Prepared for:

Olin Corporation
Charleston, Tennessee

SOIL IN SITU BIOREMEDIATION SYSTEM CLOSURE REPORT

OLIN/STANDARD FUSEE SITE
MORGAN HILL, CALIFORNIA

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Project No. GR3711

18 July 2006

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EXECUTIVE SUMMARY

GeoSyntec Consultants (GeoSyntec) has prepared this closure report on behalf of Olin Corporation (Olin) to document the successful completion of soil remediation at the Olin/Standard Fusee Site (the Site) in Morgan Hill, California. The approved soil remedy for the Site consisted of a two phase remediation program for perchlorate in soils. Phase I consisted of excavation and ex situ treatment of soils (approximately 1000 cubic yards [yd^3]) containing perchlorate above the United States Environmental Protection Agency Residential Preliminary Remedial Goal of 7,800 micrograms per kilogram (µg/kg). Phase II consisted of in situ bioremediation (ISB) of remaining soils (approximately 40,000 yd^3) containing perchlorate above a Central Coast Regional Water Quality Control Board (RWQCB) specified remediation goal of 50 µg/kg. For both phases of remediation, perchlorate in soil was treated until the Upper Confidence Limit (UCL_{95}) of the mean soil perchlorate concentration was less than or equal to the remediation goal of 50 µg/kg.

In July 2004, Olin implemented Phase I of the approved soil remediation program wherein approximately 1,000 yd^3 of soil were excavated and an ex situ bioremediation pile was constructed. Performance monitoring conducted in April 2005 indicated that perchlorate concentrations within the pile had declined below the remediation goal of 50 µg/kg for Site soils, the ex situ bioremediation program was successfully completed.

Olin then implemented the ISB phase of the remediation program in May 2005. The Phase II remedy included construction of an infiltration unit and reagent (electron donor) delivery system for the purpose of biodegrading the perchlorate within the target soil area. A performance verification soil sampling program was implemented wherein pre-remedial samples were collected in May 2005 and confirmational boring samples were collected in May 2006. The results of the program are summarized as follows:

- In situ bioremediation reduced the concentration of perchlorate in ~40,000 yd^3 of vadose zone soil from a geometric mean of 215 µg/kg in August 2005 to a geometric mean of 11 µg/kg (UCL_{95} of 18 µg/kg) in April 2006. The UCL_{95} perchlorate concentration was reduced from 1,020 µg/kg to 15 µg/kg, equal to a 99% reduction;

- The UCL_{95} of 15 µg/kg calculated from the confirmational boring data is less than the remediation objective of 50 µg/kg; and

- The ISB system achieved the remediation objective in less than 10 months of operation, more than 14 months ahead of schedule for the ISB phase.

Based on the May 2006 confirmational boring sample data, the remedial objective for the ISB system has been achieved. As such, all soil remediation activities are complete and Olin therefore intends to decommission the soil ISB system pending RWQCB review and concurrence with the results presented in this ISB Closure Report.

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1. INTRODUCTION

GeoSyntec Consultants (GeoSyntec) has prepared this closure report on behalf of Olin Corporation (Olin) to document the successful completion of soil remediation at the Olin/Standard Fusee Site (the Site; Figure 1-1) in Morgan Hill, California. The approved soil remedy for the Site consisted of a two phase remediation program for perchlorate in soils. Phase I consisted of excavation and ex situ treatment of soils (approximately 1000 cubic yards [yd^3]) containing perchlorate above the United States Environmental Protection Agency (USEPA) Residential Preliminary Remedial Goal (PRG) of 7,800 micrograms per kilogram (µg/kg). Phase II consisted of in situ bioremediation (ISB) of remaining soils (approximately 40,000 yd^3) containing perchlorate above a Central Coast Regional Water Quality Control Board (RWQCB) specified remediation goal of 50 µg/kg. For both phases of remediation, perchlorate in soil was treated until the Upper Confidence Limit (UCL_{95}) of the mean soil perchlorate concentration was less than or equal to the remediation goal of 50 µg/kg.

1.1 Overview of Ex Situ Bioremediation Phase

In July 2004, Olin implemented Phase I of the approved soil remediation program. For the Phase I remedy, approximately 1,000 yd^3 of soil were excavated and an ex situ bioremediation pile was constructed having dimensions of 90 feet wide by 90 feet long by 4 feet high. The soils contained a starting average perchlorate concentration of 7,000 µg/kg. A total of 2,200 pounds (lbs) of calcium magnesium acetate (CMA) and 1,000 lbs of citric acid were added to the soils to serve as electron donors to promote perchlorate reduction to chloride.

By April 2005, performance monitoring of the ex situ biotreatment pile indicated that perchlorate concentrations within the ex situ pile had declined to a geometric mean of 12 µg/kg, with a UCL_{95} of 18 µg/kg. Given that the UCL_{95} of the mean soil perchlorate concentration was less than the remediation goal of 50 µg/kg for Site soils, the ex situ bioremediation program was successfully completed. The successful completion of Phase I was transmitted to the RWQCB in a memorandum written by GeoSyntec titled, "Achievement of the Remedial Goal for the Ex Situ Treatment of Perchlorate in Excavated Soils at the Olin/Standard Fusee Site in Morgan Hill, California" and dated 18 May 2005.

1.2 Overview of In Situ Bioremediation Phase

In May 2005, Olin implemented the ISB phase of the remediation program as per the process outlined in the Remedial Action Work Plan (RAWP) and 90% Design Report (GeoSyntec, April 2004). The ISB program included construction of an infiltration unit and reagent (electron donor) delivery system for the purpose of biodegrading the perchlorate within the target soil area (TSA) to a depth of approximately 16 feet below ground surface (bgs) (the seasonal high water table elevation at the Site). As part of the ISB program, a performance monitoring network was installed to monitor the lateral and vertical movement of the infiltration front. Perchlorate within the TSA was treated until the UCL_{95} of the mean soil perchlorate concentration was less than or equal to the remediation goal of 50 µg/kg.

As shown in Figure 1-2, the constructed footprint of the infiltration unit is rectangular in shape with approximate dimensions of 245 feet wide by 425 feet long (2.4 acres). Based on pre-remedial (baseline) sample data collected in May 2005, the soils contained a starting average perchlorate concentration of 215 µg/kg. A total of 11,000 lbs of CMA and 20,000 lbs of citric acid were added to the soils during the course of the ISB phase to serve as electron donors. During operation (August 2005 through April 2006), approximately 6.4 million gallons of water were applied to the ISB infiltration unit with monthly average water application rates ranging from 13 to 31 gallons per minute (gpm).

As part of the performance verification soil sampling program, an annual confirmational soil sampling event was conducted in May 2006 to monitor remedial progress. Twenty-four confirmation boring samples were collected across the TSA. Perchlorate concentrations within the TSA declined from the baseline geometric mean of 215 µg/kg to 11 µg/kg, with a UCL_{95} of 15 µg/kg. As such, the ISB system has successfully achieved the RWQCB-specified remedial goal for the on-Site soils and is complete. Olin intends to decommission the soil ISB system pending RWQCB review and concurrence with the results presented in this ISB Closure Report.

1.3 Report Organization

Given that the ex situ bioremediation infrastructure and performance results were previously described in the 18 May 2005 GeoSyntec document, the remainder of this document is dedicated to the ISB program and is organized as follows:

- Section 2 – overview of methods and materials used to construct the soil ISB system;
- Section 3 – summary of soil ISB system operations;
- Section 4 – overview of the soil ISB system performance monitoring network; and
- Section 5 – discussion of the performance verification soil sampling program.

The remaining elements of this report are included as appendices. These include:

- Appendix A – Photographs of Soil ISB System;
- Appendix B – Performance Monitoring Equipment Construction Diagrams;
- Appendix C – Performance Monitoring Data;
- Appendix D – RWQCB Correspondence; and
- Appendix E – Laboratory Analytical Reports.

2. METHODS AND MATERIALS

This section describes the installation/construction of the soil ISB system and its monitoring components. Photographs taken during construction activities are presented in Appendix A.

2.1 Soil Preparation

The ISB infiltration unit is rectangular in shape and covers an area approximately 245 feet wide by 425 feet long (Figure 1-2). The soil within the limits of the ISB infiltration unit was rough graded to slope from the perimeter of the infiltration unit towards its center. After initial grading, approximately 4,400 pounds of CMA were spread evenly across the footprint of the ISB infiltration unit. Following application of the CMA, the soil was repeatedly ripped to a depth of approximately 4 feet by a CAT D8R bulldozer equipped with 2 ripper teeth. The remaining CMA (approximately 6,600 pounds), 800 pounds of potassium bromide (a conservative tracer to assess infiltration and lateral spreading), and 3,600 pounds of gypsum (an amendment to improve water and air movement in the soils medium) were then evenly spread across the footprint of the ISB infiltration unit. The soil amendments were tilled into the upper 2 feet of soil using an agricultural disc pulled by a standard farm tractor.

2.2 Infiltration Unit Physical Features

A continuous soil berm was constructed around the perimeter of the infiltration unit to limit water runoff. As shown in Figure 1-2, the infiltration unit was divided into eight independently controlled infiltration zones. Gravel paths were constructed along the interior boundaries of each infiltration zone to facilitate personnel access to the infiltration unit and to provide a firm base for installation of the ISB system piping and associated appurtenances. The gravel paths were constructed of graded aggregate base material and are approximately 3 feet wide and 3 inches in depth.

2.3 Mechanical and Electrical Installation

The infiltration unit mechanical and electrical components were installed in general accordance with the design drawings submitted in the RAWP and 90% Design Report (GeoSyntec, April 2004). The reagent delivery system was installed adjacent to the

existing groundwater treatment system (GWTS). The reagent delivery system incorporated the existing 15-HP product water booster pump that was connected to the GWTS effluent equalization (EQ) tank. The discharge piping (4" Schedule 80 PVC) from the pump was routed to a valve-bypass assembly. The assembly consists of four bypasses plumbed to a common influent header and a common effluent header. The first two bypasses were configured to allow water from the GWTS effluent EQ tank to be pumped to the infiltration unit without addition of electron donor. Dosatron water-driven, proportional injectors were installed on the third and fourth bypasses to dose electron donor into the water pumped to the infiltration unit. The injectors were plumbed to a 275-gallon chemical storage tote containing citric acid (i.e., electron donor).

From the bypass assembly, a 3-inch diameter PVC pipe was run below grade to the infiltration unit. Alongside the pipe, two PVC conduits were installed for control and electrical wiring. The approximate path of the utility trench is shown in Figure 1-2. A valve control assembly was installed at the head of the infiltration unit; the assembly consisted of a ball valve, an air-release valve, a check valve, a pressure regulating valve, two pressure gauges, and a pressure switch. The downstream side of the valve control assembly was plumbed to an above-ground, 3-inch Schedule 80 PVC main. The main was installed along the center of the infiltration unit. PVC electrical conduit was installed parallel to the 3-inch PVC main.

At the head of each infiltration zone, three submains were connected orthogonally from the main and run in parallel, above grade, to the lateral extent of the infiltration unit. The submains were 1-inch diameter low-density polyethylene hose. The head of each submain was equipped with a ball valve, a flow meter, and an electric control valve.

Drip tape lines were connected on 6-foot centers to the 1-inch submain pipe and run parallel to the 3-inch PVC pipe main (i.e., orthogonal to the submain). The spacing of drip tape lines on each submain was staggered such that drip tape lines were laid on 2-foot centers. The drip tape was 5/8-inch diameter Toro Aqua-TraXX Drip Tape with a wall thickness of 15 mil. The drip tape lines were installed 3 inches below grade using an ANDROS Engineering Universal Injection Tool. The terminal end of each drip tape line was connected to a flush manifold fabricated of 1-inch low-density

polyethylene hose identical to that used for the submains. The flush manifold was valved to direct flush water to the center of the infiltration unit.

The ISB control panel was installed adjacent to the reagent delivery system. Contact relays, timers, flow monitors, and other accessories were installed prior to delivery of the panel to the Site. The control accessories provided manual control of the VFD pump and automated control of the reagent delivery system.

2.4 Performance Monitoring Network

As part of the ISB construction, a performance monitoring network was installed and consisted of 30 soil moisture sensors, 30 suction lysimeters, and two pairs of co-located monitoring wells. Details of the performance monitoring network are discussed in Section 4.

3. OPERATION OF ISB SYSTEM

Start-up and shakedown of the soil ISB system was conducted over a four day period in August 2005. During this period, the system delivered 40 to 55 gpm of amended water to the infiltration unit with even distribution over the eight infiltration zones. Immediately following system start-up and shakedown, the three month optimization phase for the ISB system began with an initial application of 1.25 million gallons of water to the infiltration unit (equivalent to an application of 18 inches of water over the infiltration unit) from 22 August 2005 through 22 September 2005. During this initial watering, approximately 3,400 lbs of citric acid were applied to the infiltration unit via the irrigation drip tape (average applied concentration of 325 mg/L citric acid). On 22 September 2005, the ISB water application was shut off to allow the indigenous bacteria the opportunity to metabolize the added electron donor, and to allow the population of perchlorate-reducing bacteria to develop. Performance monitoring data from October 2005 suggested that the citric acid added during the initial water application was rapidly consumed and did not persist long enough to infiltrate to the desired depth. Water application was thus re-started on 28 October 2005 and continued through 4 December 2004, during which time an additional 13,300 lbs of citric acid were applied at a higher average concentration (2100 mg/L) to allow the citric acid to persist longer and infiltrate to greater depths within the infiltration unit. From 4 December through 14 February 2006, water application was continued without electron donor addition to facilitate infiltration of the previously applied electron donor to depth. From 28 October 2005 through 14 February 2006, approximately 3.4 million gallons of water were applied to the ISB infiltration unit.

Electron donor addition was restarted on 14 February 2006 with weekly scheduled additions. During February, approximately 1020 lbs of citric acid were applied with an average water application rate of 30 gpm. The electron donor addition was similar for March and April with approximately 1050 lbs and 1300 lbs of citric acid applied, respectively. From 14 February 2006 through 14 April 2006, approximately 1.7 million gallons of water were applied to the ISB infiltration unit. In total, approximately 6.4 million gallons of water and 20,000 lbs of citric acid were applied to the infiltration unit between August 2005 and April 2006. The ISB system was shut down on 14 April 2006 in preparation (i.e., to allow soils to dry to allow drilling access) for the annual soil verification sampling event conducted on 18 and 19 May 2006.

The ISB water application system and infiltration unit performed reliably throughout system operation. While biofouling of the drip irrigation lines did occur during the electron donor addition periods, it was adequately controlled by physical water flushing of the lines, as needed.

4. PERFORMANCE MONITORING

Performance monitoring of the soil ISB system involved collection of: soil moisture data from 30 on-Site soil water potential sensors; soil pore water samples from 30 on-Site soil suction lysimeters; and groundwater samples from 17 on-Site monitoring wells. The performance monitoring instrumentation was installed at multiple depths at locations surrounding and within the infiltration unit as shown in Figure 4-1. Each performance monitoring element is described in subsequent sections.

4.1 Soil Moisture Probes

Soil water potential sensors were co-located with each soil suction lysimeter to provide an indication that sufficient soil moisture existed in the vicinity of the lysimeter such that a sample of the pore water could be collected. The sensors were installed at depths of 5.5 and 14.5 feet bgs (see Figure B-1 as shown in Appendix B). The sensors installed at 5.5 feet were designated as the "A" series or shallow sensors while those installed at 14.5 feet were designated as the "B" series or deep sensors. Measurements from the soil water potential sensors were recorded continuously by dataloggers. Historical data for the soil moisture probes are summarized in Tables C-1 and C-2 (see Appendix C). Trends in the moisture data have been presented in Performance Monitoring Reports previously submitted to the RWQCB (GeoSyntec, 2005c, 2006a-b). The moisture sensor data were used successfully to monitor movement of the wetting front during initial application of water to the infiltration unit.

4.2 Soil Suction Lysimeters

The soil suction lysimeter monitoring network included four locations within the infiltration unit footprint and eleven locations along the western, eastern, and southern boundaries of the infiltration unit. The locations of the lysimeters are shown in Figure 4-1. The interior units were used to monitor infiltration of electron donor and bromide as well as biodegradation of perchlorate, whereas the perimeter units were used to monitor lateral movement of perchlorate, bromide, and electron donor during operation of the soil ISB system. As previously discussed, each suction lysimeter was co-located with a soil water potential sensor. The lysimeters were installed at depths of 5.5 and 14.5 feet bgs (see Figure B-2 as shown in Appendix B). The lysimeters installed at 5.5

feet were designated as the "A" series or shallow lysimeters while those installed at 14.5 feet were designated as the "B" series or deep lysimeters.

Samples were collected from lysimeters that yielded sufficient pore water sample volume on a monthly basis during the three month optimization phase and at a minimum on a quarterly basis thereafter. The samples were submitted for analysis of perchlorate, bromide and electron donor (acetate or total organic carbon [TOC]). The historic analytical data for the shallow and deep lysimeters are summarized in Table C-3 (see Appendix C). Trends in the lysimeter data have been presented in Performance Monitoring Reports previously submitted to the RWQCB (GeoSyntec, 2005c, 2006a-b). In general, data from the lysimeters within the infiltration footprint suggest that the soils were being effectively remediated as perchlorate concentrations were observed to steadily decline. For the lysimeters located around the perimeter of the infiltration unit footprint, the data supported the absence of lateral spreading from the ISB infiltration unit.

4.3 On-Site Wells

Quarterly measurement of water levels and sampling were conducted for four monitoring wells (MW-015, MW-016, MW-017 and MW-018; well construction details are provided in Appendix B, and locations are shown in Figure 4-1) associated with the ISB infiltration unit. Sampling included measurement of field parameters (pH, temperature, specific conductance, dissolved oxygen and oxidation-reduction potential) and analysis of perchlorate, bromide, electron donor (TOC), anions (chloride, nitrate, nitrite, phosphate, sulfate) and dissolved iron and manganese, to evaluate ISB system performance. The data, collected by MACTEC Engineering & Consulting, Inc. (MACTEC) as part of their quarterly groundwater monitoring requirements for the Site, are summarized in Table C-4 (see Appendix C).

Trends in the ISB monitoring well data have been presented in Performance Monitoring Reports previously submitted to the RWQCB (GeoSyntec, 2005c, 2006a-b). In general, the data suggest that: (i) perchlorate concentrations for three of the four wells steadily declined, suggesting that the soil remediation was improving underlying groundwater quality; (ii) the ISB system did not adversely impact the redox and geochemistry of the groundwater underlying the ISB infiltration unit; and (iii) the ISB process did not mobilize metals to groundwater.

In addition to the data for the four monitoring wells reported above, as per Table 3-2 of the RAWP and 90% Design Report (GeoSyntec, April 2004a), groundwater samples were collected by MACTEC from thirteen other monitoring wells for perchlorate analysis, and from seven of these monitoring wells for bromide analysis. The analytical data for these wells are summarized in Table C-5 (see Appendix C). The locations of the wells are shown in Figure 4-1. Trends in the perchlorate data from these wells over time are discussed in the Quarterly Reports prepared by MACTEC. Trends in the bromide data from these wells have been presented in Performance Monitoring Reports previously submitted to the RWQCB (GeoSyntec, 2005c, 2006a-b).

