Environmental Science & Engineering, Inc.

A CILCORP Company

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94 DEC -9 AM 8:07

TO: Alameda County
Health Care Services Agency
Division of Hazardous Materials
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

DATE: December 7, 1994

① If gradient is relatively flat, the location of MW-4 may difficult to determine. How accurate is this surveying technique?

ATTN: Eva Chu

JOB NUMBER: 6-94-5353

12/22/94: Work already done - Bart ESE

SUBJECT: **STAPLES RANCH SITE, EL CHARRO ROAD, PLEASANTON, CALIFORNIA**

WE ARE TRANSMITTING THE FOLLOWING:

One workplan for additional site investigation activities at the subject site.

CC:

DIST:
LB
File
Originator

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

BY: _____
Bart Miller
Marketing Manager/Project Geologist

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

WORKPLAN FOR ADDITIONAL SITE INVESTIGATION
ALAMEDA COUNTY GENERAL SERVICES AGENCY
STAPLES RANCH PROPERTY
EL CHARRO ROAD
PLEASANTON, CALIFORNIA

(ESE PROJECT #6-94-5353)

PRESENTED TO:

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DIVISION OF HAZARDOUS MATERIALS
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY, 2ND FLOOR
ALAMEDA, CALIFORNIA 94502

PREPARED BY:

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVENUE, SUITE J
CONCORD, CALIFORNIA 94520
(510) 685-4053

DECEMBER 6, 1994

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This workplan has been prepared by Environmental Science and Engineering, Inc. (ESE) for the exclusive use of the Alameda County General Services Agency as it pertains to their site located at the Staples Ranch Property, El Charro Road, Pleasanton, California. This workplan was prepared with that degree of care and skill ordinarily exercised by other geologists and engineers practicing in this field. No other warranty, either express or implied, is made as to professional advice in this workplan.

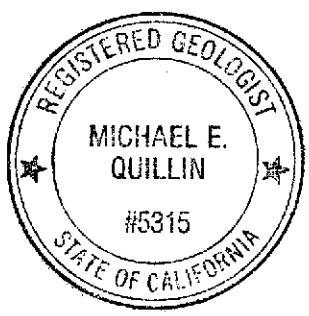
WORKPLAN PREPARED BY:

Bart S. Miller
Project Geologist

DECEMBER 7, 1994
Date

UNDER THE PROFESSIONAL SUPERVISION OF:

Michael E. Quillin
Manager, Geosciences
California Registered Geologist No. 5315



DECEMBER 7, 1994
Date

December 6, 1993

ESE Project No. 6-94-5353

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WORKPLAN FOR ADDITIONAL SITE INVESTIGATION AT THE STAPLES RANCH PROPERTY LOCATED AT EL CHARRO ROAD IN PLEASANTON, CALIFORNIA

1.0 INTRODUCTION

This workplan has been prepared by Environmental Science & Engineering, Inc. (ESE) for the Alameda County Health Care Services Agency (HCSA) on behalf of the Alameda County General Services Agency (GSA) as it pertains to the Staples Ranch Property (site) located at El Charro Road, Pleasanton, Alameda County, California (Figure 1 - Location Map). The GSA formerly owned and operated two aboveground storage tanks (AGTs) referred to as AGT-1 and AGT-5, and one underground storage tank (UST) referred to as UST-2 at the site (Figure 2 - Site Map). A preliminary site investigation performed by ESE during April, 1994 have indicated that diesel fuel has been released to the soil at the west end of AGT-5.

ESE has been retained by the GSA to perform additional site investigative activities at the AGT-5 location. The objectives of the additional work described in this workplan are to:

- Determine the ground water gradient beneath the site; and
- Determine the approximate extent of the diesel plume in ground water beneath the site.

2.0 BACKGROUND

The GSA owned and operated two AGTs (AGT-1 and AGT-5) of 250-gallon-capacity and one UST (UST-2) of 500-gallon capacity at the site. The AGTs and the UST were of single-wall, carbon steel construction and their installation dates are reportedly unknown. Heating oil was reportedly stored in AGT-1 and diesel fuel was reportedly stored in AGT-5 and UST-2.

