General Services Agency

Darlene A. Smith, Director

January 3, 1995

Mr. Scott Seery, CHMM
Senior Hazardous Materials Specialist
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, California 94502

SUBJECT: SITE ASSESSMENT REPORT, ALAMEDA COUNTY UST 1, 2, 3 SITE, SANTA RITA CORRECTIONAL FACILITY, DUBLIN, CALIFORNIA

Dear Mr. Seery:

Enclosed for your review is one copy of the *December 21, 1994 Site Assessment Report, Alameda County UST 1,2,3 Site, Santa Rita Correctional Facility, Dublin, California.* This report was prepared by Environmental Science & Engineering, Inc., environmental consultant for the project.

Please note that the site assessment report states the following:

- No soil samples taken for the site characterization study were reported to contain detectable concentrations of TPH-D, TOG, or BTEX.

- No ground water samples collected from the site monitoring wells were reported to contain detectable concentrations of TPH-D, TOG, and BTEX.

Therefore, we plan to continue ground water monitoring for three additional quarters. Assuming the results remain below the Maximum Contaminant Levels for drinking water, the County of Alameda will request site closure for the UST 1, 2, 3 Site.

Engineering & Environmental Management Department
1401 Lakeside Drive, 11th Floor, Oakland, California 94612
Telephone (510) 208-9525 • FAX (510) 208-9530

If you have any questions, please call me at (510) 208-9521. I appreciate your continued cooperation and advice. I look forward to our continued excellent working relationship on this exciting project.

Sincerely,

Andrew B. Garcia, REA
Environmental Project Manager

enclosure

cc: Mr. Bart Miller, Environmental Science & Engineering, Inc.

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File: 93-7055, Bldg. 2282

SITE ASSESSMENT REPORT
ALAMEDA COUNTY
UST 1, 2, 3 SITE
SANTA RITA CORRECTIONAL FACILITY
DUBLIN, CALIFORNIA

(ESE PROJECT #6-94-5240)

PRESENTED TO:

ALAMEDA COUNTY
GENERAL SERVICES AGENCY
ENGINEERING AND ENVIRONMENTAL
MANAGEMENT DEPARTMENT
1401 LAKESIDE DRIVE
OAKLAND, CALIFORNIA 94612

PREPARED BY:

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

DECEMBER 21, 1994

ESE
A CILCORP Company

This site assessment report 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 the site known as the UST 1, 2, 3 Site located at the Santa Rita Correctional Facility in Dublin, California. This report 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 report.

REPORT PREPARED BY:

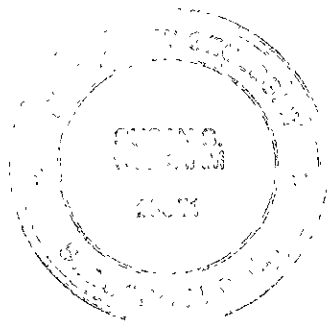
Bart S. Miller
Project Geologist

12/21/94
Date

UNDER THE PROFESSIONAL REVIEW AND SUPERVISION OF:

Susan S. Wickham
Senior Geologist
Registered California Geologist No. 3851

12/21/94
Date



December 21, 1994

ESE Project No. 6-94-5240

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SITE ASSESSMENT REPORT
UST 1, 2, 3 SITE
SANTA RITA CORRECTIONAL FACILITY
DUBLIN, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of a site assessment conducted by Environmental Science & Engineering, Inc. (ESE) for the Alameda County General Services Agency, Engineering and Environmental Management Department (County) at the UST 1, 2, 3 Site ("site") on August 24, 25, 26, and September 6, 1994 (Figure 1 - Location Map). ESE submitted a workplan dated June 24, 1994 to the County and the Alameda County Health Care Services Agency (HCSA) describing the tasks to be performed during this site assessment (ESE, 1994a).

The primary objective of the site assessment was to determine if petroleum hydrocarbons occur in the soil adjacent to the former underground storage tanks (USTs) identified as USTs 1, 2, and 3. If detected, secondary objectives included the identification of potential migration routes in the unsaturated zone and the estimation of the volume of soil potentially impacted with petroleum hydrocarbons. Other objectives of the site assessment were to determine the approximate depth to ground water and identify whether petroleum hydrocarbons have impacted the local ground water.

Site history, regional geology and regional hydrology, methods for sampling and testing, and results are described in the following sections. In addition, this report also discusses the findings of this assessment and provides recommendations for future site activities.

