $Tnbs_1$	S	CMP	E601	1	Y	
W-830-12	MWPT	Lower $Tnbs_1$	S	CMP	E601	3	Y	
W-830-13	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-830-13	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-830-13	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-830-13	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-830-14	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-14	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-14	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-14	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-15	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-15	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-15	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-15	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-16	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	1	Y	
W-830-16	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	3	Y	
W-830-16	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	1	Y	
W-830-16	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	3	Y	
W-830-16	GW	$Tnsc_{1b}$	Q	CMP	E601	1	Y	
W-830-16	GW	$Tnsc_{1b}$	Q	CMP	E601	2	Y	
W-830-16	GW	$Tnsc_{1b}$	Q	CMP	E601	3	Y	
W-830-16	GW	$Tnsc_{1b}$	Q	CMP	E601	4	Y	
W-830-17	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-830-17	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-830-17	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-830-17	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-830-1730	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	1	Y	
W-830-1730	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	3	Y	
W-830-1730	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	1	Y	
W-830-1730	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	3	Y	
W-830-1730	GW	$Tnsc_{1b}$	Q	CMP	E601	1	Y	
W-830-1730	GW	$Tnsc_{1b}$	Q	CMP	E601	2	Y	
W-830-1730	GW	$Tnsc_{1b}$	Q	CMP	E601	3	Y	
W-830-1730	GW	$Tnsc_{1b}$	Q	CMP	E601	4	Y	
W-830-18	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-18	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-18	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-18	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-1807	EW	$Qal/Tnsc_1$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-1807	EW	$Qal/Tnsc_1$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-1807	EW	$Qal/Tnsc_1$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-1807	EW	$Qal/Tnsc_1$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-1829	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-1829	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-1829	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-1829	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-1830	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-1830	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-1830	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-1830	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-1831	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	1	Y	
W-830-1831	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	3	Y	
W-830-1831	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	1	Y	
W-830-1831	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	3	Y	
W-830-1831	GW	$Tnsc_{1b}$	Q	CMP	E601	1	Y	
W-830-1831	GW	$Tnsc_{1b}$	Q	CMP	E601	2	Y	
W-830-1831	GW	$Tnsc_{1b}$	Q	CMP	E601	3	Y	

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-830-1831	GW	$Tnsc_{1b}$	Q	CMP	E601	4	Y	
W-830-1832	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-1832	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-1832	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-1832	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-19	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-19	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-19	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-19	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-20	GW	Upper $Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-830-20	GW	Upper $Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-830-20	GW	Upper $Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
W-830-20	GW	Upper $Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
W-830-20	GW	Upper $Tnbs_1$	Q	CMP	E601	1	Y	
W-830-20	GW	Upper $Tnbs_1$	Q	CMP	E601	2	Y	
W-830-20	GW	Upper $Tnbs_1$	Q	CMP	E601	3	Y	
W-830-20	GW	Upper $Tnbs_1$	Q	CMP	E601	4	Y	
W-830-21	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-21	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-21	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-21	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-22	MWPT	$Tnsc_{1a}$	A	CMP	E300.0:NO3	1	Y	
W-830-22	MWPT	$Tnsc_{1a}$	A	CMP	E300.0:PERC	1	Y	
W-830-22	MWPT	$Tnsc_{1a}$	S	CMP	E601	1	Y	
W-830-22	MWPT	$Tnsc_{1a}$	S	CMP	E601	3	Y	
W-830-2213	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-2213	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-2213	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-2213	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-2214	EW	$Tnsc_{1a}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-2214	EW	$Tnsc_{1a}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-2214	EW	$Tnsc_{1a}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-2214	EW	$Tnsc_{1a}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-2215	EW	Upper $Tnbs_1$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-2215	EW	Upper $Tnbs_1$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-2215	EW	Upper $Tnbs_1$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-2215	EW	Upper $Tnbs_1$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-2216	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$		DIS	E300.0:NO3	3	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$		DIS	E300.0:PERC	3	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$	S	DIS	E601	2	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	B830-DISS extraction well.
W-830-2216	MWPT	$Tnbs_2$		DIS	E601	4	Y	B830-DISS extraction well.
W-830-2311	GW	$Tnsc_{1a}$		Baseline	DWMETALS	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$		Baseline	E2007.SI	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$	S	CMP/Baseline	E300.0:NO3	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$	S	CMP/Baseline	E300.0:PERC	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$	Q	CMP/Baseline	E624	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$	A	CMP/Baseline	E8330:R+H	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$		Baseline	E900	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$		Baseline	E906	4	Y	New well.

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-830-2311	GW	$Tnsc_{1a}$		Baseline	GENMIN	4	Y	New well.
W-830-2311	GW	$Tnsc_{1a}$		Baseline	MS:UISO	4	Y	New well.
W-830-25	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	N	Dry.
W-830-25	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	N	Dry.
W-830-25	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	N	Dry.
W-830-25	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	N	Dry.
W-830-26	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-26	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-26	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-26	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-27	MWPT	$Tnsc_{1a}$	A	CMP	E300.0:NO3	1	Y	
W-830-27	MWPT	$Tnsc_{1a}$	A	CMP	E300.0:PERC	1	Y	
W-830-27	MWPT	$Tnsc_{1a}$	S	CMP	E601	1	Y	
W-830-27	MWPT	$Tnsc_{1a}$	S	CMP	E601	3	Y	
W-830-28	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-28	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-28	MWPT	Upper $Tnbs_1$	S	CMP	E601	1	Y	
W-830-28	MWPT	Upper $Tnbs_1$	S	CMP	E601	3	Y	
W-830-29	MWPT	Lower $Tnbs_1$	A	CMP	E300.0:NO3	1	Y	
W-830-29	MWPT	Lower $Tnbs_1$	A	CMP	E300.0:PERC	1	Y	
W-830-29	MWPT	Lower $Tnbs_1$	S	CMP	E601	1	Y	
W-830-29	MWPT	Lower $Tnbs_1$	S	CMP	E601	3	Y	
W-830-30	MWPT	Qal/$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
W-830-30	MWPT	Qal/$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
W-830-30	MWPT	Qal/$Tnsc_1$	S	CMP	E601	1	Y	
W-830-30	MWPT	Qal/$Tnsc_1$	S	CMP	E601	3	Y	
W-830-34	MWPT	Qal/$Tnsc_1$	A	CMP	E300.0:NO3	1	Y	
W-830-34	MWPT	Qal/$Tnsc_1$	A	CMP	E300.0:PERC	1	Y	
W-830-34	MWPT	Qal/$Tnsc_1$	S	CMP	E601	1	Y	
W-830-34	MWPT	Qal/$Tnsc_1$	S	CMP	E601	3	Y	
W-830-49	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-49	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-49	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-49	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-50	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-50	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-50	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-830-50	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-830-51	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-DISS extraction well.
W-830-51	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-DISS extraction well.
W-830-51	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-DISS extraction well.
W-830-51	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-DISS extraction well.
W-830-52	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-DISS extraction well.
W-830-52	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-DISS extraction well.
W-830-52	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-DISS extraction well.
W-830-52	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-DISS extraction well.
W-830-53	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-DISS extraction well.
W-830-53	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-DISS extraction well.
W-830-53	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B830-DISS extraction well.
W-830-53	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B830-DISS extraction well.
W-830-54	MWPT	$Tnsc_{1c}$	A	CMP	E300.0:NO3	1	Y	
W-830-54	MWPT	$Tnsc_{1c}$	A	CMP	E300.0:PERC	1	Y	
W-830-54	MWPT	$Tnsc_{1c}$	S	CMP	E601	1	Y	