A Phase 1 Preliminary Site Assessment was performed by Harza Kaldveer Consulting Engineers (Harza Kaldveer) at the site during 1993 (Harza Kaldveer, 1993). Soil samples collected from one soil boring located approximately five feet west of AGT-5 were reported to contain concentrations of total petroleum hydrocarbons as diesel fuel (TPH-D), ranging from 1.5 to 1,900 parts per million (ppm), to a depth of 40-feet below grade.

Under permit from the HCSA and the Alameda County Fire Department, ESE directed the removal and disposal of the AGTs and UST on April 26, 1994. The ASTs and UST were noted to be in good condition based on visual observations made during removal. An AST/UST closure report dated June 8, 1994 (ESE, 1994a) was submitted to the HCSA.

A preliminary site investigation was conducted by ESE at the AGT-5 location on April 28 and 29, 1994. Results confirmed that diesel fuel had been released to the ground surface at that location and that the diesel plume had migrated downward through the unsaturated zone and has impacted the upper zone of ground water beneath the site. The approximate dimensions of the diesel plume in the unsaturated zone were defined during the preliminary site investigation and ESE has estimated the volume of impacted soil to be 200 cubic yards. These findings were documented in a site investigation report dated June 15, 1994 (ESE, 1994b) and submitted to the HCSA.

3.0 SITE INVESTIGATION

To accomplish the stated objectives of this investigation, ESE will perform a site investigation which includes drilling soil borings, collecting and analyzing soil samples, installing and developing ground water monitoring wells, sampling ground water, and preparing a site investigation report.

Prior to beginning work, ESE will obtain the necessary permits for installing four ground water monitoring wells at the site. In addition, ESE will review the existing site-specific Health and Safety Plan (HASP) with all onsite personnel, subcontractors, and qualified visitors. A copy the HASP was provided to the HCSA as Appendix A - Health and Safety Plan in a Workplan for Site Investigation dated April 7, 1994 (ESE, 1994c). All work to be performed by ESE at the site will be in accordance with Tri-Regional Water Quality Control Board guidelines (RWQCB, 1990) and other applicable State regulations and standards.

3.1 DRILLING AND SAMPLING

ESE will supervise Exploration Geoservices of San Jose, California in drilling and sampling four soil borings at the AST-5 location. Three borings (MW-1, MW-2, and MW-3) will be drilled at preselected locations (Figure 3 - Proposed Monitoring Well Locations). The selection of these boring locations is based on ESE's knowledge of the site and the HCSA's request to have one boring (MW-2) located within a 20-foot distance from the location of boring B2 (Figure 3) where the approximate center of the diesel plume in the unsaturated zone was identified during a previous investigation. The fourth boring will be drilled at a location on the downgradient side of the plume as determined by the installation of ground water monitoring wells in the first three borings and estimating local ground water gradient.

All soil borings will be drilled to a depth of 50-feet below grade. Depth to water at the site was observed to be 35 feet in April, 1994. Because the diesel fuel plume in the unsaturated zone was defined by ESE during the previous site investigation, soil samples will be collected only from

the zones of obvious petroleum hydrocarbon impact and the vadose-saturated zone interface. All soil samples will be logged by an ESE geologist according to the Unified Soil Classification System (USCS) and screened in the field for volatile organic compounds (VOCs) using a photoionization detector (PID). ESE will select a minimum of one soil sample from each boring (total of 4 samples) for analysis based on the results of field sample logging and screening. All drilling and sampling activities will be conducted in accordance with ESE Standard Operating Procedure (SOP) No. 1 for soil borings and soil sampling with hollow-stem augers in unconsolidated formations (Appendix A).

Soil samples will be labeled, placed in a cooler with ice, and transported under chain of custody documentation to McCampbell Analytical (a State-certified laboratory) of Pacheco, California. Each of the soil samples will be analyzed for TPH-D using EPA Method 8015 (modified per CA LUFT) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020 on a normal turnaround time basis.