5. PERFORMANCE VERIFICATION SOIL SAMPLING PROGRAM

In a letter dated 9 February 2004, the RWQCB established 50 µg/kg as the remediation goal for soil contained within the TSA (see Appendix D). The RAWP and 90% Design Report (GeoSyntec, April 2004) described the performance verification soil sampling program to be implemented annually to evaluate whether the remediation goal had been achieved during the prior year of ISB operation. The proposed sampling program was approved with minor revisions in the 3 August 2004 RWQCB letter titled "*425 Tennant Avenue, Morgan Hill; Final Approval of the Remedial Action Work Plan & 90% Design Report for Soil Remediation, 425 Tennant Avenue Facility, Santa Clara County*." The revised sampling program was to include the collection of twelve baseline soil samples prior to construction of the ISB system. The results from this pre-remediation sampling event, conducted in May 2005, and the annual confirmational soil sampling event in May 2006 are presented in the following sections.

5.1 Pre-Remedial Sampling Event

In accordance with the letter dated 3 August 2004, Olin implemented a pre-remedial sampling event in May 2005 wherein twelve 16-foot riffle split pre-remediation samples (PRS-001 through PRS-012) were collected at locations coincident with 12 of the proposed 24 confirmational boring sample locations (see Figure 5-1). The results of the pre-remedial sampling event were submitted to the RWQCB in the 30 June 2005 Memorandum titled, "*Transmittal of Pre-Remedial Sample Data, On-Site In Situ Bioremediation System, Olin/Standard Fusee Site, Morgan Hill, California.*"

5.2 Annual Confirmational Boring Sampling Event

On 18 and 19 May 2006, Olin implemented the annual confirmational soil sampling event. Per the approved program, 24 confirmational boring samples were collected across the TSA. The 24 locations are shown in Figure 5-1. The samples are designated CBS-001 through CBS-024. At each sample location, a 16-foot soil core was collected using a geoprobe rig. The soil core was air dried for a minimum of 4 hours to facilitate sample processing. The entire 16-foot core was then passed repeatedly through a riffle splitter with a 1-inch chute spacing until a representative 250 gram sample was obtained. The representative sample was then combined with 250 ml

of de-ionized water and mixed on a rotary shaker for one hour. The extract was decanted, and the decanted liquid was analyzed by Sequoia Analytical according to EPA Method 314. The 1:1 soil-to-extract ratio preserves the 4 µg/L reporting limit for water, resulting in a 4 µg/kg detection limit for the soil sample, well below the remediation objective of 50 µg/kg. The large sample size (250 grams rather than the more typical 4 grams) reduces data scatter attributable to sub-sampling errors. The large sample size also minimizes the potential for size fractionation of the soil prior to extraction except for the exclusion of gravel and cobbles greater than the 1-inch riffle chute size. The perchlorate results for the 24 confirmational boring samples are provided in Table 5-1. The laboratory analytical report is provided in Appendix E.

5.3 Data Analysis

As shown in Figure 5-1, 12 of the confirmational boring samples were co-located with the 12 pre-remedial samples collected May 2005. Table 5-1 and Figure 5-1 present the confirmational boring sample results in comparison with the pre-remedial sample results. Figure 5-2 presents a probability plot of perchlorate soil concentrations from the two soil sampling events. It is clear from the probability plot that the concentration of perchlorate in the soil was reduced substantially through operation of the ISB system from August 2005 through April 2006.

The statistical approach used to analyze the soil data is described in the approved RAWP and 90% Design Report (GeoSyntec, April 2004). Briefly, the 95% upper confidence limit of the mean (UCL_{95}) (USEPA 1991, 1999) was the concentration term compared to the remediation goal. With respect to the performance verification program's annual sampling event, if the estimated UCL_{95} is less than or equal to the remediation goal, the conclusion is that the remedial objective has been achieved with a level of confidence equal to or higher than 95%. Once the UCL_{95} is less than or equal to the remediation goal, the soil remediation objective would be deemed to have been met.

ProUCL Version 3.0 was used to compute the summary statistics for the confirmational boring sampling event data, including the UCL_{95}. The use of ProUCL is approved by USEPA for computation of upper confidence limits; the software used for the analysis was downloaded from the USEPA website. The summary statistics for the confirmational boring sample data and the pre-remedial sample data are provided in Table 5-2.

The initial pre-remedial perchlorate concentration in soil was estimated to be approximately 215 µg/kg based on the pre-remedial sampling event conducted in May 2005. Operation of the ISB system reduced the mean perchlorate concentration within the infiltration unit to 11 µg/kg, corresponding to a 95% perchlorate mass reduction. The UCL_{95} calculated from the 12 pre-remedial boring samples was 1,020 µg/kg. The UCL_{95} calculated from the 24 confirmational boring samples was 15 µg/kg, approximately 99% less than the pre-remedial $UCL_{95.}$ As stated, for the remediation objective to be achieved, the UCL_{95} for perchlorate must be less than or equal to 50 µg/kg. The UCL_{95} calculated from the confirmational boring data is less than one-third the designated remediation objective. Based on the statistical evaluation of the data, it is concluded that the ISB system has successfully achieved the RWQCB-specified remedial goal for the on-Site soil. As such, Olin intends to decommission the soil ISB system pending RWQCB review and concurrence with the results presented in this ISB Closure Report.

6. CONCLUSIONS

The performance of the ex situ and in situ soil remediation programs can be summarized as follows:

- Ex situ bioremediation reduced the concentration of perchlorate in ~1,000 yd^3 of excavated soil from an average of 7,000 µg/kg in August 2004 to a geometric mean of 12 µg/kg (UCL_{95} of 18 µg/kg) in April 2005, and as such, the ex situ bioremediation program was successfully completed.

- In situ bioremediation reduced the concentration of perchlorate in ~40,000 yd^3 of vadose zone soil from a geometric mean of 215 µg/kg in August 2005 to a geometric mean of 11 µg/kg (UCL_{95} of 18 µg/kg) in April 2006. The UCL_{95} perchlorate concentration was reduced from 1,020 µg/kg to 15 µg/kg, equal to a 99% reduction;

- The UCL_{95} of 15 µg/kg calculated from the confirmational boring data is less than the remediation objective of 50 µg/kg; and

- The ISB system achieved the remediation objective in less than 10 months of operation, more than 14 months ahead of schedule for the ISB phase.

Based on the May 2006 confirmational boring sample data, the remedial objective for the ISB system has been achieved. As such, all soil remediation activities are complete and Olin therefore intends to decommission the soil ISB system pending RWQCB review and concurrence with the results presented in this ISB Closure Report.

7. REFERENCES

GeoSyntec. 2004. Remedial Action Work Plan and 90% Design Report for Soil Remediation, Olin/Standard Fusee Site, Morgan Hill, California. Prepared by GeoSyntec Consultants Incorporated, 8 April 2004.

GeoSyntec. 2005a. Achievement of the Remedial Goal for the Ex Situ Treatment of Perchlorate in Excavated Soils at the Olin/Standard Fusee Site in Morgan Hill, California. Prepared by GeoSyntec Consultants Incoporated, 18 May 2005.

GeoSyntec 2005b. Transmittal of Pre-Remedial Sample Data, On-Site In Situ Bioremediation System, Olin/Standard Fusee Site, Morgan Hill California. Prepared by GeoSyntec Consultants Incorporated, 30 June 2005.

GeoSyntec. 2005c. Third Quarter 2005 Performance Monitoring Report for On-Site Containment & Treatment of Perchlorate in Groundwater and In Situ Bioremediation of Perchlorate in Soil, Olin/Standard Fusee Site, Morgan Hill, California. Prepared by GeoSyntec Consultants Incorporated, October 2005.

GeoSyntec. 2006a. Fourth Quarter 2005 Performance Monitoring Report for On-Site Containment & Treatment of Perchlorate in Groundwater and In Situ Bioremediation of Perchlorate in Soil, Olin/Standard Fusee Site, Morgan Hill, California. Prepared by GeoSyntec Consultants Incorporated, January 2006.

GeoSyntec. 2006b. First Quarter 2006 On-Site Remediation Performance Monitoring Report, Olin/Standard Fusee Site, Morgan Hill, California. Prepared by GeoSyntec Consultants Incorporated, April 2006.

US Environmental Protection Agency (USEPA). 1991. *A Guide: Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media.* EPA 230/02-89-042. US Environmental Protection Agency (USEPA). 1999. *Supplemental Guidance to RAGS: Calculating the Concentration Term.* EPA Publication 9285.7-081

US Environmental Protection Agency (USEPA). 2002. *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites.* EPA Publication 9285.6-10.

TABLES

Table 5 - 1
Analytical Data from May 2005 and May 2006 Soil Sampling Events
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Sample Location May 2005 / May 2006	Perchlorate (µg/kg)	
	May 2005 [1]	May 2006
CBS-001	--	5.2
PRS-001/CBS-002	210	67
CBS-003	--	6.7
CBS-004	--	<4.0
CBS-005	--	<4.0
CBS-006	--	15
PRS-002/CBS-007	60	31
PRS-003/CBS-008	27	11
PRS-004/CBS-009	1100	7.4
PRS-005/CBS-010	57	5.3
PRS-006/CBS-011	21	<4.0
CBS-012	--	<4.0
PRS-007/CBS-013	130	4.2
CBS-014	--	19
CBS-015	--	5.9
PRS-008/CBS-016	93	<4.0
PRS-009/CBS-017	62	5.0
PRS-010/CBS-018	780	5.1
CBS-019	--	<4.0
PRS-011/CBS-020	11	<4.0
CBS-021	--	13
CBS-022	--	10
PRS-012/CBS-023	28	4.5
CBS-024	--	29
Average	215	14

Notes:
[1] For May 2005, samples were only collected for the pre-remedial sample locations.

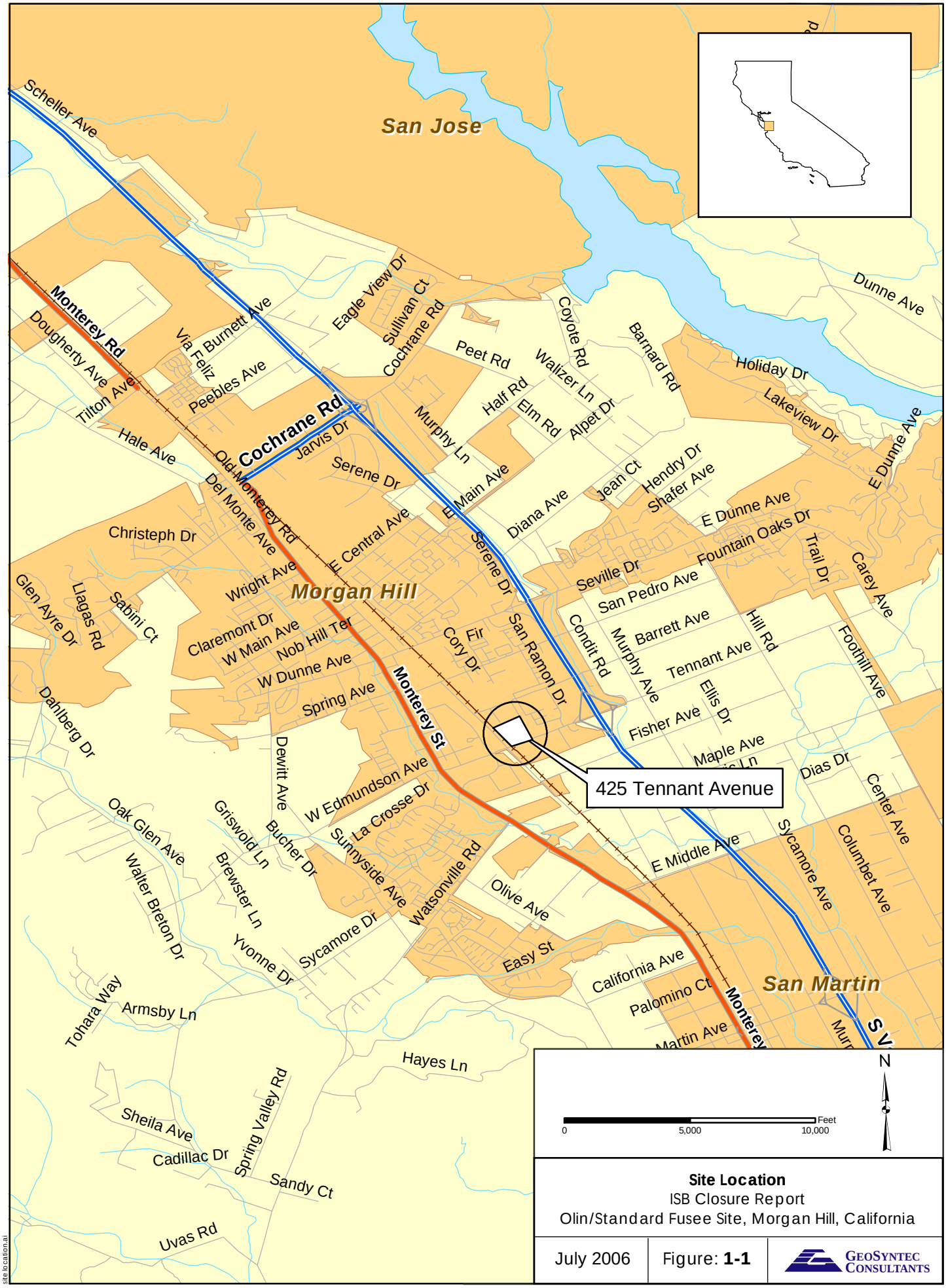
Legend:
µg/kg - Micrograms per kilogram
< - Non-detect; associated value is the reporting limit

Table 5 - 2
Summary Statistics for May 2005 and May 2006 Soil Sampling Events
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

SUMMARY STATISTICS		
Parameter	**May 2005 Pre-Remedial Sampling Event**	**May 2006 Annual Sampling Event**
Number of Valid Samples	12	24
Number of Unique Samples	12	18
Minimum Concentration (μg/kg) [(1)]	11	4
Maximum Concentration (μg/kg)	1100	67
Mean Concentration (μg/kg)	215	11
Median Concentration (μg/kg)	61	5.3
Standard Deviation (μg/kg)	350	14
Variance	122413	199
Coefficient of Variation	1.63	1.24
Skewness	2.12	3.07
95% H-UCL (μg/kg)	1020	15

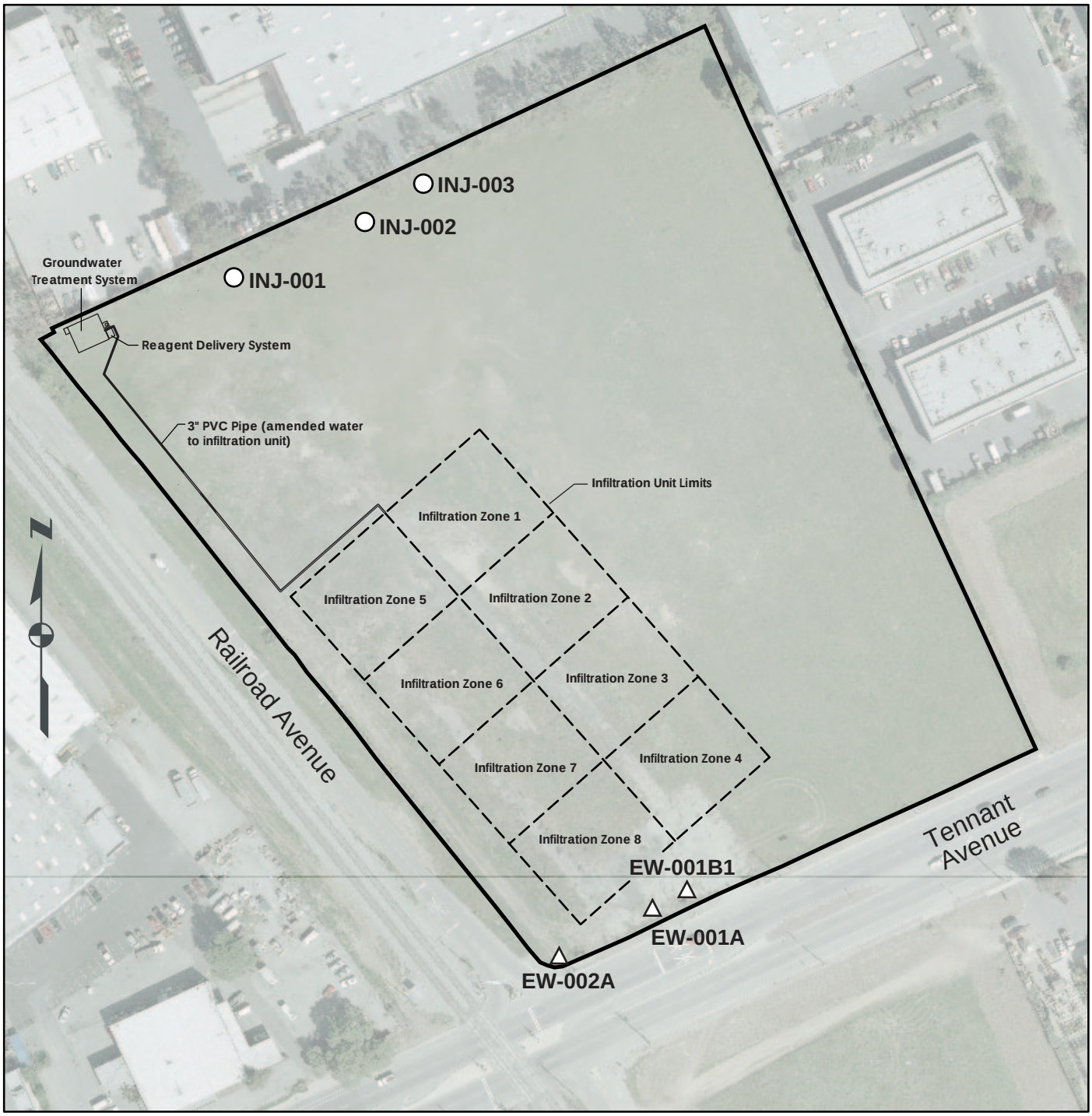
Notes:
[(1)] For non-detects, the samples were assigned values equal to the reporting limit of 4 μg/kg.