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-830-54	MWPT	Tnsc$_{1c}$	S	CMP	E601	3	Y	
W-830-55	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-55	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-55	MWPT	Tnsc$_{1b}$	S	CMP	E601	1	Y	
W-830-55	MWPT	Tnsc$_{1b}$	S	CMP	E601	3	Y	
W-830-56	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-56	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-56	MWPT	Tnsc$_{1b}$	S	CMP	E601	1	Y	
W-830-56	MWPT	Tnsc$_{1b}$	S	CMP	E601	3	Y	
W-830-57	EW	Upper Tnbs$_1$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-57	EW	Upper Tnbs$_1$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-57	EW	Upper Tnbs$_1$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-57	EW	Upper Tnbs$_1$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-58	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-830-58	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-830-58	MWPT	Tnsc$_{1b}$	S	CMP	E601	1	Y	
W-830-58	MWPT	Tnsc$_{1b}$	S	CMP	E601	3	Y	
W-830-59	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-59	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-59	EW	Tnsc$_{1b}$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-59	EW	Tnsc$_{1b}$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-830-60	EW	Upper Tnbs$_1$	A	CMP-TF	E300.0:NO3	1	Y	B830-SRC extraction well.
W-830-60	EW	Upper Tnbs$_1$	A	CMP-TF	E300.0:PERC	1	Y	B830-SRC extraction well.
W-830-60	EW	Upper Tnbs$_1$	S	CMP-TF	E601	1	Y	B830-SRC extraction well.
W-830-60	EW	Upper Tnbs$_1$	S	CMP-TF	E601	3	Y	B830-SRC extraction well.
W-831-01	MWB	Lower Tnbs$_1$	B	CMP	E300.0:NO3	1	Y	Next sample required 1stQ 2009.
W-831-01	MWB	Lower Tnbs$_1$	B	CMP	E300.0:PERC	1	Y	Next sample required 1stQ 2009.
W-831-01	MWB	Lower Tnbs$_1$	B	CMP	E601	1	Y	Next sample required 1stQ 2009.
W-832-01	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-01	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-01	EW	Tnsc$_{1b}$	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-01	EW	Tnsc$_{1b}$	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-06	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:NO3	2	N	Unable to sample due to construction.
W-832-06	MWPT	Tnsc$_{1b}$	A	CMP	E300.0:PERC	2	N	Unable to sample due to construction.
W-832-06	MWPT	Tnsc$_{1b}$	S	CMP	E601	2	N	Unable to sample due to construction.
W-832-06	MWPT	Tnsc$_{1b}$	S	CMP	E601	4	Y	
W-832-09	MWPT	Lower Tnbs$_1$	A	CMP	E300.0:NO3	1	Y	
W-832-09	MWPT	Lower Tnbs$_1$	A	CMP	E300.0:PERC	1	Y	
W-832-09	MWPT	Lower Tnbs$_1$	S	CMP	E601	1	Y	
W-832-09	MWPT	Lower Tnbs$_1$	S	CMP	E601	3	Y	
W-832-10	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-10	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-10	EW	Tnsc$_{1b}$	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-10	EW	Tnsc$_{1b}$	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-11	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-11	EW	Tnsc$_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-11	EW	Tnsc$_{1b}$	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-11	EW	Tnsc$_{1b}$	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-12	EW	Qal/fill	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-12	EW	Qal/fill	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-12	EW	Qal/fill	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-12	EW	Qal/fill	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-13	EW	Qal/fill	A	CMP	E300.0:NO3	1	Y	B832-SRC extraction well.

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-832-13	EW	Qal/fill	A	CMP	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-13	EW	Qal/fill	S	CMP	E601	1	Y	B832-SRC extraction well.
W-832-13	EW	Qal/fill	S	CMP	E601	3	Y	B832-SRC extraction well.
W-832-14	EW	Qal/fill	A	CMP	E300.0:NO3	1	Y	B832-SRC extraction well. Dry
W-832-14	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-14	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-14	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry
W-832-15	EW	Qal/fill	B	CMP-TF	E8330:R+H	1	NA	B832-SRC extraction well. Next sample required 1stQ 2008.
W-832-15	EW	Qal/fill	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-15	EW	Qal/fill	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-15	EW	Qal/fill	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-15	EW	Qal/fill	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-16	EW	Qal/fill	A	CMP	E300.0:NO3	1	N	B832-SRC extraction well. Dry
W-832-16	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-16	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-16	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry
W-832-17	EW	Qal/fill	A	CMP	E300.0:NO3	1	N	B832-SRC extraction well. Dry
W-832-17	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-17	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-17	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry
W-832-18	EW	Qal/fill	A	CMP	E300.0:NO3	1	N	B832-SRC extraction well. Dry
W-832-18	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-18	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-18	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry
W-832-19	MWPT	Qal/fill	A	CMP	E300.0:NO3	1	N	Dry.
W-832-19	MWPT	Qal/fill	A	CMP	E300.0:PERC	1	N	Dry.
W-832-19	MWPT	Qal/fill	S	CMP	E601	1	N	Dry.
W-832-19	MWPT	Qal/fill	S	CMP	E601	3	N	Dry.
W-832-1927	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-832-1927	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-832-1927	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-832-1927	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-832-20	EW	Qal/fill	A	CMP	E300.0:NO3	1	N	B832-SRC extraction well. Dry
W-832-20	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-20	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-20	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry
W-832-21	MWPT	Qal/fill	A	CMP	E300.0:NO3	1	N	Dry.
W-832-21	MWPT	Qal/fill	A	CMP	E300.0:PERC	1	N	Dry.
W-832-21	MWPT	Qal/fill	S	CMP	E601	1	N	Dry.
W-832-21	MWPT	Qal/fill	S	CMP	E601	3	N	Dry.
W-832-2112	GW	Upper $Tnbs_1$	S	CMP	E300.0:NO3	1	Y	
W-832-2112	GW	Upper $Tnbs_1$	S	CMP	E300.0:NO3	3	Y	
W-832-2112	GW	Upper $Tnbs_1$	S	CMP	E300.0:PERC	1	Y	
W-832-2112	GW	Upper $Tnbs_1$	S	CMP	E300.0:PERC	3	Y	
W-832-2112	GW	Upper $Tnbs_1$	Q	CMP	E601	1	Y	
W-832-2112	GW	Upper $Tnbs_1$	Q	CMP	E601	2	Y	
W-832-2112	GW	Upper $Tnbs_1$	Q	CMP	E601	3	Y	
W-832-2112	GW	Upper $Tnbs_1$	Q	CMP	E601	4	Y	
W-832-22	EW	Qal/fill	A	CMP	E300.0:NO3	1	N	B832-SRC extraction well. Dry
W-832-22	EW	Qal/fill	A	CMP	E300.0:PERC	1	N	B832-SRC extraction well. Dry
W-832-22	EW	Qal/fill	S	CMP	E601	1	N	B832-SRC extraction well. Dry
W-832-22	EW	Qal/fill	S	CMP	E601	3	N	B832-SRC extraction well. Dry