All drill cuttings will be placed on and under heavy gauge plastic and left at the site pending receipt of analytical results. Decontamination rinsates will be placed in appropriately labeled, 55-gallon-capacity steel Department of Transportation (DOT)-rated drums and left at the site pending receipt of analytical results. The drummed liquids will be profiled and properly disposed/recycled by Integrated Wastestream Management (IWM) of Milpitas, California.

3.2 MONITORING WELL INSTALLATION AND SAMPLING

Ground water monitoring wells will be installed and developed in each of the three soil borings. ESE will install and develop four-inch diameter monitoring wells in soil borings MW-1, MW-2, and MW-3. Well installation and development will be conducted in accordance with ESE SOP No. 2 (Appendix A). The ESE geologist will then survey the elevation and location of the top of the three well casings referencing the nearest stable benchmark and will measure the depth to water in each well. Using these data, ESE can establish relative ground water elevations and, subsequently, estimate ground water flow direction and gradient in the field.

When the ground water flow direction is estimated, ESE will proceed to drill boring MW-4 and install and develop a fourth four-inch diameter ground water monitoring well. Well installation and development will be conducted in accordance with ESE SOP No. 2. The elevation and location of the top of the well casing will be surveyed by the ESE geologist.

ESE will monitor and sample ground water at the four new wells in accordance with ESE SOP No. 3 (Appendix A). ESE will monitor and sample each of the four wells during the initial site investigation and for a period of three additional quarters as approved by the HCSA. All ground water samples will be analyzed for TPH-D and BTEX using methods EPA 8015 (modified per CA LUFT) and EPA 8020, respectively. For sample handling QA/QC purposes, a travel blank will be supplied by the laboratory for the initial site investigation sampling event and during each subsequent quarterly sampling event. The travel blank will be analyzed for BTEX only. For laboratory QA/QC purposes, one duplicate ground water sample will be collected during the initial site investigation sampling event and during each subsequent quarterly sampling event and submitted to the laboratory as a blind sample for TPH-D and BTEX analysis using methods EPA 8015 (modified per CA LUFT) and EPA 8020, respectively.

Purge water and decontamination rinsates will be placed in appropriately labeled, 55-gallon-capacity steel DOT-rated drums and left at the site pending receipt of analytical results. The drummed liquids will be profiled and properly disposed/recycled by Integrated Wastestream Management (IWM) of Milpitas, California.

3.3 REPORT PREPARATION

ESE will prepare a technical site investigation report in accordance with Tri-Regional Water Quality Control Board guidelines (RWQCB, 1990). The report will describe all site investigation field activities performed by ESE, findings, conclusions, and recommendations, if applicable. The report will also include figures, boring logs, tables, and laboratory reports with chain of custody documents.

ESE will also prepare a monitoring report for each of the three subsequent quarters of ground water monitoring and sampling at the site. The quarterly reports will describe procedures used in the field during ground water monitoring and sampling and will present ground water elevation and analytical data in tabular and graphical form. Laboratory reports for ground water samples with chain of custody documents will be presented as appendices in each quarterly report.

3.4 ESTIMATED SCHEDULE

ESE proposes the following tentative schedule of activities:

Week 1 Install, develop, and survey the top of casing for all wells;

Week 2 Sample ground water in all wells and submit samples to laboratory for analysis;

Week 3 Receive analytical results from laboratory;

Week 4-5 Draft of Site Investigation Report submitted to GSA for review;

Week 6 Finalized copy of Site Investigation Report submitted to HCSA.

This proposed schedule is tentative and does not take into consideration any unexpected delays not caused by ESE or its subcontractors. ESE anticipates commencing fieldwork on December 12, 1994, pending receipt of verbal HCSA approval of this workplan.