2.0 SITE HISTORY

In March, 1988, Environmental Technology directed the removal of three USTs at the site under permit from the HCSA and the Dougherty Regional Fire Authority. The site consisted of one 3,000-gallon capacity UST (UST 1) for the storage of diesel fuel and two 5,000-gallon capacity USTs (UST 2 and UST 3) for the storage of Bunker C fuel oil. The fuels were used to operate a series of boilers formerly located at the site. Each UST was of single-wall carbon steel construction. The County has indicated that the USTs may have been abandoned during the mid 1950's.

During the removal of the USTs, the HCSA witnessed the collection of eight soil samples from the base of the excavation. All samples were analyzed for total petroleum hydrocarbons as diesel fuel (TPH-D) and gasoline (TPH-G) using EPA Method 8015 (modified per CA LUFT) and total oil and grease (TOG) using Standard Method for the Examination of Water and Waste Water (SMWW) Method 503E. Four samples were reported to contain detectable concentrations of TPH-D ranging from 25 to 15,500 parts per million (ppm) and two samples were reported to contain TPH-G concentrations of 50 ppm and 195 ppm, respectively. All eight samples were reported to contain detectable concentrations of TOG ranging from 6 to 1,097 ppm.

A preliminary site assessment was performed by Gregg & Associates on March 22, 1988 to determine the areal extent of soil impacted with petroleum hydrocarbons. One soil sample was collected at a depth of 15 feet from each of the four borings (1C, 3D, 3E, and 3F) drilled during the preliminary site assessment and analyzed for TPH-D. No detectable concentrations of TPH-D were reported in the four samples. Detectable concentrations of TOG were reported for each sample and ranged from 22 to 42 ppm. Based on these findings, Gregg & Associates supervised the overexcavation of soil impacted with petroleum hydrocarbons on March 31, 1988 (outline of excavated area shown on Figure 2 - Ground Water Elevation Map).

On November 3, 1993, ESE measured and mapped the stockpiled soil at the subject site. ESE estimated the total volume of the stockpiled soil at the site to be approximately 400 cubic yards.

On November 24, 1993, ESE submitted a workplan to the HCSA for sampling the stockpiled soil (ESE, 1993a). Subsequently, ESE collected soil samples from the stockpile on November 30, 1993 at a frequency of one sample for every 50 cubic yards and analyzed each for TPH-D and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8015 (modified per CA LUFT) and EPA Method 8020, respectively. Of the eight soil samples analyzed, one sample was reported to contain TPH-D at a concentration of 130 ppm. All other samples were reported to not contain detectable concentrations of TPH-D and BTEX. Results of the stockpile sampling were presented to the HCSA in a letter report dated December 7, 1993 (ESE, 1993b). On May 11, 1994, ESE supervised the loading, hauling, and disposal of the 50 cubic yards of stockpiled soil reported to contain detectable concentrations of TPH-D (ESE, 1994b). The impacted soil was hauled to the BFI-Vasco Road landfill for disposal. The remaining ~350 cubic yards of stockpiled soil were spread at the site on the ground surface.

36 yds^3 ?

3.0 REGIONAL GEOLOGY AND REGIONAL HYDROLOGY

3.1 REGIONAL GEOLOGY

The site is located within the Coast Ranges geomorphic province (Norris and Webb, 1976) at the northern boundary of the Livermore Valley depression, located midway between the southern part of San Francisco Bay and the San Joaquin Valley. The Livermore Valley is approximately 13 miles long in an east-west direction and approximately 4 miles wide and is completely surrounded by hills of the Diablo Range.

The Livermore Valley fill materials are comprised of alluvial sediments of Quaternary age (DWR, 1974). Alluvium of Pleistocene to Holocene age has been deposited in the gently sloping central area of the Livermore Valley and adjacent to active streams in the ravines and canyons tributary to Livermore Valley. The alluvium consists of unconsolidated deposits of interbedded clay, silt, fine sand, and lenses of clayey gravel. These sediments are approximated to be up to 200 feet in thickness and overlie sedimentary rocks of the Livermore Formation and the Tassajara Formation. Fine-grained alluvial fan deposits occur along the northern side of the Livermore Valley. These deposits consist of stratified beds of clay, silt, and sand, and were formed by deposition from streams draining upland areas composed of sandstone and shale of the Tassajara Formation.