Table 2.7-7 (Cont.). Building 832 Canyon OU ground and surface water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-832-23	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-832-23	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-832-23	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-832-23	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-832-24	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:NO3	1	Y	
W-832-24	MWPT	$Tnsc_{1b}$	A	CMP	E300.0:PERC	1	Y	
W-832-24	MWPT	$Tnsc_{1b}$	S	CMP	E601	1	Y	
W-832-24	MWPT	$Tnsc_{1b}$	S	CMP	E601	3	Y	
W-832-25	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:NO3	1	Y	B832-SRC extraction well.
W-832-25	EW	$Tnsc_{1b}$	A	CMP-TF	E300.0:PERC	1	Y	B832-SRC extraction well.
W-832-25	EW	$Tnsc_{1b}$	S	CMP-TF	E601	1	Y	B832-SRC extraction well.
W-832-25	EW	$Tnsc_{1b}$	S	CMP-TF	E601	3	Y	B832-SRC extraction well.
W-832-SC1	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-832-SC1	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-832-SC1	MWPT	Qal	S	CMP	E601	1	Y	
W-832-SC1	MWPT	Qal	S	CMP	E601	3	N	Dry.
W-832-SC2	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-832-SC2	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-832-SC2	MWPT	Qal	S	CMP	E601	1	Y	
W-832-SC2	MWPT	Qal	S	CMP	E601	3	N	Dry.
W-832-SC3	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-832-SC3	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-832-SC3	MWPT	Qal	S	CMP	E601	1	Y	
W-832-SC3	MWPT	Qal	S	CMP	E601	3	N	Dry.
W-832-SC4	MWPT	Qal	A	CMP	E300.0:NO3	1	Y	
W-832-SC4	MWPT	Qal	A	CMP	E300.0:PERC	1	Y	
W-832-SC4	MWPT	Qal	S	CMP	E601	1	Y	
W-832-SC4	MWPT	Qal	S	CMP	E601	3	N	Dry.
W-870-01	MWPT	Qal	A	CMP	E300.0:NO3	1	N	Dry.
W-870-01	MWPT	Qal	A	CMP	E300.0:PERC	1	N	Dry.
W-870-01	MWPT	Qal	S	CMP	E601	1	N	Dry.
W-870-01	MWPT	Qal	S	CMP	E601	3	N	Dry.
W-870-02	MWPT	$Tnbs_2$	A	CMP	E300.0:NO3	1	Y	
W-870-02	MWPT	$Tnbs_2$	A	CMP	E300.0:PERC	1	Y	
W-870-02	MWPT	$Tnbs_2$	S	CMP	E601	1	Y	
W-870-02	MWPT	$Tnbs_2$	S	CMP	E601	3	Y	
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:NO3	NA	NA	See High Explosives Process Area.
W-880-01	GW	$Tnbs_2$	S	CMP	E300.0:PERC	NA	NA	See High Explosives Process Area.
W-880-01	GW	$Tnbs_2$	Q	CMP	E601	NA	NA	See High Explosives Process Area.
W-880-02	GW	Qal	S	CMP	E300.0:NO3	NA	NA	See High Explosives Process Area.
W-880-02	GW	Qal	S	CMP	E300.0:PERC	NA	NA	See High Explosives Process Area.
W-880-02	GW	Qal	Q	CMP	E601	NA	NA	See High Explosives Process Area.
W-880-03	GW	$Tnsc_{1b}$	S	CMP	E300.0:NO3	NA	NA	See High Explosives Process Area.
W-880-03	GW	$Tnsc_{1b}$	S	CMP	E300.0:PERC	NA	NA	See High Explosives Process Area.
W-880-03	GW	$Tnsc_{1b}$	Q	CMP	E601	NA	NA	See High Explosives Process Area.

Notes:
Building 830 primary Contaminants of Concern in Ground Water: VOCs (E601 or E624).
Building 830 secondary COC: nitrate (E300:NO3).
Building 830 secondary COC: perchlorate (E300.0:PERC).
Building 832 primary Contaminants of Concern in Ground Water: VOCs (E601 or E624).
Building 832 secondary COC: nitrate (E300:NO3).
Building 832 secondary COC: perchlorate (E300.0:PERC).

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.7-8. Building 832-Source (832-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
832-SRC	July	4.6	0.77	0.10	0.98	NA	NA
	August	4.0	4.4	0.57	5.5	NA	NA
	September	5.3	1.7	0.26	2.6	NA	NA
	October	8.6	1.5	0.24	2.4	NA	NA
	November	6.3	1.2	0.19	1.9	NA	NA
	December	7.3	0.62	0.13	1.3	NA	NA
Total		36	10	1.5	15	NA	NA

Table 2.7-9. Building 830-Source (830-SRC) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
830-SRC	July	9,100	32	0.17	3.3	NA	NA
	August	12,000	34	0.11	3.1	NA	NA
	September	430	23	0.066	1.8	NA	NA
	October	710	55	0.30	9.1	NA	NA
	November	680	46	0.20	9.2	NA	NA
	December	330	33	0.053	9.0	NA	NA
Total		23,000	220	0.90	35	NA	NA

Table 2.7-10. Building 830-Distal South (830-DISS) mass removed, July 1, 2007 through December 31, 2007.

Treatment facility	Month	SVTS VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
830-DISS	July	NA	17	0.0036	18	NA	NA
	August	NA	12	0	13	NA	NA
	September	NA	18	0	19	NA	NA
	October	NA	18	0	19	NA	NA
	November	NA	18	0	21	NA	NA
	December	NA	8.9	0	10	NA	NA
Total		NA	92	0.0036	100	NA	NA

Table 2.8-1. Building 801 and Pit 8 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K8-01	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
K8-01	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
K8-01	MWPT	Upper $Tnbs_1$	S	CMP	E601	2	Y	
K8-01	MWPT	Upper $Tnbs_1$	S	CMP	E601	4	Y	
K8-01	MWPT	Upper $Tnbs_1$		DIS	E906	2	Y	
K8-01	MWPT	Upper $Tnbs_1$		DIS	E906	4	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	CMPTRIMET	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	E340.2	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	E601	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$		DIS	E601	4	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	E8330:R+H	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	Q	CMP	E906	1	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	Q	CMP	E906	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	Q	CMP	E906	3	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	Q	CMP	E906	4	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	B	CMP	MS:THISO	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	B	CMP	MS:UISO	2	Y	
K8-02B	CMP DMW	$Tnsc_1$/Upper $Tnbs_1$	A	CMP	T26METALS	2	Y	
K8-03B	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
K8-03B	MWPT	Upper $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
K8-03B	MWPT	Upper $Tnbs_1$	S	CMP	E601	2	Y	
K8-03B	MWPT	Upper $Tnbs_1$	S	CMP	E601	4	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	CMPTRIMET	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	E340.2	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	E601	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$		DIS	E601	4	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	E8330:R+H	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	Q	CMP	E906	1	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	Q	CMP	E906	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	Q	CMP	E906	3	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	Q	CMP	E906	4	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	B	CMP	MS:THISO	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	B	CMP	MS:UISO	2	Y	
K8-04	CMP DMW	Upper $Tnbs_1$	A	CMP	T26METALS	2	Y	
K8-05	CMP DMW	$Tnbs_2$	B	CMP	CMPTRIMET	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E300.0:NO3	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E300.0:PERC	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E340.2	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E601	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E8330:R+H	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	E906	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	MS:THISO	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	MS:UISO	2	NA	Next sample required 2ndQ 2008.
K8-05	CMP DMW	$Tnbs_2$	B	CMP	T26METALS	2	NA	Next sample required 2ndQ 2008.

Notes appear on the following page.

Table 2.8-1 (Cont.). Building 801 and Pit 8 Landfill area ground water sampling and analysis plan.