FIGURES



Site Location
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

July 2006	Figure: **1-1**	GeoSyntec Consultants



0 100 200
scale (feet)

△ groundwater extraction well

○ treated groundwater injection well

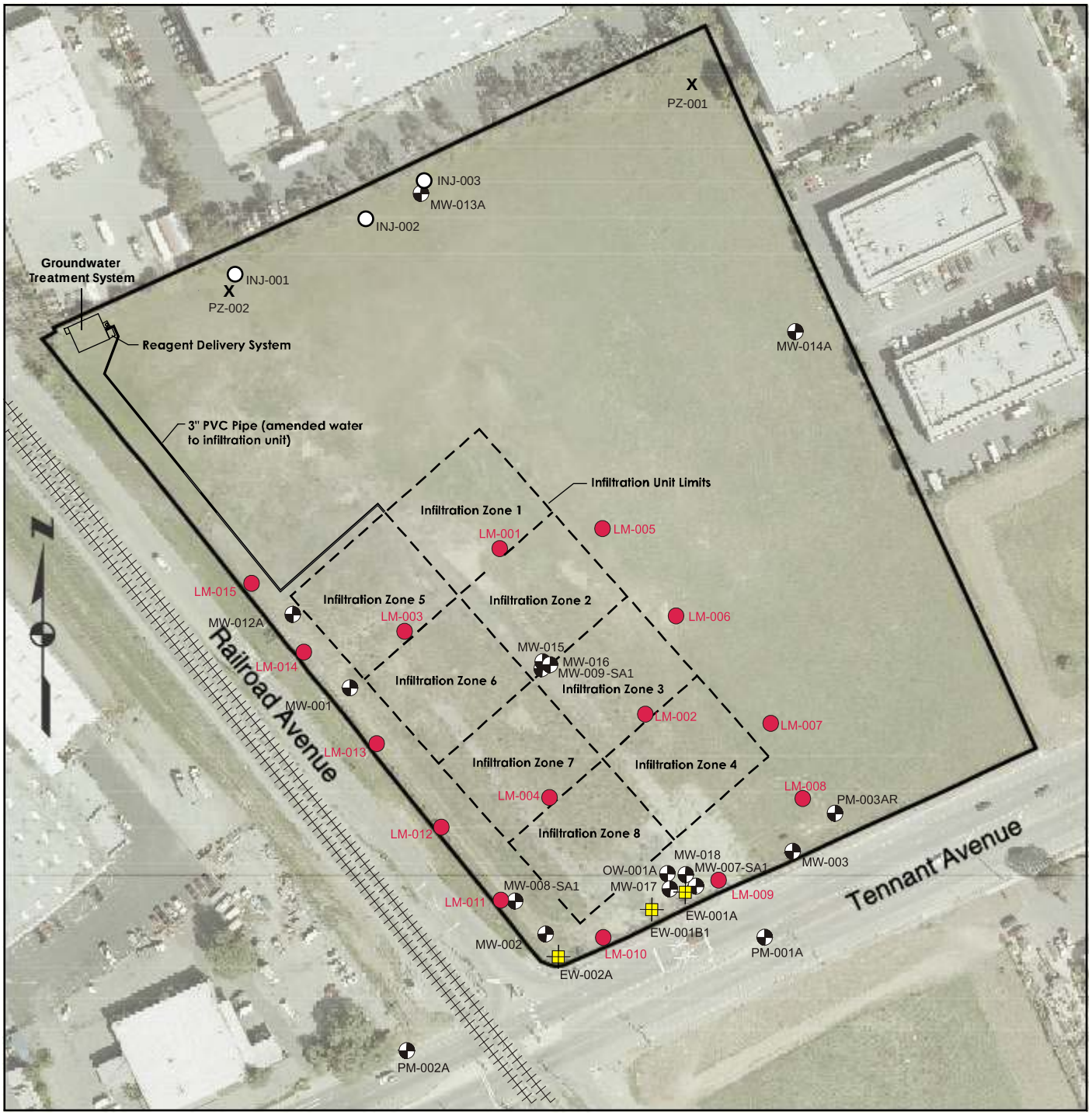
▭ site boundary

Soil In Situ Bioremediation System Layout
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

July 2006	Figure: **1-2**	GeoSyntec Consultants

site plan_infiltration2.ai

Layers: 00 03



LM-007 lysimeter/moisture sensing nest (see Notes 1 and 2)

MW-012A A zone monitoring well

PZ-002 piezometer

EW-001A groundwater extraction well

INJ-001 treated groundwater injection well

site boundary

0 100 200

scale (feet)

Notes:

1. Each lysimeter location consists of 2 nested 2-inch vacuum lysimeters at depths of 5.5 and 14.5 feet. Lysimeters are installed in adjacent boreholes.
2. Each soil water potential sensing probe location consists of 2 watermark moisture sensors at depths of 5.5 and 14.5 feet and located within 1-foot of lysimeter locations. Soil water potential sensors are installed in adjacent boreholes.

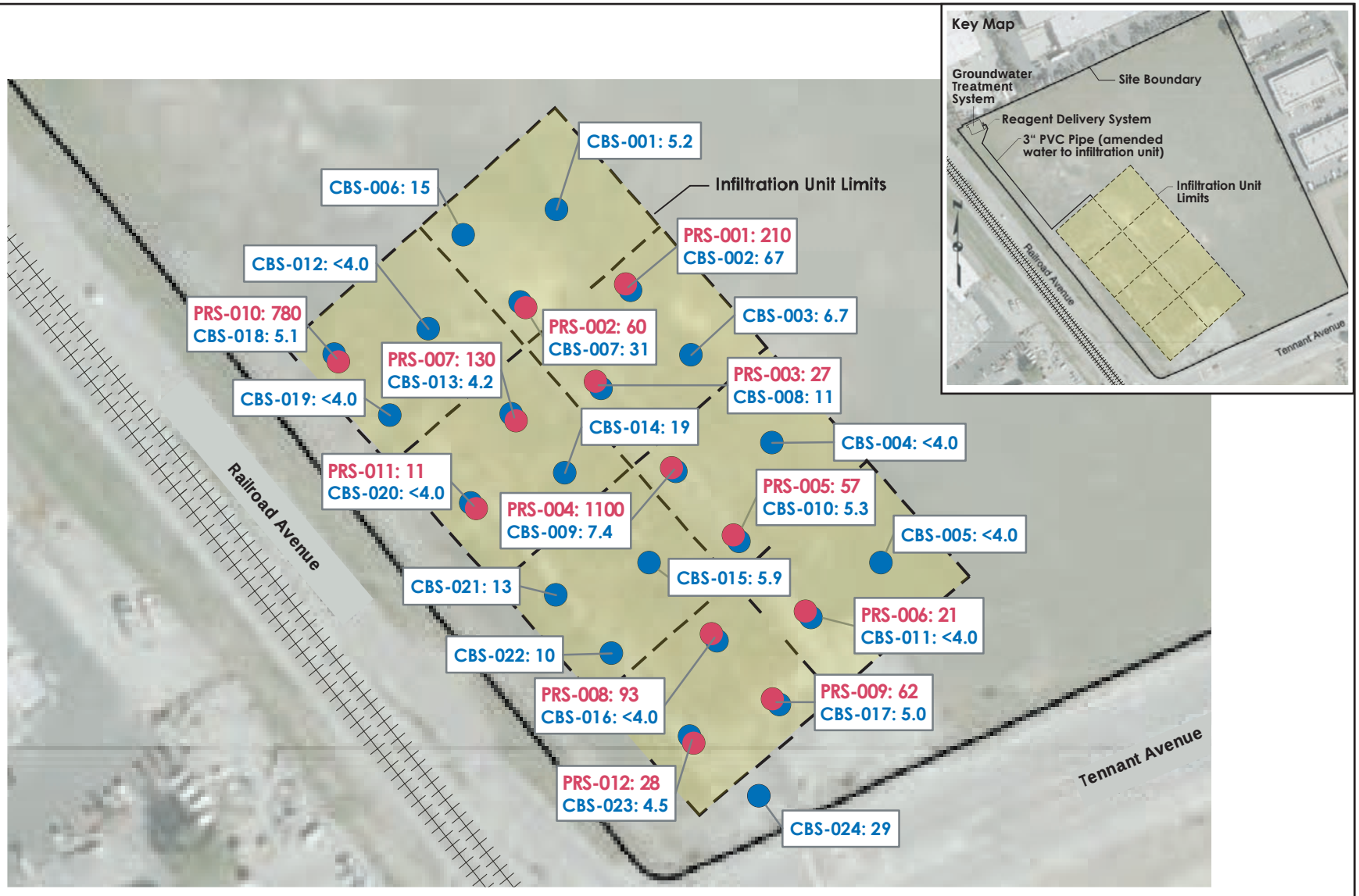
Soil In Situ Bioremediation Performance Monitoring Network

ISB Closure Report

Olin/Standard Fusee Site, Morgan Hill, California

July 2006	Figure: **4-1**	GeoSyntec Consultants

Performance Monitoring Network.ai



PRS-003 pre-remedial sample (May 2005 perchlorate concentrations in µg/kg)

CBS-020 confirmational boring sample (May 2006 perchlorate concentrations in µg/kg)

N

0 100 200

scale (feet)

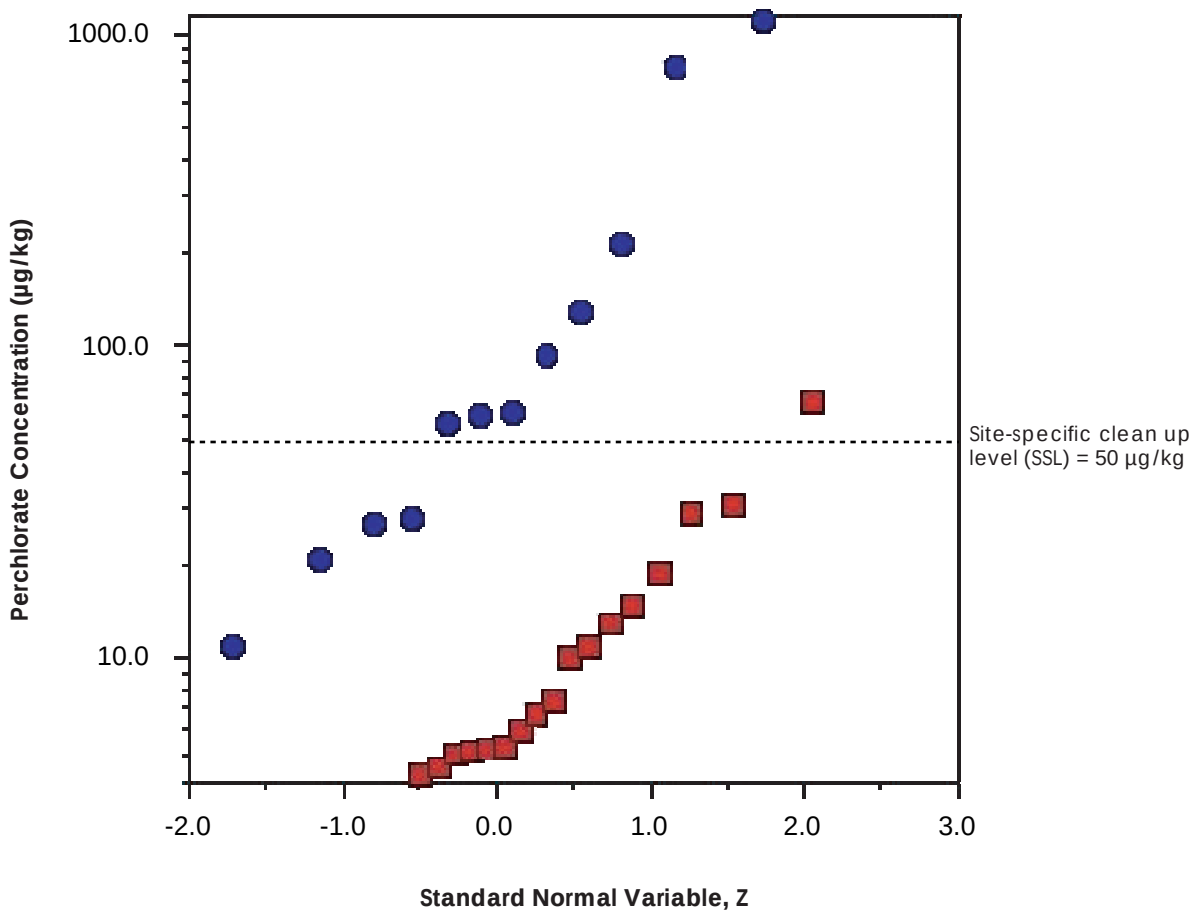
Soil Perchlorate Concentrations for May 2005 and May 2006 Sampling Events

ISB Closure Report

Olin/Standared Fusee Site, Morgan Hill, California

July 2006	Figure: **5-1**	GeoSyntec Consultants

Soil Perchlorate for May 05.ai



pre-remedial sample (May 2005)

confirmational boring sample (May 2006)

Probability Plot of Soil Sample Data, May 2005 and May 2006

ISB Closure Report

Olin/Standard Fusee Site, Morgan Hill, California

July 2006	Figure: **5-2**	GeoSyntec Consultants

probability plot.ai

APPENDIX A

PHOTOGRAPHS
SOIL ISB SYSTEM

Reagent Delivery System Valve By-Pass Assembly

CAT DR8 Bulldozer with Dual 4-Foot Ripping Blades

Construction of Soil Berm Around Perimeter of Infiltration Unit

Application of CMA, Gypsum, and Potassium Bromide

Agricultural Disc for Tilling of Chemical Amendments into Surface Soil

Andros Universal Installation Tool Installing Drip Tape

3” PVC Main Installed Above-Grade on Gravel Access Pathway

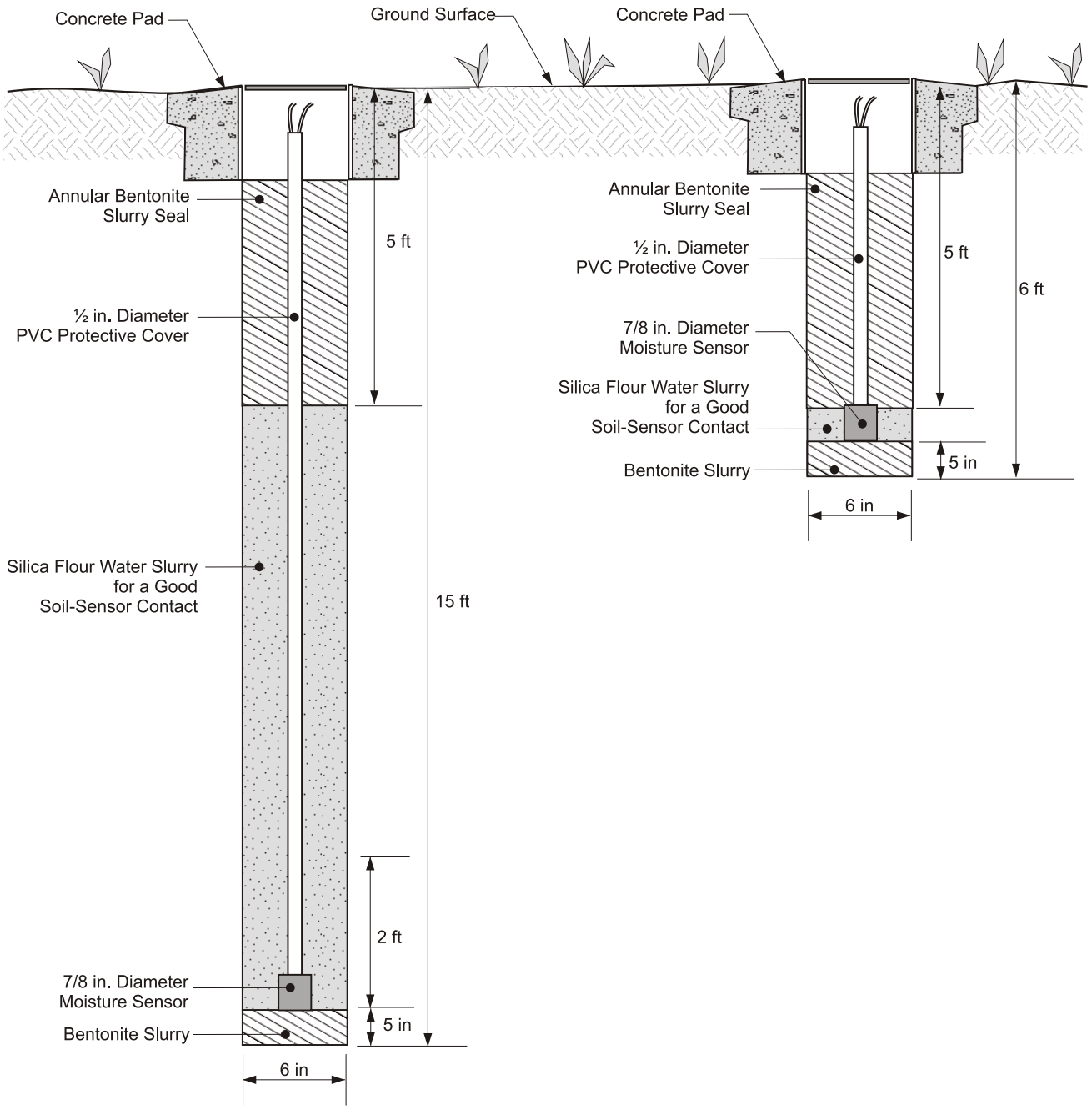
1” Submains Installed Orthogonal to 3” PVC Main; Drip Tape Connections

Valve Assembly at the Head of the Infiltration Unit

Soil ISB System Upon Completion of Drip Tape Installation

APPENDIX B

PERFORMANCE MONITORING EQUIPMENT CONSTRUCTION DIAGRAMS

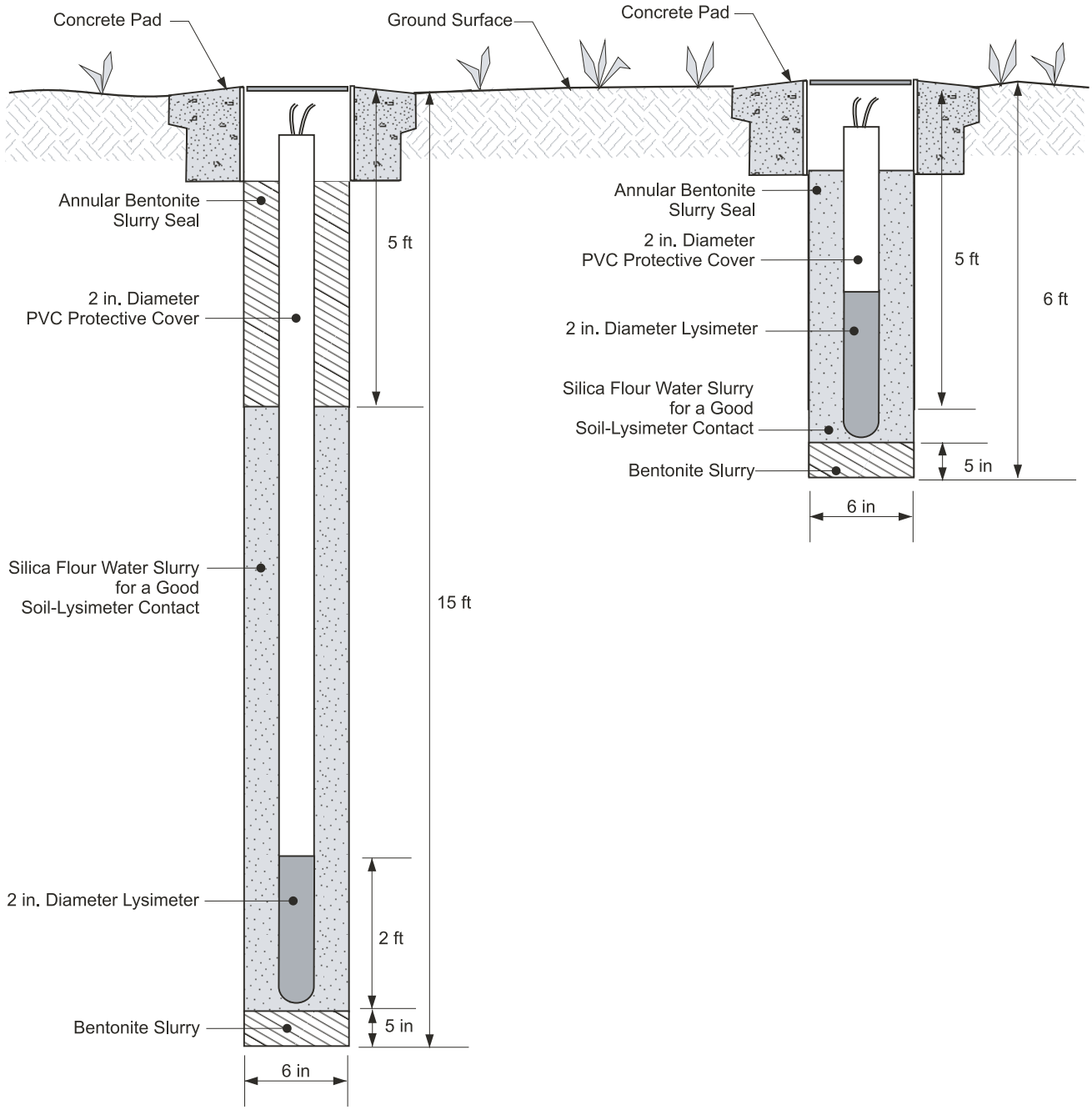


Soil Water Potential Sensor Nest Construction Diagram
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Not to Scale