4.0 REFERENCES

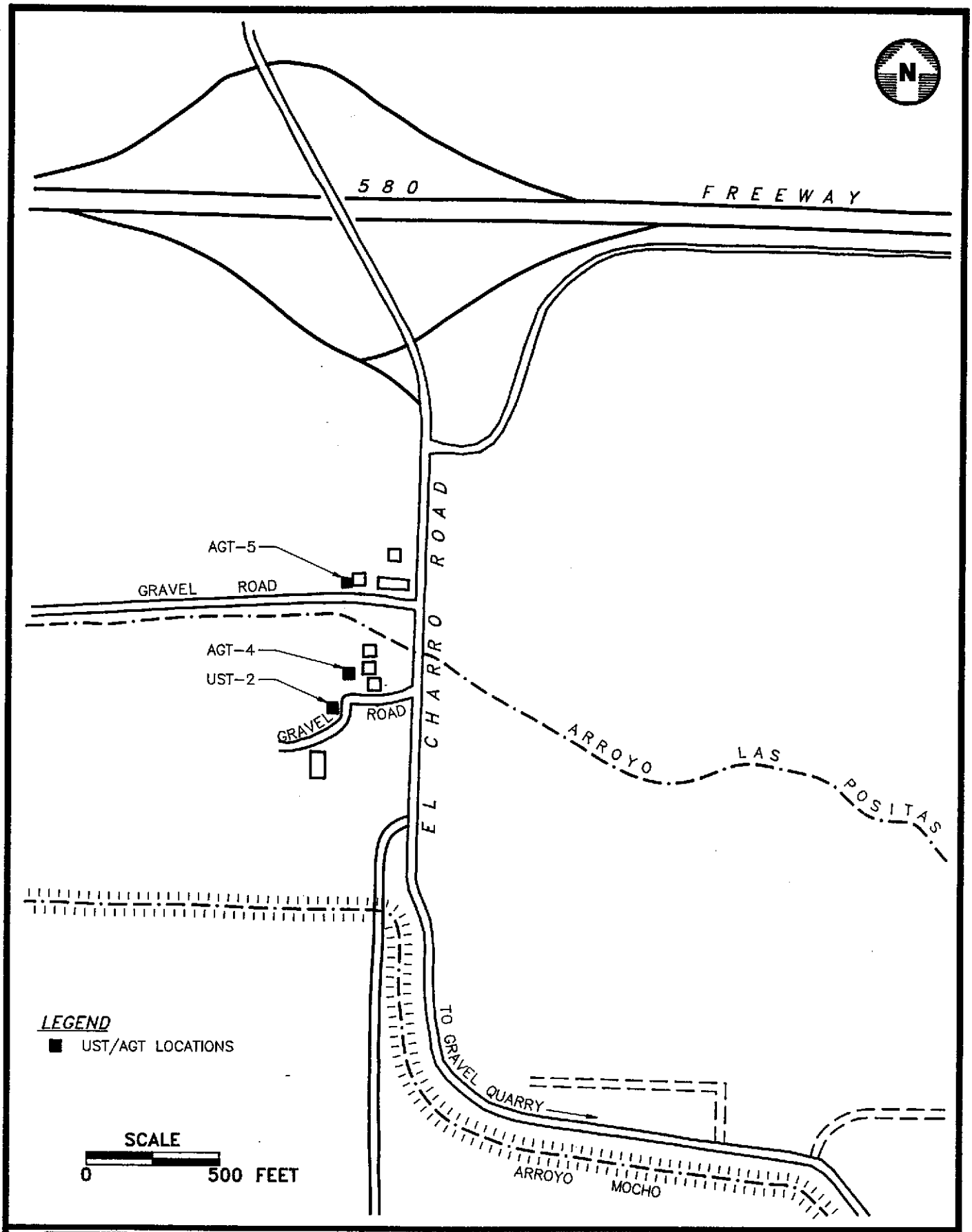
Environmental Science & Engineering, Inc. (ESE), 1994a. Unpublished UST/AGT Closure Report, Staples Ranch Site, El Charro Road, Pleasanton, California; June 8, 1994.

Environmental Science & Engineering, Inc. (ESE), 1994b. Site Assessment Report, Staples Ranch Site, El Charro Road, Pleasanton, California; May 31, 1994.

Environmental Science & Engineering, Inc. (ESE), 1994c. Workplan For Site Investigation, Staples Ranch Site, El Charro Road, Pleasanton, California; April 7, 1994.

Harza Kaldveer Consulting Engineers, 1993. Unpublished Phase I Preliminary Site Assessment Report For Proposed Community Park Site, Pleasanton, California; November 9, 1993.