Notes:
No COCs in ground water.
CMP Detection monitoring analyte: tritium (E906) sampled quarterly.
CMP Detection monitoring analyte: VOCs (E601 or E624) sampled annually.
CMP Detection monitoring analyte: fluoride (E340.2) sampled annually.
CMP Detection monitoring analyte: HE compounds (E8330:R+H) sampled annually.
CMP Detection monitoring analyte: nitrate (E300.0:NO3) sampled annually.
CMP Detection monitoring analyte: perchlorate (E300.0:PERC) sampled annually.
CMP Detection monitoring analytes: Title 26 metals plus U, Th, Li, Be (T26METALS and CMPTRIMET) sampled annually.
CMP Detection monitoring analytes: uranium and thorium isotopes by mass spectrometry (MS:UISO and MS:THISO) sampled biennially.
Contaminants of Concern in the Vadose Zone not detected in Ground Water: HE Compounds and uranium.
Building 801 primary COC: VOCs (E601 or E624).
Building 801 secondary COC: nitrate (E300.0:NO3).
Building 801 secondary COC: uranium (MS:UISO) .

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.8-2. Building 833 area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-833-03	MWPT	Tps	A	CMP	E601	1	N	Dry.
W-833-12	MWPT	Tps	A	CMP	E601	1	Y	
W-833-18	MWPT	Tps	A	CMP	E601	1	N	Dry.
W-833-22	MWPT	Tps	B	CMP	E601	1	NA	Next sample required 1stQ 2008.
W-833-28	MWPT	Tps	A	CMP	E601	1	N	Dry.
W-833-30	MWPT	Lower $Tnbs_1$	S	CMP	E601	1	Y	
W-833-30	MWPT	Lower $Tnbs_1$	S	CMP	E601	3	Y	
W-833-33	MWPT	Tps	B	CMP	E601	1	NA	Next sample required 1stQ 2008.
W-833-34	MWPT	Tps	A	CMP	E601	1	N	Dry.
W-833-43	MWPT	Tps	B	CMP	E601	1	N	Dry.
W-840-01	MWPT	Lower $Tnbs_1$		DIS	E300.0:NO3	1	Y	
W-840-01	MWPT	Lower $Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-840-01	MWPT	Lower $Tnbs_1$		DIS	E601	1	Y	
W-841-01	MWPT	Upper $Tnbs_1$		DIS	E300.0:NO3	1	N	Dry.
W-841-01	MWPT	Upper $Tnbs_1$		DIS	E300.0:PERC	1	N	Dry.
W-841-01	MWPT	Upper $Tnbs_1$		DIS	E601	1	N	Dry.

Notes:

Building 833 primary COC: VOCs (E601).

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.8-3. Building 845 Firing Table and Pit 9 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K9-01	CMP DMW	Tmss	A	CMP	CMPTRIMET	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	E300.0:NO3	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	E300.0:PERC	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	E340.2	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	E601	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	E8330	2	Y	
K9-01	CMP DMW	Tmss	Q	CMP	E906	1	Y	
K9-01	CMP DMW	Tmss	Q	CMP	E906	2	Y	
K9-01	CMP DMW	Tmss	Q	CMP	E906	3	Y	
K9-01	CMP DMW	Tmss	Q	CMP	E906	4	Y	
K9-01	CMP DMW	Tmss	B	CMP	MS:THISO	2	Y	
K9-01	CMP DMW	Tmss	B	CMP	MS:UISO	2	Y	
K9-01	CMP DMW	Tmss	A	CMP	T26METALS	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	CMPTRIMET	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	E300.0:NO3	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	E300.0:PERC	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	E340.2	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	E601	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	E8330	2	Y	
K9-02	CMP DMW	Tmss	Q	CMP	E906	1	Y	
K9-02	CMP DMW	Tmss	Q	CMP	E906	2	Y	
K9-02	CMP DMW	Tmss	Q	CMP	E906	3	Y	
K9-02	CMP DMW	Tmss	Q	CMP	E906	4	Y	
K9-02	CMP DMW	Tmss	B	CMP	MS:THISO	2	Y	
K9-02	CMP DMW	Tmss	B	CMP	MS:UISO	2	Y	
K9-02	CMP DMW	Tmss	A	CMP	T26METALS	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	CMPTRIMET	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	E300.0:NO3	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	E300.0:PERC	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	E340.2	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	E601	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	E8330	2	Y	
K9-03	CMP DMW	Tmss	Q	CMP	E906	1	Y	
K9-03	CMP DMW	Tmss	Q	CMP	E906	2	Y	
K9-03	CMP DMW	Tmss	Q	CMP	E906	3	Y	
K9-03	CMP DMW	Tmss	Q	CMP	E906	4	Y	
K9-03	CMP DMW	Tmss	B	CMP	MS:THISO	2	Y	
K9-03	CMP DMW	Tmss	B	CMP	MS:UISO	2	Y	
K9-03	CMP DMW	Tmss	A	CMP	T26METALS	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	CMPTRIMET	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	E300.0:NO3	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	E300.0:PERC	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	E340.2	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	E601	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	E8330	2	Y	
K9-04	CMP DMW	Tmss	Q	CMP	E906	1	Y	
K9-04	CMP DMW	Tmss	Q	CMP	E906	2	Y	

Table 2.8-3 (Cont.). Building 845 Firing Table and Pit 9 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K9-04	CMP DMW	Tmss	Q	CMP	E906	3	Y	
K9-04	CMP DMW	Tmss	Q	CMP	E906	4	Y	
K9-04	CMP DMW	Tmss	B	CMP	MS:THISO	2	Y	
K9-04	CMP DMW	Tmss	B	CMP	MS:UISO	2	Y	
K9-04	CMP DMW	Tmss	A	CMP	T26METALS	2	Y	

Notes:
No COCs in ground water.
CMP Detection monitoring analyte: tritium (E906) sampled quarterly.
CMP Detection monitoring analyte: VOCs (E601 or E624) sampled annually.
CMP Detection monitoring analyte: fluoride (E340.2) sampled annually.
CMP Detection monitoring analyte: HE compounds (E8330:R+H) sampled annually.
CMP Detection monitoring analyte: nitrate (E300.0:NO3) sampled annually.
CMP Detection monitoring analyte: perchlorate (E300.0:PERC) sampled annually.
CMP Detection monitoring analytes: Title 26 metals plus U, Th, Li, Be (T26METALS and CMPTRIMET) sampled annually.
CMP Detection monitoring analytes: uranium and thorium isotopes by mass spectrometry (MS:UISO and MS:THISO) sampled biennially.
Contaminants of Concern in the Vadose Zone not detected in Ground Water: HE Compounds and uranium.
See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 2.8-4. Building 851 area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-851-05	MWPT	Tmss	B	CMP	E601	2	Y	Next sample required 2ndQ 2007.
W-851-05	MWPT	Tmss	S	CMP	MS:UISO	2	Y	
W-851-05	MWPT	Tmss	S	CMP	MS:UISO	4	Y	
W-851-05	MWPT	Tmss	A	CMP	E906	2	Y	
W-851-06	MWPT	Tmss	A	CMP	E906	2	Y	
W-851-06	MWPT	Tmss	S	CMP	MS:UISO	2	Y	
W-851-06	MWPT	Tmss	S	CMP	MS:UISO	4	Y	
W-851-07	MWPT	Tmss	A	CMP	E906	2	Y	
W-851-07	MWPT	Tmss	S	CMP	MS:UISO	2	Y	
W-851-07	MWPT	Tmss	S	CMP	MS:UISO	4	Y	
W-851-08	MWPT	Tmss	A	CMP	E906	2	Y	
W-851-08	MWPT	Tmss	S	CMP	MS:UISO	2	Y	
W-851-08	MWPT	Tmss	S	CMP	MS:UISO	4	Y	

Notes:

Building 851 primary COC: uranium (MS:UISO).

Contaminants of Concern in the Vadose Zone not detected in Ground Water: VOCs (E601).