July 2006	Figure: **B-1**	GeoSyntec Consultants

Soil Water Potential.ai



Soil Suction Lysimeter Nest Construction Diagram
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Not to Scale

July 2006 | Figure: **B-2** | GeoSyntec Consultants

Soil Suction.ai

Borehole No. MW-015

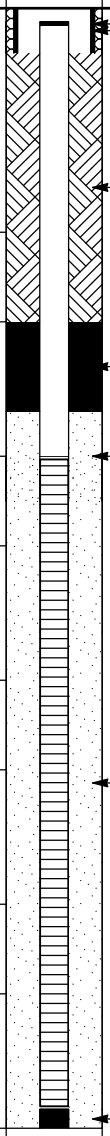
Borehole Log

Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 3 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,974.61 E 105,450.00
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth, feet	Water Level	Stratigraphy	Lithologic Description	Unified Soil Classification	PID (ppm)	Soil Sample ID
			no samples recovered			
5.0			SILTY SAND, some gravel, medium-grained, medium dense, dark yellowish brown (10YR4/4), dark gray mottling (10YR4/1), dry to moist	SM	75	SPT-1
			SAND, some silt, poorly graded, fine-grained, very dense, pale brown (10YR6/3), dry	SP SM		
10.0			SANDY SILT, some gravel, stiff, dark brown (7.5YR3/4), dry to moist	ML	90	SPT-2
15.0			SILTY GRAVEL, some sand, dense, brown (7.5YR4/4), wet	GM	100	SPT-3
20.0			SAND	SW	5	SPT-4
25.0			Borehole depth 25.0 ft			

Well Configuration



Elevations (ft msl) and Comments

Ground Surface: NA
Top PVC Casing: 329.54

- j-plug well cap
- cement surface seal
- portland cement
- bentonite hole plug
- filter sand
- 4 inch diameter schedule 40 PVC screen (0.020 inch slotted)
- end cap

NA - not measured

Borehole No. MW-016

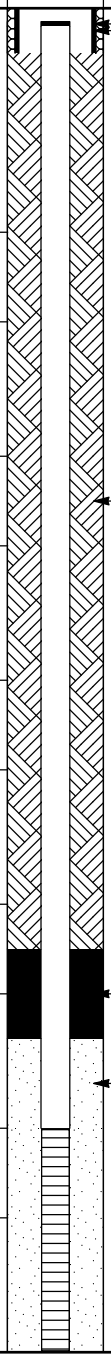
Borehole Log

Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 4 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,969.82 E 105,455.50
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth, feet	Water Level	Stratigraphy	Lithologic Description	Unified Soil Classification	PID (ppm)	Soil Sample ID
			no samples recovered			
5.0			SILTY SAND, some gravel, medium-grained, low to medium plasticity, brown, dark gray mottling, dry to moist, concrete fragments	SM	100	SPT-1
10.0			CLAYEY SAND, trace gravel, stiff, brown, moist	SC	85	SPT-2
15.0			SILTY SAND, some gravel, dense, brown, dark gray mottling, dry to moist	SM	80	SPT-3
			SANDY SILT, some gravel, hard, brown, dry to moist	ML		
20.0					80	SPT-4
25.0			very stiff to hard, dark brown		95	SPT-5

Well Configuration



Elevations (ft msl) and Comments

Ground Surface	NA
Top PVC Casing	329.42

Borehole No. MW-016

Borehole Log

Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 4 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,969.82 E 105,455.50
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth, feet	Water Level	Stratigraphy	Lithologic Description	Unified Soil Classification	PID (ppm)	Soil Sample ID	Well Configuration	Elevations (ft msl) and Comments
								Ground Surface NA Top PVC Casing 329.42
			SILTY SAND, some gravel, brown, moist		66	SPT-6		
								4 inch diameter schedule 40 PVC screen (0.020 inch slotted)
35.0			dense, brown, moist to wet	SM	100	SPT-7		
40.0								end cap
			Borehole depth 40.0 ft					
45.0								
50.0								
55.0								

NA - not measured
NR - no samples recovered

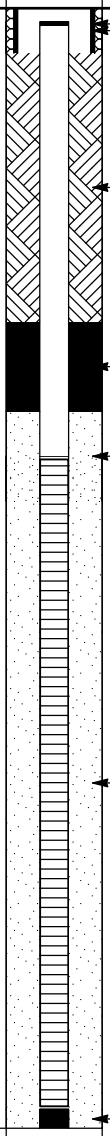
Borehole No. MW-017

Borehole Log

Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 2 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,763.64 E 105,581.62
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth: Depth, feet	Depth: Water Level	Stratigraphy	Lithologic Description	Geologic Samples: Unified Soil Classification	Geologic Samples: PID (ppm)	Geologic Samples: Soil Sample ID	Well Configuration	Elevations (ft msl) and Comments
								Ground Surface: NA Top PVC Casing: 327.63
			SANDY CLAY, some gravel, brown (7.5YR4/3), dry to moist					
5.0								
10.0				CL	NA	NR		
15.0								
20.0								
25.0			Borehole depth 25.0 ft					



NA - not measured
NR - no samples recovered

Borehole No. MW-018

Borehole Log

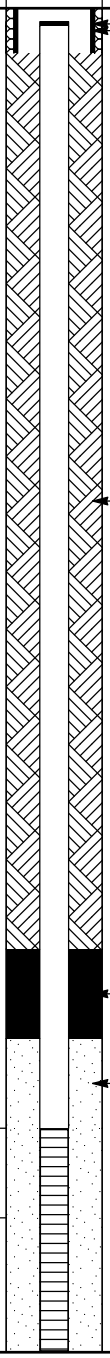
Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 3 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,767.32 E 105,591.39
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth, feet	Water Level	Stratigraphy	Lithologic Description	Unified Soil Classification	PID (ppm)	Soil Sample ID
			CLAYEY SAND, some gravel, medium-grained, brown (7.5YR4/4), dry to moist	SC	NA	NR
			CLAYEY GRAVEL, some sand, brown (7.5YR4/3), dry to moist	GC		
			SANDY SILT, some gravel, dark brown (7.5YR3/4), dry to moist very stiff, moist	ML		
					60	SPT-1

Depth marks: 5.0, 10.0, 15.0, 20.0, 25.0

Well Configuration



Elevations (ft amsl) and Comments

Ground Surface	NA
Top PVC Casing	327.81

Borehole No. MW-018

Borehole Log

Project No.: GR3509
Client: Olin Coporation
Geologist: N. Mullaugh
Drilling Company: Precision Sampling
Completion Date: 3 November 2004

Location: Morgan Hill, CA
Coordinates: N 89,767.32 E 105,591.39
Drilling Method: Hollow Stem Auger
Well Material: schedule 40 PVC
Borehole Diameter: 10 inch

Depth, feet	Water Level	Stratigraphy	Lithologic Description	Unified Soil Classification	PID (ppm)	Soil Sample ID	Well Configuration	Elevations (ft amsl) and Comments
								Ground Surface NA Top PVC Casing 327.81
			SILTY SAND, some gravel, fine-grained, very dense, dark brown (7.5YR3/4), wet	SM	NA	SPT-2		
								4 inch diameter schedule 40 PVC screen (0.020 inch slotted)
35.0			GRAVELLY SILT, some sand, hard, dark brown (7.5YR3/3), moist	ML	90	SPT-3		
			SAND, cemented, pale brown (10YR7/3), dry	SW	10	SPT-4		
			SILTY GRAVEL, some sand, dark brown (7.5YR3/3), wet	GM	10	SPT-5		
40.0			Borehole depth 40.0 ft					end cap
45.0								
50.0								
55.0								

NA - not measured
NR - no samples recovered

APPENDIX C

PERFORMANCE MONITORING DATA

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
16-Aug-05	0	17	*174*	5	153	30	109	66	26	0	75	19	17	140	114
17-Aug-05	0	17	0	6	153	*194*	106	66	26	0	75	18	16	200	116
18-Aug-05	0	17	0	7	153	30	106	66	26	0	75	18	16	200	122
19-Aug-05	0	17	0	7	153	*194*	104	68	26	0	75	18	16	200	124
20-Aug-05	0	18	0	8	153	*197*	104	68	26	0	75	18	16	200	129
21-Aug-05	0	18	0	7	153	*197*	104	68	26	0	75	18	16	200	132
22-Aug-05	0	18	*100*	5	153	*197*	102	66	27	0	75	18	14	200	134
23-Aug-05	0	18	0	2	153	*197*	102	68	26	0	75	18	13	200	137
24-Aug-05	0	18	0	0	153	*197*	100	68	27	0	75	19	12	200	140
25-Aug-05	0	0	0	0	153	*197*	98	68	27	0	75	19	12	200	142
26-Aug-05	0	0	*169*	0	153	*197*	98	68	27	0	75	19	12	200	145
27-Aug-05	0	0	*200*	0	153	*200*	96	69	27	0	75	19	11	200	148
28-Aug-05	0	0	*200*	0	150	*200*	96	69	28	0	76	19	11	200	151
29-Aug-05	0	0	*169*	0	149	*199*	95	69	28	0	76	20	11	200	154
30-Aug-05	0	0	*100*	0	153	*200*	94	69	28	0	75	20	11	200	154
31-Aug-05	0	0	*200*	0	153	*200*	92	69	28	0	75	20	11	200	157
01-Sep-05	0	0	*35*	0	153	28	92	69	28	0	75	20	11	200	160
02-Sep-05	0	0	*140*	0	153	28	92	69	28	0	74	20	11	200	163
03-Sep-05	0	0	*170*	0	90	28	92	69	29	0	74	20	11	200	163
04-Sep-05	0	0	0	0	40	28	90	69	29	0	72	20	11	200	166
05-Sep-05	0	0	*140*	0	83	29	90	69	29	0	74	20	11	200	169
06-Sep-05	0	0	*170*	0	96	29	90	69	30	0	74	21	11	200	169
07-Sep-05	0	0	0	0	106	29	90	69	29	0	74	21	11	200	173
08-Sep-05	0	0	0	0	113	29	90	69	30	0	74	21	11	200	176
09-Sep-05	0	0	0	0	118	29	90	69	30	0	74	21	11	200	176
10-Sep-05	0	0	0	0	120	29	90	69	30	0	75	21	12	200	179
11-Sep-05	0	0	0	0	123	29	90	69	30	0	75	22	13	200	182
12-Sep-05	0	0	0	0	128	30	90	71	31	0	75	22	13	200	184
13-Sep-05	0	0	0	0	130	30	90	71	30	0	75	22	14	200	187
14-Sep-05	0	0	0	0	133	30	90	71	31	0	75	22	14	200	187
15-Sep-05	0	0	*70*	0	136	30	90	71	31	0	77	22	14	200	191
16-Sep-05	0	0	0	0	136	30	90	71	31	0	77	22	15	200	191
17-Sep-05	0	0	0	0	138	30	90	71	31	0	77	22	15	200	194
18-Sep-05	0	0	0	0	138	30	90	71	31	0	77	22	15	200	194
19-Sep-05	0	0	*70*	0	141	30	92	72	32	0	77	23	16	200	199
20-Sep-05	0	0	0	0	141	30	92	72	32	0	78	23	16	200	199
21-Sep-05	0	0	*171*	0	141	30	92	72	33	0	78	23	16	200	200
22-Sep-05	0	0	*170*	0	144	30	92	72	33	0	79	23	16	200	200
23-Sep-05	0	0	0	0	144	30	92	72	33	0	80	23	17	200	200
24-Sep-05	0	0	0	0	144	30	92	72	33	0	80	23	17	200	200
25-Sep-05	0	0	*171*	0	144	30	92	74	33	0	80	23	17	200	200
26-Sep-05	0	0	*200*	0	144	31	92	74	34	0	80	23	17	200	200
27-Sep-05	0	0	*71*	0	147	31	92	74	34	0	82	23	17	200	200
28-Sep-05	0	0	*171*	0	146	31	92	74	34	0	82	23	17	200	200
29-Sep-05	0	0	*171*	0	147	31	94	74	34	1	82	23	17	200	200
30-Sep-05	0	0	*200*	0	147	31	94	74	34	2	83	24	17	200	200
01-Oct-05	0	0	0	0	150	31	94	74	34	2	83	23	17	200	200
02-Oct-05	0	0	*100*	0	150	31	94	74	34	2	83	24	17	200	200
03-Oct-05	0	0	*171*	0	150	31	94	74	34	5	83	24	17	200	200
04-Oct-05	0	0	0	0	150	31	94	74	34	7	83	24	17	200	200
05-Oct-05	0	0	wl	0	150	31	94	74	34	9	83	24	17	200	200
06-Oct-05	0	0	wl	0	147	wl	94	75	35	10	mlf	24	17	mlf	200
07-Oct-05	0	0	wl	0	150	wl	94	75	35	11	mlf	24	17	mlf	200
08-Oct-05	0	0	wl	0	150	wl	94	75	35	11	mlf	24	17	mlf	200
09-Oct-05	0	0	wl	0	150	wl	94	75	35	12	mlf	25	17	mlf	200
10-Oct-05	0	0	wl	0	150	wl	94	77	37	12	90	25	17	200	200
11-Oct-05	0	0	wl	0	96	wl	96	77	36	12	85	25	17	200	200

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
12-Oct-05	0	0	wl	0	128	wl	96	77	37	13	85	25	17	200	200
13-Oct-05	0	0	wl	0	136	wl	96	77	38	13	85	25	17	200	200
14-Oct-05	0	0	wl	0	133	wl	96	77	38	13	87	25	17	200	200
15-Oct-05	0	0	wl	0	136	wl	96	77	37	14	87	26	17	200	200
16-Oct-05	0	0	wl	0	136	wl	96	77	38	14	87	25	17	200	200
17-Oct-05	0	0	wl	0	138	wl	96	78	38	14	89	26	17	200	200
18-Oct-05	0	0	wl	0	138	wl	96	78	39	14	89	26	17	200	200
19-Oct-05	0	0	wl	0	141	wl	96	78	39	14	89	26	17	200	200
20-Oct-05	0	0	wl	0	144	wl	98	78	39	15	90	26	17	200	200
21-Oct-05	0	0	wl	0	147	wl	94	78	39	15	90	26	17	200	200
22-Oct-05	0	0	wl	0	147	wl	96	78	39	15	90	26	17	200	200
23-Oct-05	0	0	wl	0	150	wl	96	78	39	30	92	27	17	200	200
24-Oct-05	0	0	wl	0	150	wl	96	78	39	30	92	27	17	200	200
25-Oct-05	0	0	wl	0	153	wl	96	78	40	30	92	27	17	200	200
26-Oct-05	0	0	wl	0	153	wl	98	78	40	31	92	27	17	200	200
27-Oct-05	0	0	wl	0	153	wl	98	78	40	31	94	27	17	200	200
28-Oct-05	0	0	wl	0	156	wl	98	80	41	31	94	27	17	200	200
29-Oct-05	0	0	wl	0	156	wl	98	80	41	31	94	28	17	200	200
30-Oct-05	0	0	wl	0	156	wl	98	80	41	31	96	28	17	200	200
31-Oct-05	0	0	wl	0	159	wl	98	80	42	31	96	28	16	200	200
01-Nov-05	0	0	wl	0	159	wl	98	80	42	31	96	28	16	200	200
02-Nov-05	0	0	wl	0	159	wl	100	80	43	31	96	28	16	200	200
03-Nov-05	0	0	wl	0	mlf	wl	100	82	41	32	98	28	16	200	200
04-Nov-05	0	0	wl	0	mlf	wl	100	82	42	32	98	28	16	200	200
05-Nov-05	0	0	wl	0	mlf	wl	100	82	44	32	98	28	16	200	200
06-Nov-05	0	0	wl	0	mlf	wl	102	82	44	33	100	28	16	200	200
07-Nov-05	0	0	wl	0	mlf	wl	102	82	43	33	100	28	16	200	200
08-Nov-05	0	0	wl	0	mlf	wl	102	83	44	34	100	29	16	200	200
09-Nov-05	0	0	wl	0	mlf	wl	102	83	44	34	102	29	16	200	200
10-Nov-05	0	0	wl	0	mlf	wl	102	83	44	34	102	29	16	200	200
11-Nov-05	0	0	wl	0	mlf	wl	102	83	45	34	102	30	16	200	200
12-Nov-05	0	0	wl	0	mlf	wl	104	83	46	35	104	30	16	200	200
13-Nov-05	0	0	wl	0	mlf	wl	104	85	46	35	104	30	16	200	200
14-Nov-05	0	0	wl	0	mlf	wl	104	85	46	36	106	30	16	200	200
15-Nov-05	0	0	wl	0	mlf	wl	104	85	48	36	106	31	16	200	200
16-Nov-05	0	0	wl	0	mlf	wl	104	85	47	37	106	31	16	200	200
17-Nov-05	0	1	wl	0	mlf	wl	104	85	47	38	109	28	16	200	200
18-Nov-05	0	1	wl	0	con	wl	con	con	49	38	wl	31	con	200	200
19-Nov-05	0	1	wl	0	con	wl	con	con	48	39	wl	32	con	200	200
20-Nov-05	0	1	wl	0	con	wl	con	con	49	39	wl	32	con	200	200
21-Nov-05	0	1	wl	0	con	wl	con	con	48	39	wl	32	con	200	200
22-Nov-05	0	1	wl	0	con	wl	con	con	49	39	wl	32	con	200	200
23-Nov-05	0	1	wl	0	con	wl	con	con	50	40	wl	32	con	200	200
24-Nov-05	0	1	wl	0	con	wl	con	con	50	40	wl	33	con	200	200
25-Nov-05	0	1	wl	0	con	wl	con	con	50	41	wl	33	con	200	200
26-Nov-05	0	2	wl	0	con	wl	con	con	51	41	wl	33	con	200	200
27-Nov-05	0	2	wl	0	con	wl	con	con	51	42	wl	34	con	200	200
28-Nov-05	0	2	wl	0	con	wl	con	con	51	42	wl	34	con	200	200
29-Nov-05	0	2	wl	0	con	wl	con	con	51	43	wl	35	con	200	200
30-Nov-05	0	2	wl	0	con	wl	con	con	53	43	wl	36	con	200	200
01-Dec-05	0	2	wl	0	con	wl	con	con	53	44	wl	36	con	200	200
02-Dec-05	0	2	wl	0	con	wl	con	con	53	26	wl	33	con	200	200
03-Dec-05	0	0	wl	0	con	wl	con	con	53	26	wl	30	con	200	200
04-Dec-05	0	2	wl	0	con	wl	con	con	53	26	wl	29	con	200	200
05-Dec-05	0	2	wl	0	con	wl	con	con	54	26	wl	29	con	200	200
06-Dec-05	0	2	wl	0	con	wl	con	con	54	27	wl	30	con	200	200
07-Dec-05	0	2	wl	0	con	wl	con	con	54	27	wl	30	con	200	200