RWQCB, 1990. Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites; August 10, 1990.



Environmental Science & Engineering, Inc. (A CILCORP Company) 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 4/94 REVISED CAD FILE 52281002	SITE MAP ALAMEDA COUNTY GENERAL SERVICES AGENCY STAPLES RANCH PROPERTY EL CHARRO ROAD, PLEASANTON, CALIFORNIA	FIGURE NO. 2 PROJ. NO. 6-94-5228

APPENDIX A

ESE STANDARD OPERATING PROCEDURES

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 1
FOR SOIL BORINGS AND SOIL SAMPLING WITH HOLLOW-STEM AUGERS IN UNCONSOLIDATED FORMATIONS

Environmental Science & Engineering, Inc. (ESE) typically drills soil borings using a truck-mounted, continuous-flight, hollow-stem auger drill rig. The drill rig is owned and operated by a drilling company possessing a valid State of California C-57 license. The soil borings are conducted under the direct supervision and guidance of an experienced ESE geologist. Prior to drilling, the ESE geologist will clear the borehole location with a hand auger to a depth of five feet. The ESE geologist logs each borehole during drilling in accordance with the Unified Soil Classification System (USCS). Additionally, the ESE geologist observes and notes the soil color, relative density or stiffness, moisture content, odor (if obvious) and organic content (if present). The ESE geologist will record all observations on geologic boring logs.

Soil samples are collected during drilling at a minimum of five-foot intervals by driving an 18-inch long Modified California Split-spoon sampler (sampler), lined with new, thin-wall brass sleeves, through the center of and ahead of the hollow stem augers, thus collecting a relatively undisturbed soil sample core. The brass sleeves are typically 2-inches in diameter and 6-inches in length. The sampler is driven by dropping a 140-pound hammer 30-inches onto rods attached to the top of the sampler. Soil sample depth intervals and the number of hammer blows required to advance the sampler each six-inch interval are recorded by the ESE geologist on geologic boring logs. The ends of one brass sleeve are covered with Teflon sheeting, then covered with plastic end caps. The end caps are sealed to the brass sleeve using duct tape. Each sample is then labeled and placed on ice in a cooler for transport under chain of custody documentation to the designated analytical laboratory. A portion of the remaining soil in the sampler is placed in either a new Ziploc® bag or a clean Mason Jar® and set in direct sunlight to enhance the volatilization of any Volatile Organic Compounds (VOCs) present in the soil. After approximately 15-minutes that sample is screened for VOCs using a photoionization detector (PID). The PID measurements will be noted on the geologic boring logs. The PID provides qualitative data for use in selecting samples for laboratory analysis. Soil samples from the saturated zone (beneath the ground-water table) are collected as described above, are not screened with the PID, and are not submitted to the analytical laboratory. The samples from the saturated zone are used for descriptive purposes. Soil samples from the saturated zone may be retained as described above for physical analyses (grain size, permeability and porosity testing).

If the soil boring is not going to be completed as a well, then the boring is typically terminated upon penetrating the saturated soil horizon or until a predetermined interval of soil containing no evidence of contamination is penetrated. This predetermined interval is typically based upon site specific regulatory or client guidelines. The boring is then backfilled using either neat cement, neat cement and bentonite powder mixture (not exceeding 5% bentonite), bentonite pellets, or a sand and cement mixture (not exceeding a 2:1 ratio of sand to cement). However, if the boring is to be completed as a monitoring well, then the boring is continued until either a competent, low estimated-permeability, lower confining soil layer is found or 10 to 15-feet of the saturated soil horizon is penetrated, whichever occurs first. If a low estimated-permeability soil layer is found, the soil boring will be advanced approximately five-feet into that layer to evaluate its competence as a lower confining layer, prior to the termination of that boring.

All soil sampling equipment is cleaned between each sample collection event using an Alconox® detergent and tap water solution followed by a tap water rinse. Additionally, all drilling equipment and soil sampling equipment is cleaned between borings, using a high pressure steam cleaner, to prevent cross-contamination. All wash and rinse water is collected and contained onsite in Department of Transportation approved containers (typically 55-gallon drums) pending laboratory analysis and proper disposal/recycling.