See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 3.1-1. Pit 2 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
K2-01C	CMP DMW	$Tnbs_1$		WGMG	AS:UISO	1	Y	
K2-01C	CMP DMW	$Tnbs_1$		WGMG	AS:UISO	2	Y	
K2-01C	CMP DMW	$Tnbs_1$		WGMG	AS:UISO	3	Y	
K2-01C	CMP DMW	$Tnbs_1$		WGMG	AS:UISO	4	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	CMPTRIMET	2	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	E300.0:NO3	2	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	E300.0:PERC	2	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	E340.2	2	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	E601	2	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP/WGMG	E8330:R+H	2	Y	
K2-01C	CMP DMW	$Tnbs_1$	Q	CMP/WGMG	E906	1	Y	
K2-01C	CMP DMW	$Tnbs_1$	Q	CMP/WGMG	E906	2	Y	
K2-01C	CMP DMW	$Tnbs_1$	Q	CMP/WGMG	E906	3	Y	
K2-01C	CMP DMW	$Tnbs_1$	Q	CMP/WGMG	E906	4	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	MS:THISO	1	Y	
K2-01C	CMP DMW	$Tnbs_1$	B	CMP	MS:THISO	2	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	MS:THISO	3	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	MS:UISO	1	Y	
K2-01C	CMP DMW	$Tnbs_1$	B	CMP	MS:UISO	2	Y	
K2-01C	CMP DMW	$Tnbs_1$		DIS	MS:UISO	4	Y	
K2-01C	CMP DMW	$Tnbs_1$	A	CMP	T26METALS	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	CMPTRIMET	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
NC2-08	CMP DMW	$Tnbs_1$		DIS	E300.0:PERC	1	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
NC2-08	CMP DMW	$Tnbs_1$		DIS	E300.0:PERC	3	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	E340.2	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	E601	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	E8330:R+H	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	Q	CMP	E906	1	Y	
NC2-08	CMP DMW	$Tnbs_1$	Q	CMP	E906	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	Q	CMP	E906	3	Y	
NC2-08	CMP DMW	$Tnbs_1$	Q	CMP	E906	4	Y	
NC2-08	CMP DMW	$Tnbs_1$		DIS	MS:THISO	1	Y	
NC2-08	CMP DMW	$Tnbs_1$	B	CMP	MS:THISO	2	Y	
NC2-08	CMP DMW	$Tnbs_1$		DIS	MS:UISO	1	Y	
NC2-08	CMP DMW	$Tnbs_1$	B	CMP	MS:UISO	2	Y	
NC2-08	CMP DMW	$Tnbs_1$	A	CMP	T26METALS	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	CMPTRIMET	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$		DIS	E300.0:PERC	3	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	E340.2	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	E601	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	E8330:R+H	2	Y	

Table 3.1-1 (Cont.). Pit 2 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	1	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	3	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	4	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$		DIS	MS:THISO	1	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	B	CMP	MS:THISO	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$		DIS	MS:UISO	1	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	B	CMP	MS:UISO	2	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$		DIS	MS:UISO	3	Y	
W-PIT2-1934	CMP DMW	Lower $Tnbs_1$	A	CMP	T26METALS	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	CMPTRIMET	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	E300.0:NO3	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$		DIS	E300.0:PERC	1	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	E300.0:PERC	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$		DIS	E300.0:PERC	3	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	E340.2	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	E601	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	E8330:R+H	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	1	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	3	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	Q	CMP	E906	4	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$		DIS	MS:THISO	1	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	B	CMP	MS:THISO	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$		DIS	MS:UISO	1	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	B	CMP	MS:UISO	2	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$		DIS	MS:UISO	3	Y	
W-PIT2-1935	CMP DMW	Lower $Tnbs_1$	A	CMP	T26METALS	2	Y	
W-PIT2-2226	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	1	N	Dry.
W-PIT2-2226	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	2	N	Dry.
W-PIT2-2226	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	3	Y	
W-PIT2-2226	GW	$Tnbs_1$/$Tnbs_0$	Q	CMP	E906	4	Y	
W-PIT2-2301	MWPT	Qal/WBR	A	CMP	E300.0:NO3	2	N	Dry.
W-PIT2-2301	MWPT	Qal/WBR	A	CMP	E300.0:PERC	2	N	Dry.
W-PIT2-2301	MWPT	Qal/WBR	S	CMP	E906	2	N	Dry.
W-PIT2-2301	MWPT	Qal/WBR	S	CMP	E906	4	N	Dry.
W-PIT2-2301	MWPT	Qal/WBR	A	CMP	MS:UISO	2	N	Dry.
W-PIT2-2302	MWPT	Qal/WBR	A	CMP	E300.0:NO3	2	N	Dry.
W-PIT2-2302	MWPT	Qal/WBR	A	CMP	E300.0:PERC	2	N	Dry.
W-PIT2-2302	MWPT	Qal/WBR	S	CMP	E906	2	N	Dry.
W-PIT2-2302	MWPT	Qal/WBR	S	CMP	E906	4	N	Dry.
W-PIT2-2302	MWPT	Qal/WBR	A	CMP	MS:UISO	2	N	Dry.
W-PIT2-2303	MWPT	Qal/WBR	A	CMP	E300.0:NO3	2	N	Dry.
W-PIT2-2303	MWPT	Qal/WBR	A	CMP	E300.0:PERC	2	N	Dry.
W-PIT2-2303	MWPT	Qal/WBR	S	CMP	E906	2	N	Dry.
W-PIT2-2303	MWPT	Qal/WBR	S	CMP	E906	4	N	Dry.
W-PIT2-2303	MWPT	Qal/WBR	A	CMP	MS:UISO	2	N	Dry.
W-PIT2-2304	MWPT	Qal/WBR		Baseline	DWMETALS	1	Y	

Table 3.1-1 (Cont.). Pit 2 Landfill area ground water sampling and analysis plan.

Sampling location	Location type	Completion interval	Sampling frequency required	Sample driver	Requested analysis	Sampling quarter	Sampled Y/N	Comment
W-PIT2-2304	MWPT	Qal/WBR	A	CMP/Baseline	E300.0:NO3	1	Y	
W-PIT2-2304	MWPT	Qal/WBR	A	CMP/Baseline	E300.0:PERC	1	Y	
W-PIT2-2304	MWPT	Qal/WBR		Baseline	E624	1	Y	
W-PIT2-2304	MWPT	Qal/WBR		Baseline	E8330	1	Y	
W-PIT2-2304	MWPT	Qal/WBR		Baseline	E900	1	Y	
W-PIT2-2304	MWPT	Qal/WBR	S	CMP/Baseline	E906	1	Y	
W-PIT2-2304	MWPT	Qal/WBR	S	CMP/Baseline	E906	3	Y	
W-PIT2-2304	MWPT	Qal/WBR		DIS	E906	4	Y	
W-PIT2-2304	MWPT	Qal/WBR		Baseline	GENMIN	1	Y	
W-PIT2-2304	MWPT	Qal/WBR	A	CMP/Baseline	ICMSRAD	1	Y	

Notes:
No COCs in ground water at Pit 2.
CMP Detection monitoring analyte: tritium (E906) sampled quarterly.
CMP Detection monitoring analyte: VOCs (E601 or E624) sampled annually.
CMP Detection monitoring analyte: fluoride (E340.2) sampled annually.
CMP Detection monitoring analyte: HE compounds (E8330:R+H) sampled annually.
CMP Detection monitoring analyte: nitrate (E300.0:NO3) sampled annually.
CMP Detection monitoring analyte: perchlorate (E300.0:PERC) sampled annually.
CMP Detection monitoring analytes: Title 26 metals plus U, Th, Li, Be (T26METALS and CMPTRIMET) sampled annually.
CMP Detection monitoring analytes: uranium and thorium isotopes by mass spectrometry (MS:UISO and MS:THISO) sampled biennially.
See Acronyms and Abbreviations in the Tables section of this report for acronym and abbreviation definitions.