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
08-Dec-05	0	2	wl	0	con	wl	con	con	54	28	wl	30	con	200	200
09-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	31	con	200	200
10-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	32	con	200	200
11-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	32	con	200	200
12-Dec-05	0	2	wl	0	con	wl	con	con	58	28	wl	32	con	200	200
13-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	33	con	200	200
14-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	33	con	200	200
15-Dec-05	0	1	wl	0	con	wl	con	con	56	28	wl	33	con	200	200
16-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	35	con	200	200
17-Dec-05	0	2	wl	0	con	wl	con	con	58	28	wl	34	con	200	200
18-Dec-05	0	2	wl	0	con	wl	con	con	58	28	wl	17	con	200	200
19-Dec-05	0	2	wl	0	con	wl	con	con	59	28	wl	12	con	200	200
20-Dec-05	0	2	wl	0	con	wl	con	con	58	28	wl	12	con	200	200
21-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	13	con	200	200
22-Dec-05	0	2	wl	0	con	wl	con	con	58	28	wl	13	con	200	200
23-Dec-05	0	2	wl	0	con	wl	con	con	59	28	wl	13	con	200	200
24-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	13	con	200	200
25-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	13	con	200	200
26-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	13	con	200	200
27-Dec-05	0	2	wl	0	con	wl	con	con	55	28	wl	13	con	200	200
28-Dec-05	0	2	wl	0	con	wl	con	con	56	28	wl	14	con	200	200
29-Dec-05	0	2	wl	0	con	wl	con	con	58	mlf	wl	13	con	200	200
30-Dec-05	0	2	wl	0	con	wl	con	con	56	mlf	wl	14	con	200	200
31-Dec-05	0	2	wl	0	con	wl	con	con	55	mlf	wl	13	con	200	200
01-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	192
02-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	178
03-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	160
04-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	75
05-Jan-06	0	1	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	27
06-Jan-06	0	1	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	22
07-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	20
08-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	19
09-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	19
10-Jan-06	0	2	wl	0	mlf	wl	mlf	mlf	0	wl	wl	wl	mlf	200	18
11-Jan-06	0	2	wl	0	20	wl	20	0	0	wl	wl	wl	12	200	18
12-Jan-06	0	2	wl	0	20	wl	19	0	0	wl	wl	wl	12	200	18
13-Jan-06	0	2	wl	0	20	wl	19	0	0	wl	wl	wl	12	200	18
14-Jan-06	0	2	wl	0	19	wl	17	0	0	wl	wl	wl	12	200	18
15-Jan-06	0	2	wl	0	19	wl	15	0	0	wl	wl	wl	12	200	18
16-Jan-06	0	2	wl	0	19	wl	15	0	0	wl	wl	wl	12	200	18
17-Jan-06	0	2	wl	0	18	wl	15	0	0	wl	wl	wl	12	200	17
18-Jan-06	0	2	wl	0	18	wl	16	0	0	wl	wl	wl	12	200	17
19-Jan-06	0	2	wl	0	18	wl	17	0	0	wl	wl	wl	12	200	17
20-Jan-06	0	2	wl	0	18	wl	17	0	0	wl	wl	wl	12	200	17
21-Jan-06	0	2	wl	0	18	wl	17	0	0	wl	wl	wl	11	200	17
22-Jan-06	0	3	wl	0	18	wl	17	0	0	wl	wl	wl	12	200	17
23-Jan-06	0	4	wl	0	18	wl	16	0	0	wl	wl	wl	12	200	18
24-Jan-06	0	4	wl	0	18	wl	17	0	0	wl	wl	wl	12	200	18
25-Jan-06	0	4	wl	0	18	wl	18	0	0	wl	wl	wl	12	200	18
26-Jan-06	0	4	wl	0	17	wl	17	0	0	wl	wl	wl	12	200	18
27-Jan-06	0	4	wl	0	17	wl	17	0	0	wl	wl	wl	12	200	18
28-Jan-06	0	4	wl	0	17	wl	16	0	0	wl	wl	wl	12	200	18
29-Jan-06	0	4	wl	0	17	wl	17	0	0	wl	wl	wl	13	200	18
30-Jan-06	0	4	wl	0	17	wl	16	0	0	wl	wl	wl	13	200	18
31-Jan-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	18
01-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	18
02-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	18

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
03-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	18
04-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	18
05-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	19
06-Feb-06	0	4	wl	0	16	wl	16	0	0	wl	wl	wl	13	200	20
07-Feb-06	0	4	wl	0	16	wl	24	0	0	wl	wl	wl	13	200	21
08-Feb-06	0	4	wl	0	16	wl	31	0	0	wl	wl	wl	12	200	21
09-Feb-06	0	4	wl	0	16	wl	32	0	0	wl	wl	wl	12	200	22
10-Feb-06	0	4	wl	0	15	wl	32	0	wl	wl	wl	wl	12	200	23
11-Feb-06	0	4	wl	0	15	wl	35	0	wl	wl	wl	wl	12	200	23
12-Feb-06	0	4	wl	0	15	wl	36	0	wl	wl	wl	wl	12	200	23
13-Feb-06	0	4	wl	0	15	wl	36	0	wl	wl	wl	wl	12	200	24
14-Feb-06	0	4	wl	0	15	wl	35	0	wl	wl	wl	wl	12	200	24
15-Feb-06	0	4	wl	0	15	wl	36	0	wl	wl	wl	wl	12	200	25
16-Feb-06	0	4	wl	0	15	wl	38	0	wl	wl	wl	wl	12	200	25
17-Feb-06	0	4	wl	0	15	wl	37	0	wl	wl	wl	wl	12	200	24
18-Feb-06	0	4	wl	0	15	wl	37	0	wl	wl	wl	wl	12	200	24
19-Feb-06	0	4	wl	0	15	wl	37	1	wl	wl	wl	wl	12	200	25
20-Feb-06	0	4	wl	0	15	wl	38	4	wl	wl	wl	wl	12	200	25
21-Feb-06	0	4	wl	0	15	wl	38	3	wl	wl	wl	wl	12	200	26
22-Feb-06	0	4	wl	0	15	wl	39	2	wl	wl	wl	wl	12	200	27
23-Feb-06	0	4	wl	0	15	wl	39	1	wl	wl	wl	wl	12	200	29
24-Feb-06	0	4	wl	0	15	wl	39	1	wl	wl	wl	wl	12	200	30
25-Feb-06	0	5	wl	0	15	wl	38	1	wl	wl	wl	wl	12	200	31
26-Feb-06	0	5	wl	0	15	wl	39	0	wl	wl	wl	wl	12	200	31
27-Feb-06	0	5	wl	0	15	wl	39	0	wl	wl	wl	wl	12	200	30
28-Feb-06	0	5	wl	0	15	wl	29	4	wl	wl	wl	wl	11	200	15
01-Mar-06	0	5	wl	0	15	wl	21	3	wl	wl	wl	wl	11	200	14
02-Mar-06	0	5	wl	0	15	wl	21	1	wl	wl	wl	wl	11	200	14
03-Mar-06	0	5	wl	0	15	wl	21	2	wl	wl	wl	wl	11	200	14
04-Mar-06	0	5	wl	0	15	wl	20	3	wl	wl	wl	wl	11	200	14
05-Mar-06	0	5	wl	0	14	wl	20	1	wl	wl	wl	wl	11	200	14
06-Mar-06	0	5	wl	0	14	wl	20	1	wl	wl	wl	wl	11	200	14
07-Mar-06	0	5	wl	0	14	wl	20	1	wl	wl	wl	wl	11	200	14
08-Mar-06	0	5	wl	0	14	wl	19	1	wl	wl	wl	wl	11	200	14
09-Mar-06	0	5	wl	0	14	wl	19	0	wl	wl	wl	wl	11	200	14
10-Mar-06	0	5	wl	0	14	wl	18	0	wl	wl	wl	wl	11	200	14
11-Mar-06	0	5	wl	0	15	wl	20	0	wl	wl	wl	wl	11	200	14
12-Mar-06	0	5	wl	0	14	wl	19	1	wl	wl	wl	wl	11	200	14
13-Mar-06	0	5	wl	0	12	wl	19	1	wl	wl	wl	wl	11	200	14
14-Mar-06	0	5	wl	0	11	wl	19	0	wl	wl	wl	wl	11	200	14
15-Mar-06	con	5	wl	0	13	wl	19	1	wl	wl	wl	wl	11	200	14
16-Mar-06	con	5	wl	0	11	wl	18	0	wl	wl	wl	wl	11	200	14
17-Mar-06	con	5	wl	0	11	wl	17	4	wl	wl	wl	wl	11	200	14
18-Mar-06	con	5	wl	0	11	wl	16	1	wl	wl	wl	wl	11	200	14
19-Mar-06	con	5	wl	0	7	wl	16	0	wl	wl	wl	wl	11	200	14
20-Mar-06	con	5	wl	0	7	wl	16	0	wl	wl	wl	wl	11	200	14
21-Mar-06	con	5	wl	0	9	wl	16	2	wl	wl	wl	wl	11	200	14
22-Mar-06	con	5	wl	0	4	wl	15	0	wl	wl	wl	wl	11	200	14
23-Mar-06	con	5	wl	0	4	wl	15	0	wl	wl	wl	wl	11	200	14
24-Mar-06	con	5	wl	0	5	wl	16	0	wl	wl	wl	wl	11	200	13
25-Mar-06	con	5	wl	0	11	wl	17	1	wl	wl	wl	wl	11	200	13
26-Mar-06	con	5	wl	0	11	wl	17	2	wl	wl	wl	wl	11	200	13
27-Mar-06	con	5	wl	0	11	wl	16	0	wl	wl	wl	wl	11	200	13
28-Mar-06	con	5	wl	0	11	wl	16	0	wl	wl	wl	wl	11	200	13
29-Mar-06	con	5	wl	0	11	wl	16	1	wl	wl	wl	wl	11	200	13
30-Mar-06	con	4	wl	0	11	wl	16	0	wl	wl	wl	wl	11	200	13
31-Mar-06	con	4	wl	0	11	wl	15	0	wl	wl	wl	wl	11	200	13

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
01-Apr-06	wl	4	wl	9	9	wl	15	0	0	wl	wl	wl	11	200	12
02-Apr-06	wl	4	wl	5	11	wl	15	0	0	wl	wl	wl	11	200	12
03-Apr-06	wl	4	wl	4	11	wl	16	1	0	wl	wl	wl	11	200	12
04-Apr-06	wl	4	wl	5	11	wl	17	1	0	wl	wl	wl	11	200	12
05-Apr-06	wl	4	wl	2	9	wl	17	1	0	wl	wl	wl	11	200	11
06-Apr-06	wl	4	wl	2	5	wl	15	0	0	wl	wl	wl	11	200	11
07-Apr-06	wl	4	wl	0	1	wl	15	0	0	wl	wl	wl	11	200	11
08-Apr-06	wl	4	wl	4	4	wl	14	0	0	wl	wl	wl	11	200	11
09-Apr-06	wl	4	wl	2	5	wl	13	0	0	wl	wl	wl	11	200	11
10-Apr-06	wl	4	wl	0	4	wl	13	0	0	wl	wl	wl	11	200	11
11-Apr-06	wl	4	wl	0	4	wl	13	0	0	wl	wl	wl	9	200	11
12-Apr-06	wl	4	wl	0	4	wl	13	0	0	wl	wl	wl	11	200	11
13-Apr-06	wl	4	wl	4	5	wl	12	0	0	wl	wl	wl	9	200	11
14-Apr-06	wl	4	wl	0	7	wl	12	0	0	wl	wl	wl	9	200	11
15-Apr-06	wl	4	wl	0	4	wl	11	0	0	wl	wl	wl	9	200	11
16-Apr-06	wl	4	wl	0	4	wl	11	0	0	wl	wl	wl	9	200	9
17-Apr-06	wl	4	wl	0	5	wl	11	0	0	wl	wl	wl	9	200	9
18-Apr-06	wl	4	wl	0	7	wl	11	0	0	wl	wl	wl	7	200	9
19-Apr-06	wl	4	wl	0	5	wl	11	0	0	wl	wl	wl	9	200	9
20-Apr-06	wl	4	wl	0	4	wl	11	0	0	wl	wl	wl	9	200	9
21-Apr-06	wl	4	wl	0	mlf	wl	12	mlf	0	wl	wl	wl	9	mlf	14
22-Apr-06	wl	2	wl	0	mlf	wl	11	mlf	0	wl	wl	wl	9	mlf	14
23-Apr-06	wl	4	wl	0	mlf	wl	11	mlf	0	wl	wl	wl	9	mlf	14
24-Apr-06	wl	2	wl	0	mlf	wl	11	mlf	0	wl	wl	wl	9	mlf	14
25-Apr-06	wl	2	wl	0	mlf	wl	11	mlf	0	wl	wl	wl	9	mlf	14
26-Apr-06	wl	2	wl	0	mlf	wl	9	mlf	0	wl	wl	wl	9	mlf	14
27-Apr-06	wl	2	wl	0	mlf	wl	9	mlf	0	wl	wl	wl	9	mlf	14
28-Apr-06	wl	2	wl	0	mlf	wl	9	mlf	0	wl	wl	wl	9	mlf	14
29-Apr-06	wl	2	wl	0	mlf	wl	7	mlf	0	wl	wl	wl	9	mlf	14
30-Apr-06	wl	2	wl	0	mlf	wl	5	mlf	0	wl	wl	wl	9	mlf	14
01-May-06	wl	2	wl	0	mlf	wl	4	mlf	0	wl	wl	wl	9	mlf	13
02-May-06	wl	2	wl	0	mlf	wl	4	mlf	0	wl	wl	wl	9	mlf	13
03-May-06	wl	2	wl	0	wl	wl	2	wl	0	wl	wl	wl	9	wl	13
04-May-06	wl	2	wl	0	wl	wl	2	wl	0	wl	wl	wl	9	wl	13
05-May-06	wl	2	wl	0	wl	wl	0	wl	0	wl	wl	wl	9	wl	13
06-May-06	wl	2	wl	0	wl	wl	0	wl	0	wl	wl	wl	9	wl	13
07-May-06	wl	2	wl	0	wl	wl	1	wl	0	wl	wl	wl	9	wl	13
08-May-06	wl	2	wl	0	wl	wl	1	wl	0	wl	wl	wl	9	wl	13
09-May-06	wl	2	wl	0	wl	wl	1	wl	0	wl	wl	wl	9	wl	12
10-May-06	wl	2	wl	0	wl	wl	1	wl	0	wl	wl	wl	7	wl	12
11-May-06	wl	2	wl	0	wl	wl	1	wl	wl	wl	wl	wl	7	wl	12
12-May-06	wl	2	wl	0	wl	wl	1	wl	wl	wl	wl	wl	7	wl	12
13-May-06	wl	2	wl	0	wl	wl	1	wl	wl	wl	wl	wl	7	wl	11
14-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	7	wl	11
15-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	7	wl	11
16-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
17-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
18-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
19-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
20-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	4	wl	11
21-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	4	wl	11
22-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
23-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	11
24-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	5	wl	11
25-May-06	wl	1	wl	0	wl	wl	1	wl	wl	wl	wl	wl	4	wl	9
26-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	9
27-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	9

Table C.1
Historical Shallow (5.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001A	MSP002A	MSP003A	MSP004A	MSP005A	MSP006A	MSP007A	MSP008A	MSP009A	MSP010A	MSP011A	MSP012A	MSP013A	MSP014A	MSP015A
28-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	9
29-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	mlf
30-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	4	wl	mlf
31-May-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	2	wl	mlf
01-Jun-06	wl	1	wl	0	wl	wl	2	wl	wl	wl	wl	wl	1	wl	mlf

Notes:
[1] Significance of readings: 0-10 kPa saturated soils; 10-30 kPa soils at or near field capacity; 30-200 kPa increasingly dry soils.
[2] Values in italics are spurious due to sensor cable shorting.
[3] Noon time values reported.
Legend:
con - data unavailble due to system connection error
mlf - data unavailable for a portion of the period between downloads due to data logger malfunction
wl - data unavailable due to short in data logger from presence of water

Table C.2
Historical Deep (14.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001B	MSP002B	MSP003B	MSP004B	MSP005B	MSP006B	MSP007B	MSP008B	MSP009B	MSP010B	MSP011B	MSP012B	MSP013B	MSP014B	MSP015B
16-Aug-05	0	0	*138*	1	0	0	200	0	0	14	0	19	2	0	0
17-Aug-05	0	0	0	2	0	0	200	0	0	14	0	14	0	0	0
18-Aug-05	0	0	0	2	0	0	200	0	0	12	0	14	0	0	0
19-Aug-05	0	0	0	2	0	0	200	0	0	12	0	14	0	0	0
20-Aug-05	0	0	0	2	0	0	200	0	0	11	0	13	0	0	0
21-Aug-05	0	0	0	2	0	0	200	0	0	11	0	14	0	0	0
22-Aug-05	0	0	*100*	1	0	0	200	0	0	14	0	15	0	0	0
23-Aug-05	0	0	0	0	0	0	200	0	0	14	0	14	0	0	0
24-Aug-05	0	0	0	1	0	0	200	0	0	14	0	14	0	0	0
25-Aug-05	0	0	0	0	0	0	200	0	0	14	0	14	0	0	0
26-Aug-05	0	0	*100*	0	0	0	193	0	0	15	0	14	0	0	0
27-Aug-05	0	0	*200*	0	0	0	173	0	0	15	0	14	0	0	0
28-Aug-05	0	0	*200*	0	0	0	154	0	0	15	0	14	0	0	0
29-Aug-05	0	0	*100*	0	0	0	140	0	0	15	0	15	0	0	0
30-Aug-05	0	0	*100*	0	0	0	127	0	0	15	0	14	0	0	0
31-Aug-05	0	0	*200*	0	0	0	115	0	0	15	0	15	0	0	0
01-Sep-05	0	0	*38*	0	0	0	105	0	0	15	0	15	0	0	0
02-Sep-05	0	0	*75*	0	0	0	97	0	0	15	0	15	0	0	0
03-Sep-05	0	0	*200*	0	0	0	92	0	0	15	0	15	0	0	0
04-Sep-05	0	0	0	0	0	0	86	0	0	15	0	15	0	0	0
05-Sep-05	0	0	*88*	0	0	0	81	0	0	15	0	15	0	0	0
06-Sep-05	0	0	*175*	0	0	0	77	0	0	15	0	15	0	0	0
07-Sep-05	0	0	0	0	0	0	74	0	0	15	0	15	0	0	0
08-Sep-05	0	0	0	0	0	0	72	0	0	15	0	15	0	0	0
09-Sep-05	0	0	0	0	0	0	69	0	0	15	0	15	0	0	0
10-Sep-05	0	0	0	0	0	0	68	0	0	15	0	15	0	0	0
11-Sep-05	0	0	0	0	0	0	67	0	0	15	0	15	0	0	0
12-Sep-05	0	0	0	0	0	0	64	0	0	15	0	15	0	0	0
13-Sep-05	0	0	0	0	0	0	63	0	0	15	0	16	0	0	0
14-Sep-05	0	0	0	0	0	0	60	0	0	15	0	16	0	0	0
15-Sep-05	0	0	0	0	0	0	58	0	0	15	0	16	0	0	0
16-Sep-05	0	0	0	0	0	0	56	0	0	15	0	16	0	0	0
17-Sep-05	0	0	0	0	0	0	55	0	0	15	0	16	0	0	0
18-Sep-05	0	0	0	0	0	0	54	0	0	15	0	16	0	0	0
19-Sep-05	0	0	*77*	0	0	0	52	0	0	15	0	16	0	0	0
20-Sep-05	0	0	0	0	0	0	51	0	0	15	0	16	0	0	0
21-Sep-05	0	0	*177*	0	0	0	50	0	0	15	0	16	0	0	0
22-Sep-05	0	0	*177*	0	0	0	49	0	0	15	0	16	0	0	0
23-Sep-05	0	0	0	0	0	0	48	0	0	14	0	16	0	0	0
24-Sep-05	0	0	0	0	0	0	48	0	0	14	0	16	0	0	0
25-Sep-05	0	0	*190*	0	0	0	48	0	0	15	0	16	0	0	0
26-Sep-05	0	0	*200*	0	0	0	48	0	0	15	0	16	0	0	0
27-Sep-05	0	0	*77*	0	0	0	48	0	0	15	0	16	0	0	0
28-Sep-05	0	0	*200*	0	0	0	48	0	0	15	0	16	0	0	0
29-Sep-05	0	0	*200*	0	0	0	47	0	0	15	0	16	0	0	0
30-Sep-05	0	0	*200*	0	0	0	46	0	0	15	0	16	0	0	0
01-Oct-05	0	0	0	0	0	0	46	0	0	15	0	16	0	0	0
02-Oct-05	0	0	*100*	0	0	0	46	0	0	15	0	16	0	0	0
03-Oct-05	0	0	*200*	0	0	0	47	0	0	16	0	16	0	0	0
04-Oct-05	0	0	0	0	0	0	47	0	0	16	0	16	0	0	0
05-Oct-05	0	0	wl	0	0	0	48	0	0	16	0	16	0	0	0
06-Oct-05	0	0	wl	0	0	wl	47	0	0	16	mlf	16	0	mlf	0
07-Oct-05	0	0	wl	0	0	wl	47	0	0	17	mlf	16	0	mlf	0
08-Oct-05	0	0	wl	0	0	wl	47	0	0	17	mlf	16	0	mlf	0
09-Oct-05	0	0	wl	0	0	wl	46	0	0	17	mlf	16	0	mlf	0
10-Oct-05	0	0	wl	0	0	wl	46	0	0	17	0	16	0	0	0
11-Oct-05	0	0	wl	0	0	wl	47	0	0	18	0	16	0	0	0
12-Oct-05	0	0	wl	0	0	wl	47	0	0	18	0	16	0	0	0
13-Oct-05	0	0	wl	0	0	wl	47	0	0	18	0	16	0	0	0
14-Oct-05	0	0	wl	0	0	wl	47	0	0	29	0	16	0	0	0
15-Oct-05	0	0	wl	0	0	wl	46	0	0	51	0	16	0	0	0