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 2
FOR MONITORING WELL INSTALLATION AND DEVELOPMENT
PAGE 1

Environmental Science & Engineering, Inc. (ESE) typically installs ground-water monitoring wells in unconsolidated sediments drilled using a truck-mounted hollow-stem auger drill rig. The design and installation of all monitoring wells is performed and supervised by an experienced ESE geologist. Figure A - Typical ESE Monitoring Well Construction Diagram (attached) graphically displays a typical ESE well completion. Prior to the construction of the well, the portion of the borehole that penetrates a lower confining layer (if any) is filled with bentonite pellets. The monitoring well is then constructed by inserting polyvinylchloride (PVC) pipe through the center of the hollow stem augers. The pipe (well-casing) is fastened together by joining the factory threaded pipe ends. ESE typically uses two-inch or four-inch diameter pipe for ground-water monitoring wells. The diameter of the borehole is typically 6-inches greater than that of the diameter of the well-casing, but is at least four-inches greater than that of the well casing. The lowermost portion of the well-casing will be factory perforated (typically having slot widths of 0.010-inch or 0.020-inch). The slotted portion of the well-casing will extend from the bottom of the boring up to approximately five-feet above the occurrence of ground water. A PVC slip or threaded cap will be placed at the bottom end of the well-casing, and a locking expandable well cap will be placed over the top (or surface) end of the well-casing. A sand pack (typically No. 2/12 or No. 3 Monterey sand) will be placed in the borehole annulus, from the bottom of the well-casing up to one to two-feet above the top of the slotted portion, by pouring the clean sand through the hollow stem augers. One to two-feet of bentonite pellets will be placed on top of the sand pack. The bentonite pellets will then be hydrated with three to four-gallons of potable water, to protect the sand pack from intrusion during the placement of the sanitary seal. The sanitary seal (grout) will consist of either neat cement, a neat cement and bentonite powder mixture (containing no more than 5% bentonite), or a neat cement and sand mixture (containing no more than a 2:1 sand to cement ratio). If, the grout seal is to be greater than 30-feet in depth or if standing water is present in the boring on top of the bentonite pellet seal, then the grout mixture will be tremied into the boring from the top of the bentonite seal using either a hose, pipe or the hollow-stem augers, which serve as a tremie. The well will be protected at the surface by a water tight utility box. The utility box will be set into the grout mixture so that it is less than 0.1-foot above grade, to prevent the collection of surface water at the well head. If the well is set within the public right of way, then the utility box will be Department of Transportation (DOT) traffic rated, and the top of the box will be set flush to grade. If the well is constructed in a vacant field a brightly painted metal standpipe may be used to protect the well from traffic. If a standpipe is used, it will be held in place with a grout mixture and will extend one to two-feet above ground surface. All well completion details will be recorded by the ESE geologist on the geologic boring logs.

Subsequent to the solidification of the sanitary seal of the well (a minimum of 72 hours), the new well will be developed by an ESE geologist or field technician. Well development will be performed using surging, bailing and overpumping techniques. Surging is performed by raising and lowering a surge block through the water column within the slotted interval of the well casing. The surge block utilized has a diameter just smaller than that of the well casing, thus, forcing water flow through the sand pack due to displacement and vacuum caused by the movement of the surge block. Bailing is performed by lowering a bailer to the bottom of the well and gently bouncing the bailer off of the well end cap, then removing the full bailer and repeating the procedure. This will bring any material (soil or PVC fragments) that may have accumulated in the well into suspension for removal. Overpumping is performed by lowering a submersible pump to the bottom of each well and pumping at the highest sustainable rate without completely evacuating the well casing. Effective well development will settle the sand pack surrounding the well-casing, which will improve the filtering properties of the sand pack and allow water to flow more easily through the sand pack; improve the communication between the aquifer and the well by aiding the removal of any smearing of fine sediments along the borehole penetrating the aquifer; and, remove fine sediments and any foreign objects (PVC fragments) from the well casing. The ESE geologist or technician will monitor the ground water purged from the well during development for clarity, temperature, pH and conductivity. Development of the well will proceed until the well produces relatively clear, sand-free water with stable temperature, pH and conductivity measurements. At a minimum, 10 well-casing volumes of ground water will be removed during the development process. Measurements of temperature, conductivity, pH and volume of the purged water and observations of purge water clarity and sediment content will be recorded on the ESE Well Development Data Forms. All equipment

used during the well development procedure will be cleaned using an Alconox® detergent and tap water solution followed by a tap water rinse prior to use in each well. All ground water purged during the well development process and all equipment rinse water will be collected and contained onsite in DOT approved containers (typically 55-gallon drums) pending analytical results and proper disposal or recycling.