Table 4.1-1. Summary of inhalation risks and hazards resulting from transport of contaminant vapors to indoor and outdoor ambient air.

Area	Pathway and Model	Contaminant	Incremental Risk	Hazard Quotient	Comment
Building 834D	Indoor – JEM	TCE	2.3×10^{-4}	4.5×10^{-1}	Based on a TCE ground water concentration of 25,000 µg/L (April 2007) in well W-834-D4.
	Indoor – JEM	PCE	7.7×10^{-6}	1.2×10^{-1}	Based on a PCE ground water concentration of 170 µg/L (February 2007) in wellW-834-D13.
	Cumulative risk and hazard index		2.4×10^{-4}	5.8×10^{-1}	Institutional controls in place, building only used for storage.
Building 830	Indoor – JEM	Vinyl Chloride	6.1×10^{-7}	1.2×10^{-3}	Based on the vinyl chloride reporting limit of 50 µg/L (July 2007) in well W-830-34.
	Indoor – JEM	TCE	3.7×10^{-6}	7.2×10^{-3}	Based on a TCE ground water concentration of 940 µg/L (July 2007) in well W-830-34.
	Cumulative risk and hazard index		4.3×10^{-6}	8.4×10^{-3}	Institutional controls in place.
Building 833	Indoor – JEM	TCE	4.7×10^{-8}	9.1×10^{-5}	Based on a TCE ground water concentration of 20 µg/L (June 2000) in well W-833-03. Contaminated wells in this area have been dry since 2000.
	Indoor – JEM	Chloroform	1.8×10^{-9}	2.7×10^{-5}	Based on the chloroform reporting limit of 0.5 µg/L in sampled wells.
	Cumulative risk and hazard index		4.9×10^{-8}	1.2×10^{-4}	Institutional and engineering controls are in place. The air conditioning unit in Building 833 is operated continuously to maintain neutral pressure differential between the subsurface and indoor air, and to maintain high exchange rates.

Notes:

JEM = Johnson-Ettinger Model for indoor air pathway (USEPA, GW-ADV Version 3.1; 02/04), incorporates the updated risk values in DTSC (2005) Interim Final Vapor Intrusion Guidance.

NC = Not calculated.

PCE = Tetrachloroethene.

TCE = Trichloroethene.

µg/L = Micrograms per liter.

Appendices A, B, and C

Appendix A

Results of Influent and Effluent pH Monitoring

Table A-1 Results of influent and effluent pH, and effluent dissolved oxygen monitoring, July through December 2007.

A-1. Results of infuent and effluent pH, and effluent dissolved oxygen monitoring, July through December 2007.

Sample Location	Sample Date	Influent pH Result	Effluent pH Result	Effluent Dissolved Oxygen (mg/L)
GSA OU				
CGSA GWTS	**07/03/2007**	**7**	**7.5**	**NR**
CGSA GWTS	**08/01/2007**	**NA**	**7.5**	**NR**
CGSA GWTS	**09/12/2007**	**NA**	**7.5**	**NR**
CGSA GWTS	**10/03/2007**	**7**	**7.5**	**NR**
CGSA GWTS	**11/07/2007**	**NA**	**7.5**	**NR**
CGSA GWTS	**12/31/2007**	**NA**	**NA**	**NR**
Building 834 OU				
834 GWTS	**07/02/2007**	**7.6**	**8.1**	**NR**
834 GWTS	**08/01/2007**	**NA**	**8.3**	**NR**
834 GWTS	**09/04/2007**	**NA**	**8.21**	**NR**
834 GWTS	**10/02/2007**	**7.59**	**8.22**	**NR**
834 GWTS	**11/07/2007**	**NA**	**7.79**	**NR**
834 GWTS	**12/03/2007**	**NA**	**7.86**	**NR**
HEPA OU				
815-SRC GWTS	**07/09/2007**	**7**	**7**	**NR**
815-SRC GWTS	**08/07/2007**	**NA**	**7**	**NR**
815-SRC GWTS	**09/05/2007**	**NA**	**7**	**NR**
815-SRC GWTS	**10/03/2007**	**7**	**7**	**NR**
815-SRC GWTS	**10/30/2007**	**NA**	**7**	**NR**
815-SRC GWTS	**12/04/2007**	**NA**	**7**	**NR**
815-PRX GWTS	**07/09/2007**	**7**	**7**	**NR**
815-PRX GWTS	**08/06/2007**	**NA**	**7**	**NR**
815-PRX GWTS	**09/05/2007**	**NA**	**7**	**NR**
815-PRX GWTS	**10/02/2007**	**7**	**7**	**NR**
815-PRX GWTS	**11/05/2007**	**NA**	**7**	**NR**
815-PRX GWTS	**12/04/2007**	**NA**	**7**	**NR**
815-DSB GWTS	**07/05/2007**	**7**	**7**	**NR**
815-DSB GWTS	**08/02/2007**	**NA**	**7**	**NR**

A-1. Results of infuent and effluent pH, and effluent dissolved oxygen monitoring, July through December 2007.

Sample Location	Sample Date	Influent pH Result	Effluent pH Result	Effluent Dissolved Oxygen (mg/L)
815-DSB GWTS	**09/12/2007**	**NA**	**7**	**NR**
815-DSB GWTS	**10/04/2007**	**7**	**7**	**NR**
815-DSB GWTS	**11/07/2007**	**NA**	**7**	**NR**
815-DSB GWTS	**12/04/2007**	**NA**	**7**	**NR**
817-SRC GWTS	**07/03/2007**	**7.5**	**7.5**	**NR**
817-SRC GWTS	**08/07/2007**	**NA**	**7.5**	**NR**
817-SRC GWTS	**09/05/2007**	**NA**	**7**	**NR**
817-SRC GWTS	**10/03/2007**	**7**	**7**	**NR**
817-SRC GWTS	**10/30/2007**	**NA**	**7**	**NR**
817-SRC GWTS	**12/04/2007**	**NA**	**8**	**NR**
817-PRX GWTS	**07/24/2007**	**7.8**	**6.82**	**NR**
817-PRX GWTS	**08/08/2007**	**7.87**	**6.68**	**NR**
817-PRX GWTS	**09/11/2007**	**NA**	**7**	**NR**
817-PRX GWTS	**09/25/2007**	**7**	**7**	**NR**
817-PRX GWTS	**11/05/2007**	**NA**	**7**	**NR**
817-PRX GWTS	**12/04/2007**	**NA**	**7**	**NR**
829-SRC GWTS	**07/19/2007**	**7**	**7**	**NR**
829-SRC GWTS	**08/02/2007**	**NA**	**7**	**NR**
829-SRC GWTS	**09/12/2007**	**NA**	**7**	**NR**
829-SRC GWTS	**10/04/2007**	**7**	**7**	**NR**
829-SRC GWTS	**11/05/2007**	**NA**	**7**	**NR**
829-SRC GWTS	**12/04/2007**	**NA**	**7**	**NR**
Building 854 OU				
854-SRC GWTS	**07/02/2007**	**7**	**7**	**NR**
854-SRC GWTS	**08/31/2007**	**NA**	**NA**	**NR**
854-SRC GWTS	**09/30/2007**	**NA**	**NA**	**NR**
854-SRC GWTS	**10/31/2007**	**NA**	**NA**	**NR**
854-SRC GWTS	**11/07/2007**	**7**	**7**	**NR**
854-SRC GWTS	**12/04/2007**	**NA**	**7**	**NR**

A-1. Results of infuent and effluent pH, and effluent dissolved oxygen monitoring, July through December 2007.