Table C.2
Historical Deep (14.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001B	MSP002B	MSP003B	MSP004B	MSP005B	MSP006B	MSP007B	MSP008B	MSP009B	MSP010B	MSP011B	MSP012B	MSP013B	MSP014B	MSP015B
16-Oct-05	0	0	wl	0	0	wl	46	0	0	60	0	16	0	0	0
17-Oct-05	0	0	wl	0	0	wl	46	0	0	66	0	16	0	0	0
18-Oct-05	0	0	wl	0	0	wl	47	0	0	77	0	16	0	0	0
19-Oct-05	0	0	wl	0	0	wl	47	0	0	88	0	16	0	0	0
20-Oct-05	0	0	wl	0	0	wl	47	0	0	97	0	16	0	0	0
21-Oct-05	0	0	wl	0	0	wl	46	0	0	107	0	16	0	0	0
22-Oct-05	0	0	wl	0	0	wl	46	0	0	112	0	16	0	0	0
23-Oct-05	0	0	wl	0	0	wl	47	0	0	116	0	16	0	0	0
24-Oct-05	0	0	wl	0	0	wl	47	0	0	119	0	16	0	0	0
25-Oct-05	0	0	wl	0	0	wl	47	0	0	124	0	16	0	0	0
26-Oct-05	0	0	wl	0	0	wl	47	0	0	127	0	16	0	0	0
27-Oct-05	0	0	wl	0	0	wl	48	0	0	132	0	16	0	0	0
28-Oct-05	0	0	wl	0	0	wl	48	0	0	124	0	16	0	0	0
29-Oct-05	0	0	wl	0	0	wl	47	0	0	200	0	16	0	0	0
30-Oct-05	0	0	wl	0	0	wl	47	0	0	200	0	16	0	0	0
31-Oct-05	0	0	wl	0	0	wl	48	0	0	200	1	16	0	0	0
01-Nov-05	0	0	wl	0	0	wl	48	0	0	200	1	16	0	0	0
02-Nov-05	0	0	wl	0	0	wl	48	0	0	200	1	16	0	0	0
03-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	16	0	0	0
04-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	16	0	0	0
05-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	16	0	0	0
06-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	16	0	0	0
07-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	16	0	0	0
08-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
09-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
10-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
11-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
12-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
13-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
14-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
15-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
16-Nov-05	0	0	wl	0	mlf	wl	48	0	0	200	1	17	0	0	0
17-Nov-05	0	0	wl	0	mlf	wl	48	0	0	97	1	18	0	0	0
18-Nov-05	0	0	wl	0	con	wl	con	con	0	75	wl	17	con	0	0
19-Nov-05	0	0	wl	0	con	wl	con	con	0	67	wl	17	con	0	0
20-Nov-05	0	0	wl	0	con	wl	con	con	0	67	wl	17	con	0	0
21-Nov-05	0	0	wl	0	con	wl	con	con	0	88	wl	17	con	0	0
22-Nov-05	0	0	wl	0	con	wl	con	con	0	99	wl	17	con	0	0
23-Nov-05	0	0	wl	0	con	wl	con	con	0	129	wl	17	con	0	0
24-Nov-05	0	0	wl	0	con	wl	con	con	0	148	wl	17	con	0	0
25-Nov-05	0	0	wl	0	con	wl	con	con	0	140	wl	17	con	0	0
26-Nov-05	0	0	wl	0	con	wl	con	con	0	154	wl	17	con	0	0
27-Nov-05	0	0	wl	0	con	wl	con	con	0	85	wl	17	con	0	0
28-Nov-05	0	0	wl	0	con	wl	con	con	0	95	wl	17	con	0	0
29-Nov-05	0	0	wl	0	con	wl	con	con	0	77	wl	17	con	0	0
30-Nov-05	0	0	wl	1	con	wl	con	con	0	67	wl	17	con	0	0
01-Dec-05	0	0	wl	1	con	wl	con	con	0	68	wl	17	con	0	0
02-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
03-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
04-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
05-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
06-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
07-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
08-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	17	con	0	0
09-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
10-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
11-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
12-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
13-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
14-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
15-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0

Table C.2
Historical Deep (14.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001B	MSP002B	MSP003B	MSP004B	MSP005B	MSP006B	MSP007B	MSP008B	MSP009B	MSP010B	MSP011B	MSP012B	MSP013B	MSP014B	MSP015B
16-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	18	con	0	0
17-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	19	con	0	0
18-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
19-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
20-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
21-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
22-Dec-05	0	0	wl	0	con	wl	con	con	0	200	wl	0	con	0	0
23-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
24-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
25-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
26-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
27-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
28-Dec-05	0	0	wl	1	con	wl	con	con	0	200	wl	0	con	0	0
29-Dec-05	0	0	wl	2	con	wl	con	con	0	mlf	wl	0	con	0	0
30-Dec-05	0	0	wl	2	con	wl	con	con	0	mlf	wl	0	con	0	0
31-Dec-05	0	0	wl	1	con	wl	con	con	0	mlf	wl	0	con	0	0
01-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
02-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
03-Jan-06	0	0	wl	0	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
04-Jan-06	0	0	wl	0	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
05-Jan-06	0	0	wl	0	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
06-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
07-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
08-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
09-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
10-Jan-06	0	0	wl	1	mlf	wl	mlf	mlf	55	wl	wl	wl	mlf	0	0
11-Jan-06	0	0	wl	2	0	wl	19	17	54	wl	wl	wl	0	0	0
12-Jan-06	0	0	wl	2	0	wl	19	17	54	wl	wl	wl	0	0	0
13-Jan-06	0	0	wl	2	1	wl	20	17	54	wl	wl	wl	0	0	0
14-Jan-06	0	0	wl	2	1	wl	20	17	54	wl	wl	wl	0	0	0
15-Jan-06	0	0	wl	2	1	wl	19	17	53	wl	wl	wl	0	0	0
16-Jan-06	0	0	wl	2	0	wl	19	17	53	wl	wl	wl	0	0	0
17-Jan-06	0	0	wl	2	0	wl	19	17	53	wl	wl	wl	0	0	0
18-Jan-06	0	0	wl	2	0	wl	20	17	53	wl	wl	wl	0	0	0
19-Jan-06	0	0	wl	2	0	wl	21	17	52	wl	wl	wl	0	0	0
20-Jan-06	0	0	wl	2	1	wl	21	17	52	wl	wl	wl	0	0	0
21-Jan-06	0	0	wl	2	1	wl	20	17	52	wl	wl	wl	0	0	0
22-Jan-06	0	0	wl	2	0	wl	21	17	52	wl	wl	wl	0	0	0
23-Jan-06	0	0	wl	3	1	wl	20	17	51	wl	wl	wl	0	4	0
24-Jan-06	0	0	wl	3	1	wl	21	17	51	wl	wl	wl	0	7	0
25-Jan-06	0	0	wl	3	1	wl	21	17	51	wl	wl	wl	0	5	0
26-Jan-06	0	0	wl	3	0	wl	20	16	51	wl	wl	wl	0	1	0
27-Jan-06	0	0	wl	3	0	wl	20	16	50	wl	wl	wl	0	3	0
28-Jan-06	0	0	wl	3	0	wl	20	16	50	wl	wl	wl	0	7	0
29-Jan-06	0	0	wl	3	0	wl	20	16	50	wl	wl	wl	0	11	0
30-Jan-06	0	0	wl	3	0	wl	20	16	49	wl	wl	wl	0	13	0
31-Jan-06	0	0	wl	4	0	wl	20	16	49	wl	wl	wl	0	13	0
01-Feb-06	0	0	wl	5	0	wl	20	16	48	wl	wl	wl	0	11	0
02-Feb-06	0	0	wl	5	0	wl	20	16	48	wl	wl	wl	0	12	0
03-Feb-06	0	0	wl	5	0	wl	21	16	47	wl	wl	wl	0	12	0
04-Feb-06	0	0	wl	5	0	wl	21	16	47	wl	wl	wl	0	11	0
05-Feb-06	0	0	wl	5	0	wl	21	16	46	wl	wl	wl	0	13	0
06-Feb-06	0	0	wl	5	0	wl	21	16	46	wl	wl	wl	0	13	0
07-Feb-06	0	0	wl	5	0	wl	22	16	45	wl	wl	wl	0	14	0
08-Feb-06	0	0	wl	5	0	wl	22	16	44	wl	wl	wl	0	15	0
09-Feb-06	0	0	wl	5	1	wl	22	16	44	wl	wl	wl	0	15	0
10-Feb-06	0	0	wl	5	0	wl	22	16	wl	wl	wl	wl	0	16	0
11-Feb-06	0	0	wl	5	0	wl	23	16	wl	wl	wl	wl	0	17	0
12-Feb-06	0	0	wl	5	1	wl	23	16	wl	wl	wl	wl	0	18	0
13-Feb-06	0	0	wl	5	0	wl	23	16	wl	wl	wl	wl	0	19	0
14-Feb-06	0	0	wl	7	1	wl	23	16	wl	wl	wl	wl	0	20	0

Table C.2
Historical Deep (14.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001B	MSP002B	MSP003B	MSP004B	MSP005B	MSP006B	MSP007B	MSP008B	MSP009B	MSP010B	MSP011B	MSP012B	MSP013B	MSP014B	MSP015B
15-Feb-06	0	0	wl	7	1	wl	23	16	wl	wl	wl	wl	0	20	0
16-Feb-06	0	0	wl	7	1	wl	23	16	wl	wl	wl	wl	0	21	0
17-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	21	0
18-Feb-06	0	0	wl	7	1	wl	21	16	wl	wl	wl	wl	0	22	0
19-Feb-06	0	0	wl	7	1	wl	21	16	wl	wl	wl	wl	0	22	0
20-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	20	0
21-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	6	0
22-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	0	0
23-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	0	0
24-Feb-06	0	0	wl	7	1	wl	22	16	wl	wl	wl	wl	0	0	0
25-Feb-06	0	0	wl	7	1	wl	21	16	wl	wl	wl	wl	0	0	0
26-Feb-06	0	1	wl	7	2	wl	22	16	wl	wl	wl	wl	0	0	0
27-Feb-06	0	1	wl	5	2	wl	22	16	wl	wl	wl	wl	0	2	0
28-Feb-06	0	1	wl	2	2	wl	21	16	wl	wl	wl	wl	0	7	0
01-Mar-06	0	1	wl	2	2	wl	19	15	wl	wl	wl	wl	0	8	0
02-Mar-06	0	1	wl	3	2	wl	20	15	wl	wl	wl	wl	0	2	0
03-Mar-06	0	1	wl	2	1	wl	20	15	wl	wl	wl	wl	0	4	0
04-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	1	0
05-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	2	0
06-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	7	0
07-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	12	0
08-Mar-06	0	1	wl	4	1	wl	19	15	wl	wl	wl	wl	0	11	0
09-Mar-06	0	1	wl	5	1	wl	19	15	wl	wl	wl	wl	0	11	0
10-Mar-06	0	1	wl	5	1	wl	19	15	wl	wl	wl	wl	0	15	0
11-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	10	0
12-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	4	0
13-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	1	0
14-Mar-06	0	1	wl	3	1	wl	19	15	wl	wl	wl	wl	0	2	0
15-Mar-06	con	1	wl	3	1	wl	10	15	wl	wl	wl	wl	0	1	0
16-Mar-06	con	1	wl	3	1	wl	19	15	wl	wl	wl	wl	16	1	0
17-Mar-06	con	1	wl	3	1	wl	19	15	wl	wl	wl	wl	13	7	0
18-Mar-06	con	1	wl	3	0	wl	17	15	wl	wl	wl	wl	16	1	0
19-Mar-06	con	1	wl	3	0	wl	17	15	wl	wl	wl	wl	16	2	0
20-Mar-06	con	1	wl	3	0	wl	17	15	wl	wl	wl	wl	16	1	0
21-Mar-06	con	1	wl	3	0	wl	17	14	wl	wl	wl	wl	17	1	0
22-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	20	1	0
23-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	3	1	0
24-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	14	0	0
25-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	18	0	0
26-Mar-06	con	0	wl	3	0	wl	18	14	wl	wl	wl	wl	18	0	0
27-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	14	0	0
28-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	22	0	0
29-Mar-06	con	0	wl	3	0	wl	17	14	wl	wl	wl	wl	9	0	0
30-Mar-06	con	0	wl	2	0	wl	17	14	wl	wl	wl	wl	19	0	0
31-Mar-06	con	0	wl	2	0	wl	17	14	wl	wl	wl	wl	19	0	0
01-Apr-06	wl	0	wl	2	0	wl	16	14	wl	wl	wl	wl	20	0	0
02-Apr-06	wl	0	wl	2	0	wl	16	14	wl	wl	wl	wl	22	0	0
03-Apr-06	wl	1	wl	2	0	wl	16	14	wl	wl	wl	wl	21	0	0
04-Apr-06	wl	1	wl	2	0	wl	17	14	wl	wl	wl	wl	23	0	0
05-Apr-06	wl	3	wl	0	0	wl	17	14	wl	wl	wl	wl	22	0	0
06-Apr-06	wl	3	wl	0	0	wl	16	14	wl	wl	wl	wl	18	0	0
07-Apr-06	wl	3	wl	0	0	wl	16	14	wl	wl	wl	wl	18	0	0
08-Apr-06	wl	2	wl	0	0	wl	16	14	wl	wl	wl	wl	18	0	0
09-Apr-06	wl	0	wl	0	0	wl	16	14	wl	wl	wl	wl	16	0	0
10-Apr-06	wl	0	wl	0	0	wl	16	14	wl	wl	wl	wl	17	0	0
11-Apr-06	wl	0	wl	0	0	wl	16	14	wl	wl	wl	wl	15	0	0
12-Apr-06	wl	0	wl	0	0	wl	16	14	wl	wl	wl	wl	18	0	0
13-Apr-06	wl	0	wl	0	0	wl	15	14	wl	wl	wl	wl	16	0	0
14-Apr-06	wl	0	wl	0	0	wl	15	14	wl	wl	wl	wl	15	0	0
15-Apr-06	wl	0	wl	0	0	wl	15	14	wl	wl	wl	wl	19	0	0
16-Apr-06	wl	0	wl	0	0	wl	15	14	wl	wl	wl	wl	9	0	0

Table C.2
Historical Deep (14.5-ft Depth) Soil Water Potential Sensor Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Soil Water Potential (kPa)[1]														
	Sensors Located Within Infiltration Unit				Sensors Located at Perimeter of Infiltration Unit										
Date	MSP001B	MSP002B	MSP003B	MSP004B	MSP005B	MSP006B	MSP007B	MSP008B	MSP009B	MSP010B	MSP011B	MSP012B	MSP013B	MSP014B	MSP015B
17-Apr-06	wl	0	wl	0	0	wl	15	13	wl	wl	wl	wl	16	0	0
18-Apr-06	wl	0	wl	0	0	wl	15	13	wl	wl	wl	wl	15	0	0
19-Apr-06	wl	0	wl	0	0	wl	16	13	wl	wl	wl	wl	14	0	0
20-Apr-06	wl	0	wl	0	0	wl	16	13	wl	wl	wl	wl	14	0	0
21-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
22-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
23-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
24-Apr-06	wl	0	wl	0	mlf	wl	16	mlf	wl	wl	wl	wl	0	mlf	0
25-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
26-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
27-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
28-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
29-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
30-Apr-06	wl	0	wl	0	mlf	wl	15	mlf	wl	wl	wl	wl	0	mlf	0
01-May-06	wl	0	wl	0	mlf	wl	14	mlf	wl	wl	wl	wl	0	mlf	0
02-May-06	wl	0	wl	0	mlf	wl	14	mlf	wl	wl	wl	wl	0	mlf	0
03-May-06	wl	0	wl	0	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
04-May-06	wl	0	wl	0	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
05-May-06	wl	0	wl	0	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
06-May-06	wl	0	wl	0	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
07-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
08-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
09-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
10-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
11-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
12-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
13-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
14-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
15-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
16-May-06	wl	0	wl	0	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
17-May-06	wl	0	wl	1	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
18-May-06	wl	0	wl	2	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
19-May-06	wl	0	wl	2	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
20-May-06	wl	0	wl	2	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
21-May-06	wl	0	wl	3	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
22-May-06	wl	0	wl	3	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
23-May-06	wl	0	wl	3	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
24-May-06	wl	0	wl	5	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
25-May-06	wl	0	wl	5	wl	wl	14	wl	wl	wl	wl	wl	0	wl	0
26-May-06	wl	0	wl	7	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
27-May-06	wl	0	wl	7	wl	wl	15	wl	wl	wl	wl	wl	0	wl	0
28-May-06	wl	0	wl	9	wl	wl	14	wl	wl	wl	wl	wl	1	wl	0
29-May-06	wl	0	wl	9	wl	wl	15	wl	wl	wl	wl	wl	1	wl	mlf
30-May-06	wl	0	wl	9	wl	wl	15	wl	wl	wl	wl	wl	2	wl	mlf
31-May-06	wl	0	wl	10	wl	wl	15	wl	wl	wl	wl	wl	2	wl	mlf
01-Jun-06	wl	0	wl	11	wl	wl	15	wl	wl	wl	wl	wl	3	wl	mlf