The Livermore Valley is bisected by six major faults or fault groups and at least five other faults of a more local nature (DWR, 1974). The major faults are the Carnegie, Tesla, Mocho, Livermore, Pleasanton, and Calaveras Faults. The minor faults include the Parks, Verona, and several unnamed faults. The site is located on a downdropped block of land bounded by the Mocho Fault to the north, the Parks Fault to the south, and the Pleasanton Fault to the east.

3.2 REGIONAL HYDROLOGY

The water-bearing sediment series in the Livermore Valley can be described as multi-layered systems having an unconfined upper aquifer over a sequence of leaky or semi-confined aquifers (DWR, 1974). Ground water in the valley moves downslope toward the longitudinal axis of the

valley and then in a generally westerly direction toward the Bernal sub-basin. Here the various ground waters of the basin commingle and move in a southerly direction into the Sunol Valley ground water basin. The central and western portions of the Livermore Valley contain the greatest amount of valley fill materials and produce the largest quantities of irrigation water.

Faults and lateral variations in thickness and permeability of aquifer materials cause restrictions to the horizontal movement of ground water (DWR, 1974). Restrictions to the vertical movement of ground water within the valley are due to separations between the two water-bearing units, the valley fill materials and the Livermore Formation. Each formation has different permeabilities and internal stratification within each unit. Hydraulic continuity between the two water-bearing units is limited to areas where the Livermore Formation is in direct contact with overlying stream channel deposits and where wells penetrate both the valley fill materials and the Livermore Formation, thereby allowing some degree of interconnection. The degree of hydraulic continuity between sub-basins is mainly controlled by faulting.

The site is situated within a relatively flat, alluviated lowland portion of the Livermore Valley referred to as the Camp Sub-basin (DWR, 1974). The Camp Sub-basin covers an approximate area of 2,850 acres and is the sub-basin in which the site is located. The sub-basin is drained by the Tassajara Creek and the Cottonwood Creek, which enter from the hills to the north, cross the sub-basin along a southerly course, and flow into the Amador Sub-basin. Unconfined to semi-confined ground waters occur in varying amounts throughout the Camp Sub-basin and have a combined potentiometric surface between approximately 10 to 25 feet below grade. The potentiometric surface has been reported by the State of California Department of Water Resources (1974) to slope in a southerly direction with a gradient of approximately 70 feet per mile.

Ground water in the Camp Sub-basin occurs in beds of sandy clay and sandy gravel which overlie the Tassajara Formation (DWR, 1974). These water-bearing zones dip gently to the south at an angle of approximately three degrees. Ground water in this sub-basin has been classified as a sodium carbonate water of irrigation quality and is not considered a source of potable water.

4.0 FIELD METHODOLOGY

Prior to beginning fieldwork, ESE obtained all necessary permits for drilling soil borings at the site. In addition, ESE reviewed the site specific Health and Safety Plan (HASP) prepared for this investigation with all onsite personnel, subcontractors, and qualified visitors. ESE performed all fieldwork in accordance with Tri-Regional Water Quality Control Board guidelines (RWQCB, 1990) and other applicable State regulations and standards.

4.1 SOIL BORING AND SOIL SAMPLE COLLECTION

ESE supervised the drilling and sampling of four soil borings (MW1, MW2, MW3, and MW4) at locations surrounding the former UST excavation (Figure 2). Drilling activities were performed by Exploration Geoservices, Inc. (EGI) of San Jose, California using a mobile B-61 hollow-stem auger drill rig. Soil samples were collected at five-foot intervals, at distinct lithologic contacts, and, if present, at zones of obvious petroleum hydrocarbon impact. Soil boring and sampling was 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 - ESE SOP No. 1).

All borings were drilled to a depth of 50 feet below grade. Water saturation was observed at a depth of approximately 35 feet below grade in all borings. All boring logs are presented as Appendix B.

A total of 24 soil samples were collected and placed in a cooler with ice and transported under chain of custody documentation to McCampbell Analytical, Inc. (a State-certified laboratory) of Pacheco, California. These samples were selected for analysis based on field observations and preliminary screening for relative volatile organic compound (VOC) vapors utilizing a photoionization detector (PID). All soil samples were analyzed for TPH-D using EPA Method 8015 (modified per CA LUFT), TOG using SMWW 5520, and BTEX using EPA Method 8020.