Sample Location	Sample Date	Influent pH Result	Effluent pH Result	Effluent Dissolved Oxygen (mg/L)
854-PRX GWTS	**07/11/2007**	**7**	**7**	**NR**
854-PRX GWTS	**08/02/2007**	**NA**	**7**	**NR**
854-PRX GWTS	**09/30/2007**	**NA**	**NA**	**NR**
854-PRX GWTS	**10/29/2007**	**7**	**7**	**NR**
854-PRX GWTS	**11/05/2007**	**NA**	**7**	**NR**
854-PRX GWTS	**12/04/2007**	**NA**	**7**	**NR**
854-DIS GWTS	**07/03/2007**	**7**	**7**	**NR**
854-DIS GWTS	**08/02/2007**	**NA**	**7**	**NR**
854-DIS GWTS	**09/05/2007**	**NA**	**7**	**NR**
854-DIS GWTS	**10/15/2007**	**6.5**	**7**	**NR**
854-DIS GWTS	**11/05/2007**	**NA**	**7**	**NR**
854-DIS GWTS	**12/04/2007**	**NA**	**7**	**NR**
832 Canyon OU				
832-SRC GWTS	**07/02/2007**	**7.7**	**7.6**	**NR**
832-SRC GWTS	**08/01/2007**	**NA**	**7.6**	**NR**
832-SRC GWTS	**09/04/2007**	**NA**	**7.7**	**NR**
832-SRC GWTS	**10/02/2007**	**7.41**	**8.1**	**NR**
832-SRC GWTS	**11/05/2007**	**NA**	**7.81**	**NR**
832-SRC GWTS	**12/03/2007**	**NA**	**7.59**	**NR**
830-SRC GWTS	**07/02/2007**	**7.5**	**7.5**	**NR**
830-SRC GWTS	**08/01/2007**	**NA**	**7.5**	**NR**
830-SRC GWTS	**09/04/2007**	**NA**	**7.35**	**NR**
830-SRC GWTS	**10/02/2007**	**7.65**	**7.38**	**NR**
830-SRC GWTS	**11/05/2007**	**NA**	**7.17**	**NR**
830-SRC GWTS	**12/03/2007**	**NA**	**7.48**	**NR**
830-DISS GWTS	**07/02/2007**	**7.7**	**7.6**	**NR**
830-DISS GWTS	**08/01/2007**	**NA**	**7.4**	**NR**
830-DISS GWTS	**09/04/2007**	**NA**	**7.43**	**NR**
830-DISS GWTS	**10/02/2007**	**7.76**	**7.43**	**NR**

A-1. Results of infuent and effluent pH, and effluent dissolved oxygen monitoring, July through December 2007.

Sample Location	Sample Date	Influent pH Result	Effluent pH Result	Effluent Dissolved Oxygen (mg/L)
830-DISS GWTS	11/05/2007	NA	7.48	NR
830-DISS GWTS	12/03/2007	NA	7.51	NR

Notes:

834 = Building 834.
815 = Building 815.
817 = Building 817.
829 = Building 829.
854 = Building 854.
832 = Building 832.
830 = Building 830.
CGSA = Central General Services Area.
EGSA = Eastern General Services Area.
DISS = Distal south.
DSB = Distal site boundary.
GWTS = Ground water treatment system.
PRX = Proximal.
PRXN = Proximal North.
SRC = Source.
NA = Not applicable.
NM = Not measured due to facility not operating during this period.
NR = Not required.
OU = Operable unit.
pH = A measure of the acidity or alkalinity of an aqueous solution.
mg/L = milligrams per liter

Appendix B

Ground and Surface Water Analytical Data Table List

B-SUPP. LLNL Water Monitoring and Guidance Group EPA Method 8260 analysis results not reported in the CMR VOC tables included on CD.

Location	Date	Method	TCE (μg/L)	PCE (μg/L)	cis-1,2-DCE (μg/L)	trans-1,2-DCE (μg/L)	Carbon tetrachloride (μg/L)	Chloroform (μg/L)	1,1-DCA (μg/L)	1,2-DCA (μg/L)	1,1-DCE (μg/L)	1,1,1-TCA (μg/L)	1,1,2-TCA (μg/L)	Freon 11 (μg/L)	Freon 113 (μg/L)	Vinyl chloride (μg/L)
EP6-06	4/3/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-06	7/10/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-06	07/10/07 DUP	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-06	10/2/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-08	4/3/07	E8260	<0.5 E	1.4	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5
EP6-08	7/2/07	E8260	0.83	1.7	<0.5	<0.5	<0.5	0.78 F	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5
EP6-08	08/09/07 REX	E8260	0.58	1.4	<0.5	<0.5	<0.5	0.55	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-08	08/16/07 REX	E8260	0.55	1.2	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-08	10/2/07	E8260	0.58	1.3	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5
EP6-09	4/2/07	E8260	7.6	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-09	7/2/07	E8260	9.8	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP6-09	10/3/07	E8260	7.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-01S	4/2/07	E8260	<0.5	<0.5	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-01S	04/02/07 DUP	E8260	<0.5	<0.5	2.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-01S	7/2/07	E8260	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-01S	10/3/07	E8260	<0.5	<0.5	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-19	4/2/07	E8260	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-19	7/2/07	E8260	3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-19	07/02/07 DUP	E8260	3.4	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K6-19	10/3/07	E8260	2.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-01C	1/18/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-01C	4/25/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-01C	07/30/07 REX	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-01C	10/18/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-01C	10/18/07 DUP	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	1/4/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	01/04/07 DUP	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	4/10/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	7/3/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	07/03/07 DUP	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-02B	10/16/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-04	2/7/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-04	4/10/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-04	7/3/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-04	10/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-05	1/11/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	<0.5
K1-05	4/10/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	19	<0.5
K1-05	7/19/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	18	<0.5
K1-05	10/16/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	18	<0.5
K1-07	1/23/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-07	4/25/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-07	04/25/07 DUP	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-07	7/3/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-07	10/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K1-08	1/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	25	<0.5
K1-08	5/2/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	27	<0.5
K1-08	7/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29	<0.5
K1-08	10/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	30	<0.5
K1-09	1/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	42	<0.5
K1-09	5/7/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 E	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	50	<0.5
K1-09	7/17/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	44	<0.5
K1-09	10/16/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 BFE	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	49	<0.5
W-PIT1-02	1/22/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
W-PIT1-02	4/12/07	E8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Analytes detected but not reported in main table.