Notes:
[1] Significance of readings: 0-10 kPa saturated soils; 10-30 kPa soils at or near field capacity; 30-200 kPa increasingly dry soils.
[2] Values in italics are spurious due to sensor cable shorting.
[3] Noon time values reported.
Legend:
con - data unavailble due to system connection error
mlf - data unavailable for a portion of the period between downloads due to data logger malfunction
wl - data unavailable due to short in data logger from presence of water

Table C.3
Shallow (5.5-ft Depth) and Deep (14.5-ft Depth) Soil Suction Lysimeters
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Location	Date	Perchlorate (µg/L)	Acetate (mg/L)	Total Organic Carbon (TOC) (mg/L)	Bromide (mg/L)
Lysimeters Located within Infiltration Unit	LM-001A	04-Aug-05	**2,900**	NA	NA	**3.2**
		02-Sep-05	**3,400**	<0.10	NA	**1.3**
		05-Oct-05	**3,900**	<0.14	NA	**1.1**
		17-Nov-05	**2,800**	<0.14	NA	**2.6**
		20-Dec-05	<4.0	<0.030	NA	**3.0**
		11-Jan-06	**1,500**	<0.030	NA	**7.0**
		14-Mar-06	**1,500**	NA	**2.9**	**7.2**
		19-May-06	**1,200**	NA	**3.4**	**7.1**
	LM-001B	04-Aug-05	<4.0	NA	NA	**20**
		02-Sep-05	**5.0**	<0.10	NA	**19**
		05-Oct-05	**60**	<0.14	NA	**13**
		17-Nov-05	**310**	**0.42**	NA	**7.1**
		20-Dec-05	**470**	<0.030	NA	**5.2**
		11-Jan-06	**500**	<0.030	NA	**5.6**
		14-Mar-06	**630**	NA	**3.9**	**6.1**
		19-May-06	**200**	NA	**3.9**	**2.6**
	LM-002A	04-Aug-05	**15**	NA	NA	**3.3**
		02-Sep-05	**23**	<0.10	NA	**3.7**
		05-Oct-05	**17**	<0.14	NA	**4.4**
		17-Nov-05	**11**	**0.24**	NA	**2.0**
		20-Dec-05	**6.2**	<0.030	NA	**1.9**
		11-Jan-06	**4.4**	<0.030	NA	**1.3**
		14-Mar-06	<4.0	NA	**1.7**	**1.7**
		19-May-06	<4.0	NA	**1.7**	**1.5**
	LM-003B	04-Aug-05	**53**	NA	NA	**4.2**
		02-Sep-05	**49**	<0.10	NA	**2.8**
		05-Oct-05	**120**	<0.14	NA	**2.5**
		17-Nov-05	**160**	<0.14	NA	**3.1**
		20-Dec-05	**120**	<0.030	NA	**3.0**
		11-Jan-06	**110**	<0.030	NA	**3.3**
		14-Mar-06	**84**	NA	**3.6**	**3.8**
		19-May-06	**62**	NA	**2.9**	**3.9**
	LM-004A	04-Aug-05	**21**	NA	NA	<3.0
		02-Sep-05	**48**	<0.10	NA	**1.2**
		05-Oct-05	**60**	**0.14**	NA	**0.62**
		17-Nov-05	**38**	**0.24**	NA	**0.59**
		20-Dec-05	**19**	**0.070**	NA	**6.7**
		11-Jan-06	**6.0**	<0.030	NA	**10**
		14-Mar-06	**5.2**	NA	**2.4**	**2.4**
		19-May-06	**5.2**	NA	**1.3**	**2.5**
	LM-004B	04-Aug-05	**29**	NA	NA	<3.0
		02-Sep-05	**71**	<0.10	NA	**1.2**
		05-Oct-05	**270**	<0.14	NA	**0.70**
		17-Nov-05	**270**	**0.56**	NA	**0.67**
		20-Dec-05	**230**	<0.030	NA	**0.60**
		11-Jan-06	**170**	<0.030	NA	**2.9**
		14-Mar-06	**77**	NA	**5.8**	**5.4**
		19-May-06	**150**	NA	**1.6**	**3.4**
Lysimeters Located at Perimeter of Infiltration Unit	LM-005A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	**44**	NA	**4.7**	**4.3**
	LM-005B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-006A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	**9.0**	iv	NA	<0.30
		14-Mar-06	**4.3**	NA	**2.1**	<0.30
		19-May-06	**4.1**	NA	**5.0**	<0.30
	LM-006B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	**8.3**	<0.10	NA	**0.52**
		05-Oct-05	**9.3**	<0.14	NA	**0.33**
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	**9.8**	<0.030	NA	**0.38**
		14-Mar-06	**11**	NA	**4.5**	**0.45**
		19-May-06	**6.3**	NA	**6.2**	<0.30

Table C.3
Shallow (5.5-ft Depth) and Deep (14.5-ft Depth) Soil Suction Lysimeters
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Location	Date	Perchlorate (µg/L)	Acetate (mg/L)	Total Organic Carbon (TOC) (mg/L)	Bromide (mg/L)
Lysimeters Located at Perimeter of Infiltration Unit	LM-007A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	<4.0	<0.030	NA	**0.39**
		11-Jan-06	<4.0	<0.030	NA	<0.30
		14-Mar-06	<4.0	NA	**3.9**	<0.30
		19-May-06	<4.0	NA	iv	<0.30
	LM-007B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	<4.0	<0.10	NA	**1.0**
		05-Oct-05	<4.0	iv	NA	<0.30
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	<4.0	iv	NA	<0.30
		14-Mar-06	<4.0	NA	**6.8**	<0.30
		19-May-06	dry	dry	dry	dry
	LM-008A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-008B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	<4.0	<0.10	NA	**0.30**
		05-Oct-05	**4.7**	iv	NA	<0.30
		20-Dec-05	<4.0	iv	NA	<0.30
		11-Jan-06	<4.0	iv	NA	<0.30
		14-Mar-06	<4.0	NA	**4.9**	**0.32**
		19-May-06	dry	dry	dry	dry
	LM-009A	04-Aug-05	**160**	NA	NA	<3.0
		02-Sep-05	**160**	<0.10	NA	**0.32**
		05-Oct-05	**220**	<0.14	NA	<0.30
		20-Dec-05	**190**	iv	NA	**0.33**
		11-Jan-06	**200**	iv	NA	<0.30
		14-Mar-06	**260**	NA	**3.2**	**0.40**
		19-May-06	**240**	NA	**3.8**	<0.30
	LM-009B	04-Aug-05	**32**	NA	NA	<3.0
		02-Sep-05	**35**	<0.10	NA	**0.34**
		05-Oct-05	**32**	<0.14	NA	<0.30
		20-Dec-05	**33**	iv	NA	<0.30
		11-Jan-06	**31**	iv	NA	<0.30
		14-Mar-06	**19**	NA	**5.3**	**0.42**
		19-May-06	**25**	NA	**5.7**	**0.45**
	LM-010A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	**120**	<0.10	NA	**0.44**
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-010B	04-Aug-05	**33**	NA	NA	<3.0
		02-Sep-05	**14**	<0.10	NA	<0.30
		05-Oct-05	**33**	iv	NA	<0.30
		20-Dec-05	**120**	iv	NA	<0.30
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-011A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	**28**	iv	NA	**0.39**
		14-Mar-06	**8.6**	NA	**5.4**	**0.36**
		19-May-06	**5.4**	NA	**4.4**	<0.30
	LM-011B	04-Aug-05	**190**	NA	NA	<3.0
		02-Sep-05	**270**	<0.10	NA	**0.42**
		05-Oct-05	**390**	iv	NA	<0.30
		20-Dec-05	**470**	**0.060**	NA	<0.30
		11-Jan-06	**390**	iv	NA	**0.37**
		14-Mar-06	**290**	NA	**2.5**	**0.50**
		19-May-06	**250**	NA	**2.6**	**0.68**
	LM-012A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	**16**	<0.10	NA	**0.30**
		05-Oct-05	**24**	iv	NA	<0.30
		20-Dec-05	**32**	<0.030	NA	**0.35**
		11-Jan-06	**26**	<0.030	NA	<0.30
		14-Mar-06	**13**	NA	**3.9**	<0.30
		19-May-06	**8.4**	NA	**4.1**	<0.30

Table C.3
Shallow (5.5-ft Depth) and Deep (14.5-ft Depth) Soil Suction Lysimeters
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

	Location	Date	Perchlorate (µg/L)	Acetate (mg/L)	Total Organic Carbon (TOC) (mg/L)	Bromide (mg/L)
Lysimeters Located at Perimeter of Infiltration Unit	LM-012B	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-013A	04-Aug-05	**11**	NA	NA	<3.0
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	**14**	<0.14	NA	<0.30
		20-Dec-05	**15**	**0.10**	NA	<0.30
		11-Jan-06	**7.9**	<0.030	NA	<0.30
		14-Mar-06	**12**	NA	**4.7**	<0.30
		19-May-06	**6.7**	NA	**4.2**	<0.30
	LM-013B	04-Aug-05	**6.6**	NA	NA	<3.0
		02-Sep-05	**4.1**	<0.10	NA	**0.58**
		05-Oct-05	**4.6**	iv	NA	**0.43**
		20-Dec-05	**13**	<0.030	NA	**0.36**
		11-Jan-06	**11**	<0.030	NA	**0.93**
		14-Mar-06	**18**	NA	**2.3**	**0.81**
		19-May-06	**22**	NA	**2.3**	<0.30
	LM-014A	04-Aug-05	**8.2**	NA	NA	<3.0
		02-Sep-05	**6.7**	<0.10	NA	**0.34**
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	**9.4**	<0.030	NA	**0.84**
		11-Jan-06	**10**	<0.030	NA	**0.53**
		14-Mar-06	**11**	NA	**3.6**	**0.41**
		19-May-06	**14**	NA	**3.6**	<0.30
	LM-014B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	<4.0	<0.10	NA	**0.31**
		05-Oct-05	<4.0	<0.14	NA	<0.30
		20-Dec-05	<4.0	**0.030**	NA	<0.30
		11-Jan-06	<4.0	<0.030	NA	<0.30
		14-Mar-06	**4.5**	NA	**1.5**	<0.30
		19-May-06	<4.0	NA	**1.9**	**2.5**
	LM-015A	04-Aug-05	dry	dry	dry	dry
		02-Sep-05	dry	dry	dry	dry
		05-Oct-05	dry	dry	dry	dry
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry
	LM-015B	04-Aug-05	<4.0	NA	NA	<3.0
		02-Sep-05	<4.0	<0.10	NA	**0.31**
		05-Oct-05	<4.0	<0.14	NA	<0.30
		20-Dec-05	dry	dry	dry	dry
		11-Jan-06	dry	dry	dry	dry
		14-Mar-06	dry	dry	dry	dry
		19-May-06	dry	dry	dry	dry

***Notes*:**
(1) LM-002B and LM-003A did not function properly.

***Legend*:**
dry - insufficient water volume from lysimeter for any analysis
iv - insufficient water volume collected from lysimeter for electron donor analysis; priority was given to bromide and perchlorate analyses
NA - Not Analyzed

Table C.4
ISB Performance Monitoring Well Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Well Number	**MW-015**		**MW-016**			
Date Sampled	**28-Feb-06**	**27-Apr-06**	**22-Sep-05**	**10-Nov-05**	**28-Feb-06**	**27-Apr-06**
Dissolved Oxygen (mg/L)	**1.9**	**1.8**	**6.2**	**2.8**	**6.4**	**5.8**
Oxidation-Reduction Potential (mV)	**160**	**50**	**50**	**-16**	**150**	**46**
pH (unitless)	**7.0**	**7.3**	**6.5**	**6.4**	**6.4**	**6.9**
Specific Conductivity (µS/cm)	**1,100**	**1100**	**410**	**400**	**370**	**330**
Temperature (°C)	**17**	**16**	**21**	**19**	**17**	**19**
Turbidity (NTU)	**0.85**	**1.5**	**3.1**	**0.40**	(note 2)	**3.5**
Perchlorate (µg/L)	**2600**	**2000**	**1,500**	**960**	**160**	**17**
Bromide (mg/L)	**0.90**	**1.4**	**0.55**	**1.2**	**1.2**	**1.1**
Chloride (mg/L)	**32**	**27**	**26**	**21**	**23**	**19**
Nitrate (mg/L)	**64**	**55**	**34**	**32**	**16**	**18**
Nitrite (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Phosphate-P (mg/L)	**0.054**	**0.059**	**0.024**	**0.037**	**0.018**	**0.020**
Sulfate (mg/L)	**88**	**82**	**36**	**37**	**33**	**27**
Total Organic Carbon (TOC) (mg/L)	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0
Acetate (mg/L)	NA	NA	**0.24**	**0.48**	NA	NA
Iron (mg/L)	<0.10	<0.10	<0.10	<0.040	<0.10	<0.10
Manganese (mg/L)	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010

Table C.4
ISB Performance Monitoring Well Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Well Number	**MW-017**		**MW-018**			
Date Sampled	**28-Feb-06**	**25-Apr-06**	**22-Sep-05**	**2-Nov-05**	**22-Feb-06**	**25-Apr-06**
Dissolved Oxygen (mg/L)	**5.9**	**4.3**	**7.3**	**3.5**	**2.1**	**4.0**
Oxidation-Reduction Potential (mV)	**190**	**120**	**-10**	**-9.6**	**160**	**120**
pH (unitless)	**6.5**	**6.8**	**6.7**	**6.5**	**6.4**	**6.6**
Specific Conductivity (µS/cm)	**550**	**510**	**320**	**320**	**500**	**420**
Temperature (°C)	**17**	**15**	**22**	**18**	**18**	**16**
Turbidity (NTU)	**0.77**	**0.22**	**5.1**	**7.8**	**1.5**	**1.9**
Perchlorate (µg/L)	**170**	**47**	**21**	**4.6**	**110**	**50**
Bromide (mg/L)	**6.3**	**1.5**	<0.30	<0.30	**4.6**	**1.1**
Chloride (mg/L)	**19**	**20**	**26**	**23**	**19**	**20**
Nitrate (mg/L)	**20**	**22**	**17**	**15**	**18**	**22**
Nitrite (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Phosphate-P (mg/L)	**0.022**	**0.029**	**0.030**	**0.12**	**0.015**	**0.018**
Sulfate (mg/L)	**67**	**41**	**24**	**24**	**54**	**37**
Total Organic Carbon (TOC) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetate (mg/L)	NA	NA	<0.14	<0.14	NA	NA
Iron (mg/L)	<0.10	<0.10	<0.10	<0.040	<0.10	<0.10
Manganese (mg/L)	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010

Notes:

(1)Wells MW-015 and MW-017 were dry during the Third and Fourth Quarter 2005, and could not be sampled.

(2)Turbidity at MW-016 could not be taken due to a sampling device malfunction.

Legend:

NA - Not Analyzed

Table C.5
Site Monitoring Well Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Well Number	Date Sampled	Bromide (mg/L)	Perchlorate (µg/L)
MW-001	19-Sep-05	**1.3**	**140**
MW-001	22-Feb-06	**3.3**	**84**
MW-001	20-Apr-06	**0.51**	**12**
MW-002	20-Sep-05	**0.30/0.30**	**280/280**
MW-002	22-Feb-06	**1.7/1.7**	**140/140**
MW-002	20-Apr-06	**1.4/1.3**	**84/83**
MW-003	19-Sep-05	<0.30	<4.0
MW-003	22-Feb-06	<0.30	**5.4**
MW-003	13-Apr-06	<0.30	**9.8**
MW-007-SA1	23-Aug-05	<0.30	**12**
MW-007-SA1	25-Oct-05	<0.30	**12**
MW-007-SA1	07-Feb-06	<0.30	**15**
MW-007-SA1	05-Apr-06	<0.30	**12**
MW-008-SA1	25-Aug-05	<0.30	**5.1**
MW-008-SA1	25-Oct-05	**0.46**	**86**
MW-008-SA1	13-Feb-06	**1.3/1.3**	**95/96**
MW-008-SA1	06-Apr-06	**0.89/0.90**	**44/46**
MW-009-SA1	07-Sep-05	<0.30	**3.1J**
MW-009-SA1	28-Oct-05	<0.30	**3.5J**
MW-009-SA1	29-Mar-06	**0.73**	**4.3**
MW-009-SA1	11-Apr-06	**0.87**	**3.1 J**
MW-012A	13-Sep-05	NA	<4.0
MW-012A	03-Nov-05	NA	<4.0
MW-012A	23-Feb-06	NA	**4.5**
MW-012A	25-Apr-06	NA	**2.0 J**
MW-013A	13-Sep-05	NA	<4.0
MW-013A	07-Nov-05	NA	<4.0
MW-013A	23-Feb-06	NA	<4.0
MW-013A	11-Apr-06	NA	<4.0
MW-014A	12-Sep-05	NA	<4.0
MW-014A	07-Nov-05	NA	<4.0
MW-014A	23-Feb-06	NA	<4.0
MW-014A	18-Apr-06	NA	<4.0
OW-001A	08-Sep-05	<0.30	**6.2/7.2**
OW-001A	03-Nov-05	<0.30	**19**
OW-001A	20-Feb-06	**0.82**	**39**
OW-001A	19-Apr-06	**1.5**	**75**
PM-001A	20-Sep-05	NA	**3.8J**
PM-001A	09-Nov-05	NA	**2.6J**
PM-001A	27-Feb-06	NA	**3.6 J**
PM-001A	27-Apr-06	NA	**3.4 J**
PM-002A	19-Sep-05	NA	<4.0
PM-002A	09-Nov-05	NA	<4.0
PM-002A	27-Feb-06	NA	**4.7**
PM-002A	26-Apr-06	NA	**4.9**

Table C.5
Site Monitoring Well Data
ISB Closure Report
Olin/Standard Fusee Site, Morgan Hill, California

Well Number	Date Sampled	Bromide (mg/L)	Perchlorate (µg/L)
PM-003AR	19-Sep-05	NA	<4.0
PM-003AR	02-Nov-05	NA	<4.0
PM-003AR	21-Feb-06	NA	**2.7 J**
PM-003AR	13-Apr-06	NA	**2.3 J**

Notes:

(1)Well Sampling Records & Laboratory Reports provided in MACTEC Quarterly Reports.

(2)Wells MW-001, MW-002, and MW-003 were dry during the Fourth Quarter 2005, and could not be sampled.