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 3
FOR GROUND-WATER MONITORING AND SAMPLING FROM MONITORING WELLS

Environmental Science & Engineering, Inc. (ESE) typically performs ground-water monitoring at project sites on a quarterly basis. As part of the monitoring program an ESE staff member will first gauge the depth to water and free product (if present) in each well, then collect ground-water samples from each well. Depth to water measurements are taken by lowering an electric fiberglass tape measure into the well and recording the occurrence of water in feet below a fixed datum set on the top of the well-casing. If free-phase liquid hydrocarbons (free product) are known or suspected to be present in the well, then an electric oil/water interface probe is used to determine the depth to the occurrence of ground-water and the free product in feet below the fixed datum on the top of the well-casing. Depth to water and depth to product measurements are measured and recorded within an accuracy of 0.005-foot. The electric tape and the electric oil/water interface probe are washed with an Alconox® detergent and tap water solution then rinsed with tap water between uses in different wells.

Ground-water samples are collected from a well subsequent to purging a minimum of three to four well-casing volumes of ground water from the well, if the well bails dry prior to the removal of the required minimum volume, then the samples are collected upon the recovery of the ground water in that well to 80% of its initial static level. Ground water is typically purged from monitoring wells using either a hand-operated positive displacement pump, constructed of polyvinylchloride (PVC); a new (precleaned), disposable polyethylene bailer; or, a variable-flow submersible pump, constructed of stainless steel and Teflon®. The hand pumps and the submersible pumps are cleaned between each use with an Alconox® detergent and tap water solution followed by a tap water rinse. During the well purging process the conductivity, pH and temperature of the ground water are monitored by the ESE staff member. Ground-water samples are collected from the well subsequent to the stabilization of the of the conductivity, pH and temperature of the purge water, and the removal of four well-casing volumes of ground-water (unless the well bails dry). The parameters are deemed to have stabilized when two consecutive measurements are within 10% of each other, for each respective parameter. The temperature, pH, conductivity and purge volume measurements, and observations of water clarity and sediment content will be documented by the ESE staff member on ESE Ground-Water Sampling Data Forms.

Ground-water samples are collected by lowering a new (precleaned), disposable polyethylene bailer into the well using new, disposable nylon cord. The filled bailer is retrieved, emptied, then filled again. The ground water from this bailer is decanted into appropriate laboratory supplied glassware and/or plastic containers (if sample preservatives are required, they are added to the empty containers at the laboratory prior to the sampling event). The containers are filled carefully so that no headspace is present to avoid volatilization of the sample. The filled sample containers are then labeled and placed in a cooler with ice for transport under chain of custody documentation to the designated analytical laboratory. The ESE staff member will document the time and method of sample collection, and the type of sample containers and preservatives (if any) used. These facts will appear on the ESE Ground-Water Sampling Data Forms. ESE will collect a duplicate ground-water sample from one well for every ten wells sampled at each site. The duplicate will be a blind sample (its well designation will be unknown to the laboratory). The duplicate sample is for Quality Assurance and Quality Control (QA/QC) purposes, and provides a check on ESE sampling procedures and laboratory sample handling procedures. When VOCs are included in the laboratory analyses, ESE will include a trip blank, if required, in the cooler with the ground-water samples for analysis for the identical VOCs. The trip blank is supplied by the laboratory and consists of deionized water. The trip blank is for QA/QC purposes and provides a check on both ESE and laboratory sample handling and storage procedures. Since disposable bailers are used for sample collection, and are not reused, no equipment blank (rinsate) samples are collected.