Location	Date	Method	Detection frequency	1,2-DCE (total) (µg/L)
EP6-06	4/3/07	E8260	0 of 36	-
EP6-06	7/10/07	E8260	0 of 36	-
EP6-06	07/10/07 DUP	E8260	0 of 31	-
EP6-06	10/2/07	E8260	0 of 36	-
EP6-08	4/3/07	E8260	0 of 36	-
EP6-08	7/2/07	E8260	0 of 36	-
EP6-08	08/09/07 REX	E8260	0 of 36	-
EP6-08	08/16/07 REX	E8260	0 of 36	-
EP6-08	10/2/07	E8260	0 of 36	-
EP6-09	4/2/07	E8260	0 of 36	-
EP6-09	7/2/07	E8260	0 of 36	-
EP6-09	10/3/07	E8260	0 of 36	-
K6-01S	4/2/07	E8260	1 of 36	2.4
K6-01S	04/02/07 DUP	E8260	1 of 36	2.1
K6-01S	7/2/07	E8260	1 of 36	2.3
K6-01S	10/3/07	E8260	1 of 36	2.2
K6-19	4/2/07	E8260	0 of 36	-
K6-19	7/2/07	E8260	0 of 36	-
K6-19	07/02/07 DUP	E8260	0 of 36	-
K6-19	10/3/07	E8260	0 of 36	-
K1-01C	1/18/07	E8260	0 of 36	
K1-01C	4/25/07	E8260	0 of 36	
K1-01C	07/30/07 REX	E8260	0 of 36	
K1-01C	10/18/07	E8260	0 of 36	
K1-01C	10/18/07 DUP	E8260	0 of 36	
K1-02B	1/4/07	E8260	0 of 36	
K1-02B	01/04/07 DUP	E8260	0 of 36	
K1-02B	4/10/07	E8260	0 of 36	
K1-02B	7/3/07	E8260	0 of 36	
K1-02B	07/03/07 DUP	E8260	0 of 36	
K1-02B	10/16/07	E8260	0 of 36	
K1-04	2/7/07	E8260	0 of 36	
K1-04	4/10/07	E8260	0 of 36	
K1-04	7/3/07	E8260	0 of 36	
K1-04	10/17/07	E8260	0 of 36	
K1-05	1/11/07	E8260	0 of 36	
K1-05	4/10/07	E8260	0 of 36	
K1-05	7/19/07	E8260	0 of 36	
K1-05	10/16/07	E8260	0 of 36	
K1-07	1/23/07	E8260	0 of 36	
K1-07	4/25/07	E8260	0 of 36	
K1-07	04/25/07 DUP	E8260	0 of 36	
K1-07	7/3/07	E8260	0 of 36	
K1-07	10/17/07	E8260	0 of 36	
K1-08	1/17/07	E8260	0 of 36	
K1-08	5/2/07	E8260	0 of 36	
K1-08	7/17/07	E8260	0 of 36	
K1-08	10/17/07	E8260	0 of 36	
K1-09	1/17/07	E8260	0 of 36	
K1-09	5/7/07	E8260	0 of 36	
K1-09	7/17/07	E8260	0 of 36	
K1-09	10/16/07	E8260	0 of 36	
W-PIT1-02	1/22/07	E8260	0 of 36	
W-PIT1-02	4/12/07	E8260	0 of 36	

Appendix C

Ground Water Elevations
Table List

Errata

The following tables replace the corresponding First Semester 2007 tables:

Table E-Summ-1 replaces Table Summ-1: The highlighted CGSA GWTS volumes and mass values were corrected, and the CGSA SVE & 854-SRC SVE mass numbers were recalculated using additional VOC concentration data.

Table E-2.1-1 replaces Table 2.1-1: The highlighted CGSA GWTS volumes were corrected.

Table E-2-1-14 replaces Table 2-1-14: The highlighted CGSA mass values were corrected.

Table E-2.6-8 replaces Table 2.6-8: The highlighted 854-SRC SVE mass values were corrected.

Table E-Summ-1. Mass removed, January 1, 2007 through June 30, 2007.

Treatment facility	Volume of ground water treated (thousands of gal)	Volume of soil vapor treated (thousands of ft^3)	Estimated total VOC mass removed (g)	Estimated total perchlorate mass removed (g)	Estimated total nitrate mass removed (kg)	Estimated total RDX mass removed (g)	Estimated total TBOS mass removed (g)
EGSA GWTS	2,971	NA	20	NA	NA	NA	NA
CGSA GWTS	616	NA	160	NA	NA	NA	NA
CGSA SVE	NA	4,791	790	NA	NA	NA	NA
834 GWTS	57	NA	900	NA	16	NA	2.6
834 SVE	NA	23,167	13,000	NA	NA	NA	NA
815-SRC GWTS	267	NA	7.3	14	100	66	NA
815-PRX GWTS	194	NA	19	4.9	59	NA	NA
815-DSB GWTS	956	NA	38	NA	NA	NA	NA
817-SRC GWTS	4	NA	NA	0.45	1.2	0.65	NA
817-PRX GWTS	43	NA	1.6	4.7	14	1.4	NA
829-SRC GWTS	<1	NA	0.00040	0.00023	0.0014	NA	NA
854-SRC GWTS	720	NA	200	7.2	130	NA	NA
854-SRC SVE	NA	1,525	330	NA	NA	NA	NA
854-PRX GWTS	81	NA	11	3.9	14	NA	NA
854-DIS GWTS	5	NA	0.83	0.026	0.39	NA	NA
832-SRC GWTS	100	NA	32	3.5	33	NA	NA
832-SRC SVE	NA	619	53	NA	NA	NA	NA
830-SRC GWTS	135	NA	240	1.3	21	NA	NA
830-SRC SVE	NA	2,328	20,000	NA	NA	NA	NA
830-DISS GWTS	7	NA	160	0.0091	1.0	NA	NA
Total	6,157	32,430	36,000	40	390	68	2.6

Notes:
815 = Building 815.
817 = Building 817.
829 = Building 829.
830 = Building 830.
832 = Building 832.
834 = Building 834.
854 = Building 854.
CGSA = Central General Services Area.
DIS = Distal.
DISS = Distal south.
DSB = Distal site boundary.
EGSA = Eastern General Services Area.
ft^3 = Cubic feet.
g = Grams.
gal = Gallons.
GWTS = Ground water treatment system.
kg = Kilograms.
NA = Not applicable.
PRX = Proximal.
RDX = Research Department Explosive.
SRC = Source.
SVE = Soil vapor extraction.
TBOS = Tetra 2-ethylbutylorthosilicate.
VOC = Volatile organic compound.

Corrected values are shaded.

Table E-2.1-1. Central General Services Area (CGSA) volumes of ground water and soil vapor extracted and discharged, January 1, 2007 through June 30, 2007.

Treatment facility	Month	SVE Operational hours	GWTS Operational hours	Volume of vapor extracted (thousands of ft^3)	Volume of ground water discharged (gal)
CGSA	January	696	696	669	88,453
	February	672	672	707	110,195
	March	672	672	646	99,588
	April	792	792	964	115,534
	May	720	720	923	105,505
	June	672	672	882	97,051
Total		4,224	4,224	4,791	616,326

Corrected values are shaded.

Table E-2.1-14. Central General Services Area (CGSA) mass removed, January 1, 2007 through June 30, 2007.

Treatment facility	Month	SVE VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
CGSA	January	150	27	NA	NA	NA	NA
	February	160	24	NA	NA	NA	NA
	March	140	25	NA	NA	NA	NA
	April	210	34	NA	NA	NA	NA
	May	70	29	NA	NA	NA	NA
	June	67	24	NA	NA	NA	NA
Total		790	160	NA	NA	NA	NA

Corrected values are shaded.

Table E-2.6-7. Building 854-Source (854-SRC) mass removed, January 1, 2007 through June 30, 2007.

Treatment facility	Month	SVE VOC mass removed (g)	GWTS VOC mass removed (g)	Perchlorate mass removed (g)	Nitrate mass removed (kg)	RDX mass removed (g)	TBOS mass removed (g)
854-SRC	January	170	35	1.8	29	NA	NA
	February	0	22	0.78	20	NA	NA
	March	0	24	0.96	22	NA	NA
	April	160	38	1.3	18	NA	NA
	May	0	46	1.4	24	NA	NA
	June	0	31	0.94	17	NA	NA
Total		330	200	7.2	130	NA	NA

Corrected values are shaded.