Legend:

J - Estimated Value

NA-Not Analyzed

APPENDIX D

RWQCB CORRESPONDENCE

California Regional Water Quality Control Board
Central Coast Region

Terry Tamminen
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb3
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger
Governor

February 9, 2004

Mr. Richard W. McClure
Olin Corporation
Environmental Remediation Group
PO Box 248
Charleston, TN 37310-0248

Mr. Jay McLaughlin
President and CEO
Standard Fusee Corporation
PO Box 1047
Easton, MD 21601

Dear Mr. McClure and Mr. McLaughlin:

SLIC: 425 TENNANT AVENUE, MORGAN HILL; SOIL FEASABILITY STUDY REVIEW AND APPROVAL, 425 TENNANT AVENUE FACILITY, SANTA CLARA COUNTY

Regional Board staff has reviewed the Soil Remediation Feasibility Study (Soil FS) submitted November 24, 2003. We have also considered information obtained in our recent teleconference meeting on February 3, 2004. The teleconference meeting was held to discuss and clarify issues arising from our Soil FS review. In addition, we have received and considered Soil FS comments from the Santa Clara Valley Water District (SCVWD), City of Morgan Hill, City of Gilroy, and the Perchlorate Community Advisory Group. Related written comments are attached for your review and consideration.

This letter outlines Olin's agreement to implement Soil FS option 4A: **Focused Excavation and Ex Situ Bioremediation Coupled with In Situ Bioremediation** as presented in the Soil FS. As we discussed and as outlined in the Soil FS, soils with perchlorate concentrations exceeding 7.8 mg/kg will be excavated and anaerobically treated onsite by adding an electron donor carbon substrate. The remaining soils will be left in place and treated with the same carbon based electron donor. In both cases the remediation goal will be 50 μg/kg, perchlorate. This remediation goal is derived from the methods described in the United States Environmental Protection Agency's *Soil Screening Guidance: Users Guide* and is the calculated concentration of perchlorate that would not result in groundwater impacts above the current DHS action level of 4 μg/l. We understand, a confirmation sampling protocol will be included in the report as described below.

At your request, we will allow you to combine the Soil Remedial Action Work Plan with the 90% Design Report. The combined report is due April 8, 2004. As discussed and agreed to in our recent meeting, the following elements will be evaluated in the combined report:

- Shallow unsaturated zone-monitoring network.
- Shallow groundwater monitoring network.
- Proposed response in case the accepted treatment method is not effective.

- Sampling plan to demonstrate the 50 µg/kg level has been achieved in impacted soil.

Justification shall be provided if the above noted elements are not included in the combined report. We look forward to meeting with you on or about April 15, 2004, to discuss the combined report and review its' findings.

Pursuant to Section 13267 of the California Water Code, Olin is required to provide the above-requested information by April 8, 2004. Failure to submit adequate or complete information may subject you to a Regional Board enforcement action based on the original due date of the Soil Remediation Feasibility Study. The Regional Board requires Olin Corporation to submit the combined report in accordance with Section 13267 of the Water Code to determine the concentrations and movement of the perchlorate plume in the vicinity of the Olin site. We require Olin Corporation to submit the information as the owner of the property and one of the previous operators of a flare manufacturing facility that caused soil and groundwater perchlorate contamination at and in the vicinity of the Olin site at 425 Tennant Avenue, Morgan Hill.

We are enclosing copies of comments received from the SCVWD and the Cities of Morgan Hill and Gilroy via Komex consulting for your review and consideration. If you have any questions, please contact **David Athey at (805) 542-4644** or Eric Gobler at (805) 549-3467.

Sincerely,

Roger W. Briggs
Executive Officer

Enclosures:

1. Santa Clara Valley Water District
2. Komex – For the Cities of Morgan Hill and Gilroy

DA: S:\SLIC\Regulated Sites\Santa Clara Co\Olin\OLIN-425 TENNANT AVENUE\COMMUNICATIONS - RICK McCLURE\Comments on Soil Feasability Study.doc

cc:

Sylvia Hamilton
Chair, PCAG
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San Martin, CA 95046

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City of Morgan Hill
17555 Peak Avenue
Morgan Hill, CA 95037

Mr. Rich Chandler
Komex
2146 Parker Street, Suite B-2
San Luis Obispo, CA 93401

Mr. Peter Forest
San Martin County Water District
PO Box 1501
Morgan Hill, CA 95038

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APPENDIX E

ANALYTICAL LABORATORY REPORT

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

8 June, 2006

Leslie Griffin
GeoSyntec Consultants - Oakland
475 14th Street, Suite 450
Oakland, CA 94612

RE: G53343
Work Order: MPE0703

Enclosed are the results of analyses for samples received by the laboratory on 05/20/06 10:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Dell For Theresa Allen
Project Manager

CA ELAP Certificate # 1210

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CBS-001	MPE0703-01	Water	05/20/06 00:00	05/20/06 10:15
CBS-002	MPE0703-02	Water	05/20/06 00:00	05/20/06 10:15
CBS-003	MPE0703-03	Water	05/20/06 00:00	05/20/06 10:15
CBS-004	MPE0703-04	Water	05/20/06 00:00	05/20/06 10:15
CBS-005	MPE0703-05	Water	05/20/06 00:00	05/20/06 10:15
CBS-006	MPE0703-06	Water	05/20/06 00:00	05/20/06 10:15
CBS-007	MPE0703-07	Water	05/20/06 00:00	05/20/06 10:15
CBS-008	MPE0703-08	Water	05/20/06 00:00	05/20/06 10:15
CBS-009	MPE0703-09	Water	05/20/06 00:00	05/20/06 10:15
CBS-010	MPE0703-10	Water	05/20/06 00:00	05/20/06 10:15
CBS-011	MPE0703-11	Water	05/20/06 00:00	05/20/06 10:15
CBS-012	MPE0703-12	Water	05/20/06 00:00	05/20/06 10:15
CBS-013	MPE0703-13	Water	05/20/06 00:00	05/20/06 10:15
CBS-014	MPE0703-14	Water	05/20/06 00:00	05/20/06 10:15
CBS-015	MPE0703-15	Water	05/20/06 00:00	05/20/06 10:15
CBS-016	MPE0703-16	Water	05/20/06 00:00	05/20/06 10:15
CBS-017	MPE0703-17	Water	05/20/06 00:00	05/20/06 10:15
CBS-018	MPE0703-18	Water	05/20/06 00:00	05/20/06 10:15
CBS-019	MPE0703-19	Water	05/20/06 00:00	05/20/06 10:15
CBS-020	MPE0703-20	Water	05/20/06 00:00	05/20/06 10:15
CBS-021	MPE0703-21	Water	05/20/06 00:00	05/20/06 10:15
CBS-022	MPE0703-22	Water	05/20/06 00:00	05/20/06 10:15
CBS-023	MPE0703-23	Water	05/20/06 00:00	05/20/06 10:15
CBS-024	MPE0703-24	Water	05/20/06 00:00	05/20/06 10:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Perchlorate by EPA 314.0

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-001 (MPE0703-01) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**5.2**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-002 (MPE0703-02) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**67**	8.0	ug/l	2	6E31045	05/31/06	05/31/06	EPA 314.0	
CBS-003 (MPE0703-03) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**6.7**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-004 (MPE0703-04) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-005 (MPE0703-05) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-006 (MPE0703-06) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**15**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-007 (MPE0703-07) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**31**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-008 (MPE0703-08) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**11**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-009 (MPE0703-09) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**7.4**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	

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Sequoia Analytical

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Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Perchlorate by EPA 314.0

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-010 (MPE0703-10) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**5.3**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-011 (MPE0703-11) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6E31045	05/31/06	05/31/06	EPA 314.0	
CBS-012 (MPE0703-12) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-013 (MPE0703-13) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**4.2**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-014 (MPE0703-14) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**19**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-015 (MPE0703-15) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**5.9**	4.0	ug/l	1	6E31045	05/31/06	05/31/06	EPA 314.0	
CBS-016 (MPE0703-16) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6E31045	05/31/06	05/31/06	EPA 314.0	
CBS-017 (MPE0703-17) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**5.0**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-018 (MPE0703-18) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**5.1**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Perchlorate by EPA 314.0

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-019 (MPE0703-19) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-020 (MPE0703-20) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	ND	4.0	ug/l	1	6E31045	05/31/06	05/31/06	EPA 314.0	
CBS-021 (MPE0703-21) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**13**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-022 (MPE0703-22) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**10**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-023 (MPE0703-23) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**4.5**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	
CBS-024 (MPE0703-24) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Perchlorate	**29**	4.0	ug/l	1	6F02033	05/30/06	05/30/06	EPA 314.0	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Physical Parameters by APHA/ASTM/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-001 (MPE0703-01) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**160**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-002 (MPE0703-02) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**290**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-003 (MPE0703-03) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**81**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-004 (MPE0703-04) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**97**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-005 (MPE0703-05) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**81**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-006 (MPE0703-06) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**130**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-007 (MPE0703-07) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**150**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-008 (MPE0703-08) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**240**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-009 (MPE0703-09) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**110**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Physical Parameters by APHA/ASTM/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-010 (MPE0703-10) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**84**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-011 (MPE0703-11) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**100**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-012 (MPE0703-12) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**81**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-013 (MPE0703-13) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**63**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-014 (MPE0703-14) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**270**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-015 (MPE0703-15) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**76**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-016 (MPE0703-16) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**78**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-017 (MPE0703-17) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**56**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-018 (MPE0703-18) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**56**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Physical Parameters by APHA/ASTM/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CBS-019 (MPE0703-19) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**210**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-020 (MPE0703-20) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**61**	1.0	umhos/cm	1	6E23038	05/23/06	05/23/06	SM 2510B	
CBS-021 (MPE0703-21) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**170**	1.0	umhos/cm	1	6E24013	05/23/06	05/23/06	SM 2510B	
CBS-022 (MPE0703-22) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**150**	1.0	umhos/cm	1	6E24013	05/23/06	05/23/06	SM 2510B	
CBS-023 (MPE0703-23) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**89**	1.0	umhos/cm	1	6E24013	05/23/06	05/23/06	SM 2510B	
CBS-024 (MPE0703-24) Water	**Sampled: 05/20/06 00:00**	**Received: 05/20/06 10:15**							
Specific Conductivity @ 25 C	**160**	1.0	umhos/cm	1	6E24013	05/23/06	05/23/06	SM 2510B	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Perchlorate by EPA 314.0 - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6E31045 - General Preparation / EPA 314.0										
Blank (6E31045-BLK1)				Prepared & Analyzed: 05/31/06						
Perchlorate	ND	4.0	ug/l							
Laboratory Control Sample (6E31045-BS1)				Prepared & Analyzed: 05/31/06						
Perchlorate	23.2	4.0	ug/l	25.0		93	85-115			
Matrix Spike (6E31045-MS1)	**Source: MPE0647-09**			Prepared & Analyzed: 05/31/06						
Perchlorate	24.3	4.0	ug/l	25.0	ND	97	80-120			
Matrix Spike Dup (6E31045-MSD1)	**Source: MPE0647-09**			Prepared & Analyzed: 05/31/06						
Perchlorate	24.1	4.0	ug/l	25.0	ND	96	80-120	0.8	15	
Batch 6F02033 - General Preparation / EPA 314.0										
Blank (6F02033-BLK1)				Prepared & Analyzed: 05/30/06						
Perchlorate	ND	4.0	ug/l							
Laboratory Control Sample (6F02033-BS1)				Prepared & Analyzed: 05/30/06						
Perchlorate	25.9	4.0	ug/l	25.0		104	85-115			
Matrix Spike (6F02033-MS1)	**Source: MPE0703-19**			Prepared & Analyzed: 05/30/06						
Perchlorate	28.9	4.0	ug/l	25.0	3.5	102	80-120			
Matrix Spike Dup (6F02033-MSD1)	**Source: MPE0703-19**			Prepared & Analyzed: 05/30/06						
Perchlorate	28.8	4.0	ug/l	25.0	3.5	101	80-120	0.3	15	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6E23038 - General Preparation / SM 2510B										
Laboratory Control Sample (6E23038-BS1)				Prepared & Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1370	1.0	umhos/cm	1420		96	90-110			
Matrix Spike (6E23038-MS1)	**Source: MPE0703-02**			Prepared & Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1620	2.0	umhos/cm	1420	290	94	90-110			
Matrix Spike Dup (6E23038-MSD1)	**Source: MPE0703-02**			Prepared & Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1670	2.0	umhos/cm	1420	290	97	90-110	3	10	
Batch 6E24013 - General Preparation / SM 2510B										
Laboratory Control Sample (6E24013-BS1)				Prepared: 05/13/06 Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1370	1.0	umhos/cm	1420		96	90-110			
Matrix Spike (6E24013-MS1)	**Source: MPE0703-24**			Prepared: 05/13/06 Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1470	2.0	umhos/cm	1420	160	92	90-110			
Matrix Spike Dup (6E24013-MSD1)	**Source: MPE0703-24**			Prepared: 05/13/06 Analyzed: 05/23/06						
Specific Conductivity @ 25 C	1480	2.0	umhos/cm	1420	160	93	90-110	0.7	10	

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GeoSyntec Consultants - Oakland	Project: G53343	MPE0703
475 14th Street, Suite 450	Project Number: [none]	**Reported:**
Oakland CA, 94612	Project Manager: Leslie Griffin	06/08/06 14:27

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Pg 1 of 3

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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☐ 1455 N. McDowell Blvd, Suite D. • **Petaluma, CA 94954** • (707) 792-1865 • FAX (707) 792-0342
☐ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100
☐ 2430 Sprig Court, Suite G • **Concord, CA 94520** • (925) 356-3150 • FAX (925) 356-0109

Company Name:	GeoSyntec Consultants	Project:	GS 3343
Mailing Address:	475 14th Street, Suite 450	Billing Address (if different):	MPE0703
City:	Oakland	State: CA	Zip Code: 94612
Telephone:	510 836 3034	Fax #: 510 836 3036	P.O. #:
Report To:	Leslie Griffin	E-mail Address: LGriffin@GeoSyntec.com	QC Data: ☐ Level II (standard) ☐ Level III ☐ Level IV
Sampler:		Date / Time Results Required:	Sequoia's Work Order # MPE0703

Turnaround Time:
☑ 10-15 Working Days (Standard TAT)
☐ 7 Working Days
☐ 5 Working Days
☐ 72 Hours
☐ 48 Hours
☐ 24 Hours
☐ 2-8 Hours

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☐ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	PetroWorks									Comments/ Temp.(If required)
1. CBS-001	5/20/06	H_2O	1	50ml	01										
2. CBS-002					02										
3. CBS-003					03										
4. CBS-004					04										
5. CBS-005					05										
6. CBS-006					06										
7. CBS-007					07										
8. CBS-008					08										
9. CBS-009					09										
10. CBS-010					10										

Relinquished by / Co.: [signature] / GeoSyntec	Received by / Co.: [signature]	Date / Time / Temp.: 5/20/06 1015 21.7°C
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:

Were Samples Received in Good Condition? ☑ Yes ☐ No Samples on Ice? ☐ Yes ☑ No Method of Shipment: CLIENT Page 1 of 3

White: Sequoia Yellow: Sequoia Pink: Client

Pg 2 of 3

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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- ☐ 2430 Sprig Court, Suite G • **Concord, CA 94520** • (925) 356-3150 • FAX (925) 356-0109

Company Name: GeoSyntec		Project: GS3343	
Mailing Address:		Billing Address (if different):	MPE0703
City:	State: Zip Code:		
Telephone:	Fax #:	P.O. #:	
Report To:	E-mail Address:	QC Data: ☐ Level II (standard) ☐ Level III	☐ Level IV
Sampler:	Date / Time Results Required:	Sequoia's Work Order #	MPE0708

Turnaround Time: ☑ 10-15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 Hours ☐ 48 Hours ☐ 24 Hours ☐ 2-8 Hours

MANDATORY: ☐ SDWA (Drinking Water) ☐ CWA (Waste Water) ☐ RCRA (Hazardous Waste) ☐ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	perchlorate									Comments/ Temp.(If required)
1. CBS-011	5/20/06	H_2O	1	50 ml	11										
2. CBS-012					12										
3. CBS-013					13										
4. CBS-014					14										
5. CBS-015					15										
6. CBS-016					16										
7. CBS-017					17										
8. CBS-018					18										
9. CBS-019					19										
10. CBS-020					20										

Relinquished by / Co.: [signature]	Received by / Co.: [signature]	Date / Time / Temp.: 5/20/06 1015 21.7°C
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:

Were Samples Received in Good Condition? ☑ Yes ☐ No Samples on Ice? ☐ Yes ☑ No Method of Shipment: CLIENT Page 2 of 3

White: Sequoia Yellow: Sequoia Pink: Client

pg 3 of 3

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

- ☐ 885 Jarvis Drive • **Morgan Hill, CA 95037** • (408) 776-9600 • FAX (408) 782-6308
- ☐ 1455 N. McDowell Blvd, Suite D. • **Petaluma, CA 94954** • (707) 792-1865 • FAX (707) 792-0342
- ☐ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100
- ☐ 2430 Sprig Court, Suite G • **Concord, CA 94520** • (925) 356-3150 • FAX (925) 356-0109

Company Name: GeoSyntec		Project: GS3343	
Mailing Address:		Billing Address (if different):	
City:	State: Zip Code:		MPE0703
Telephone:	Fax #:	P.O. #:	
Report To:	E-mail Address:	QC Data: ☐ Level II (standard) ☐ Level III	☐ Level IV
Sampler:	Date / Time Results Required:	Sequoia's Work Order #	~~MPE0707~~

Turnaround Time: ☐ 10-15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 Hours ☐ 48 Hours ☐ 24 Hours ☐ 2-8 Hours

MANDATORY: ☐ SDWA (Drinking Water) ☐ CWA (Waste Water) ☐ RCRA (Hazardous Waste) ☐ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #										Comments/ Temp.(If required)
1. CBS-021	5/20/06	H_2O	1	50 ml	21										
2. CBS-022	|	|	|	|	22										
3. CBS-023	|	|	|	|	23										
4. CBS-024	|	|	|	|	24										
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished by / Co.: [signature] GeoSyntec	Received by / Co.: [signature]	Date / Time / Temp.: 5/20/06 1015 21.7°C
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:
Relinquished by / Co.:	Received by / Co.:	Date / Time / Temp.:

Were Samples Received in Good Condition? ☑ Yes ☐ No Samples on Ice? ☐ Yes ☑ No Method of Shipment: CLIENT Page 3 of 3

White: Sequoia Yellow: Sequoia Pink: Client

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: GEO SYNTEC
REC. BY (PRINT): E.H.
WORKORDER: MPE0704

DATE REC'D AT LAB: 5/20/06
TIME REC'D AT LAB: 1015
DATE LOGGED IN: 5-22-06

For Regulatory Purposes?
DRINKING WATER YES / NO
WASTE WATER YES / NO

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / Absent Intact / Broken*									
2. Chain-of-Custody Present / Absent*									
3. Traffic Reports or Packing List: Present / Absent									
4. Airbill: Airbill / Sticker Present / Absent									
5. Airbill #: —									
6. Sample Labels: Present / Absent									
7. Sample IDs: Listed / Not Listed on Chain-of-Custody									
8. Sample Condition: Intact / Broken* / Leaking*									
9. Does information on chain-of-custody, traffic reports and sample labels agree? Yes / No*									
10. Sample received within hold time? Yes / No*									
11. Adequate sample volume received? Yes / No*									
12. Proper preservatives used? Yes / No*									
13. Trip Blank / Temp Blank Received? (circle which, if yes) Yes / No*									
14. Read Temp: 21.7°C Corrected Temp: 21.7°C Is corrected temp 4 +/-2°C? Yes / No** (Acceptance range for samples requiring thermal pres.) **Exception (if any): METALS / DFF ON ICE or Problem COC									

E.H. 5/20/06

See COC

*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

SRL Revision 7
Replaces Rev 5 (07/13/04)
Effective 07/19/05