4.2 GROUND WATER MONITORING WELL INSTALLATION AND SAMPLING

ESE installed a total of four ground water monitoring wells (MW1, MW2, MW3, and MW4) at the site during this investigation. The installation and development of each well was conducted in accordance with ESE SOP No. 2 (Appendix A - ESE SOP No. 2). The wells were constructed of four-inch diameter polyvinyl chloride (PVC) casing with a slotted interval extending from 30 feet to 50 feet below ground surface. Well completion summaries are presented in Appendix B.

Utilizing the nearest benchmark, Cunha Engineering, Inc. of Pinole, California (licensed surveyors) conducted a horizontal and vertical survey of the site. The survey recorded the top of well casing elevations relative to mean sea level and the location of numerous other site features, as requested by ESE. This survey provided ESE the information required to calculate ground water elevations relative to mean sea level, generate an accurate site map, and accurately estimate ground water flow direction and gradient.

ESE monitored ground water levels and collected one ground water sample from each site well (MW1, MW2, MW3, and MW4) and one duplicate ground water sample from well MW1 (Appendix C - Sample Collection Logs). All monitoring and sampling was conducted in accordance with ESE SOP No. 3 (Appendix A - ESE SOP No. 3). Ground water samples were analyzed for TPH-D using EPA Method 8015 (modified per CA LUFT), TOG using SMWW 5520, and BTEX using EPA Method 8020. A travel blank was supplied by the laboratory for quality assurance/quality control (QA/QC) purposes. The travel blank consisting of deionized water was analyzed for BTEX only and serves as a check on ESE's sampling handling and transport procedures. The duplicate ground water sample was submitted to the laboratory as a blind sample for TPH-D, TOG, and BTEX analyses, and serves as a QA/QC check on the laboratory's analytical procedures.

4.3 WASTE MANAGEMENT

As a result of these site activities, various waste materials were generated. These wastes include soil as drill cuttings from the boring activities, rinsates from the decontamination of drilling and sampling equipment, and purge water. All soil was stockpiled on plastic adjacent to the

respective boring pending receipt of analytical results and proper disposal. One 55-gallon-capacity, Department of Transportation (DOT)-rated steel drums containing rinsates and purge water were also generated at each well (total of four) by ESE during this fieldwork and left at the site pending receipt of analytical results and authorization from the County to properly dispose of the materials.

5.0 RESULTS OF INVESTIGATION

5.1 SOIL

Sediments in the unsaturated zone at the site are comprised of an interbedded sequence of sand, silt, and clay (Appendix B). Water saturation was detected in all borings at a depth interval of 34.5 to 35 feet below grade. Sample screening with a PID indicated no reportable concentrations of VOCs in soil samples collected from the soil borings (Appendix B). Consistent with these observations, no soil samples were reported to contain detectable concentrations of TPH-D, TOG, or BTEX (Appendix D - Analytical Reports with Chain of Custody Reports).

5.2 GROUND WATER

Ground water was estimated to flow toward the north-northeast at a gradient of approximately 0.002 foot per foot (Figure 2). No ground water samples collected from the site wells were reported to contain detectable concentrations of TPH-D, TOG, and BTEX (Appendix D).

6.0 RECOMMENDATIONS

Based on the results of this field investigation at the UST 1, 2, 3 site, ESE recommends the following:

- Three additional quarters of ground water monitoring be performed at the site prior to requesting site closure from the HCSA. The data collected during these three additional quarters will provide sufficient site history for the HCSA to grant closure when requested by County.

- Upon approval of site closure, the ground monitoring wells should be properly abandoned.

7.0 REFERENCES

Environmental Science & Engineering, Inc. (ESE), 1993a. Workplan for Soil Stockpile Sampling, Alameda County General Services Agency (GSA), UST 1, 2, 3 Site; November 24, 1993.

Environmental Science & Engineering, Inc. (ESE), 1993b. Report of Soil Stockpile Sampling, Alameda County General Services Agency (GSA), UST 1, 2, 3 Site; December 7,1993.

Environmental Science & Engineering, Inc. (ESE), 1994a. Workplan for Site Investigation, Alameda County General Services Agency (GSA), UST 1, 2, 3 Site; June 24, 1994.

Environmental Science & Engineering, Inc. (ESE), 1994b. Report of Stockpiled Soil Spreading and Disposal, Alameda County General Services Agency (GSA), UST 1, 2, 3 Site; June 20, 1994.

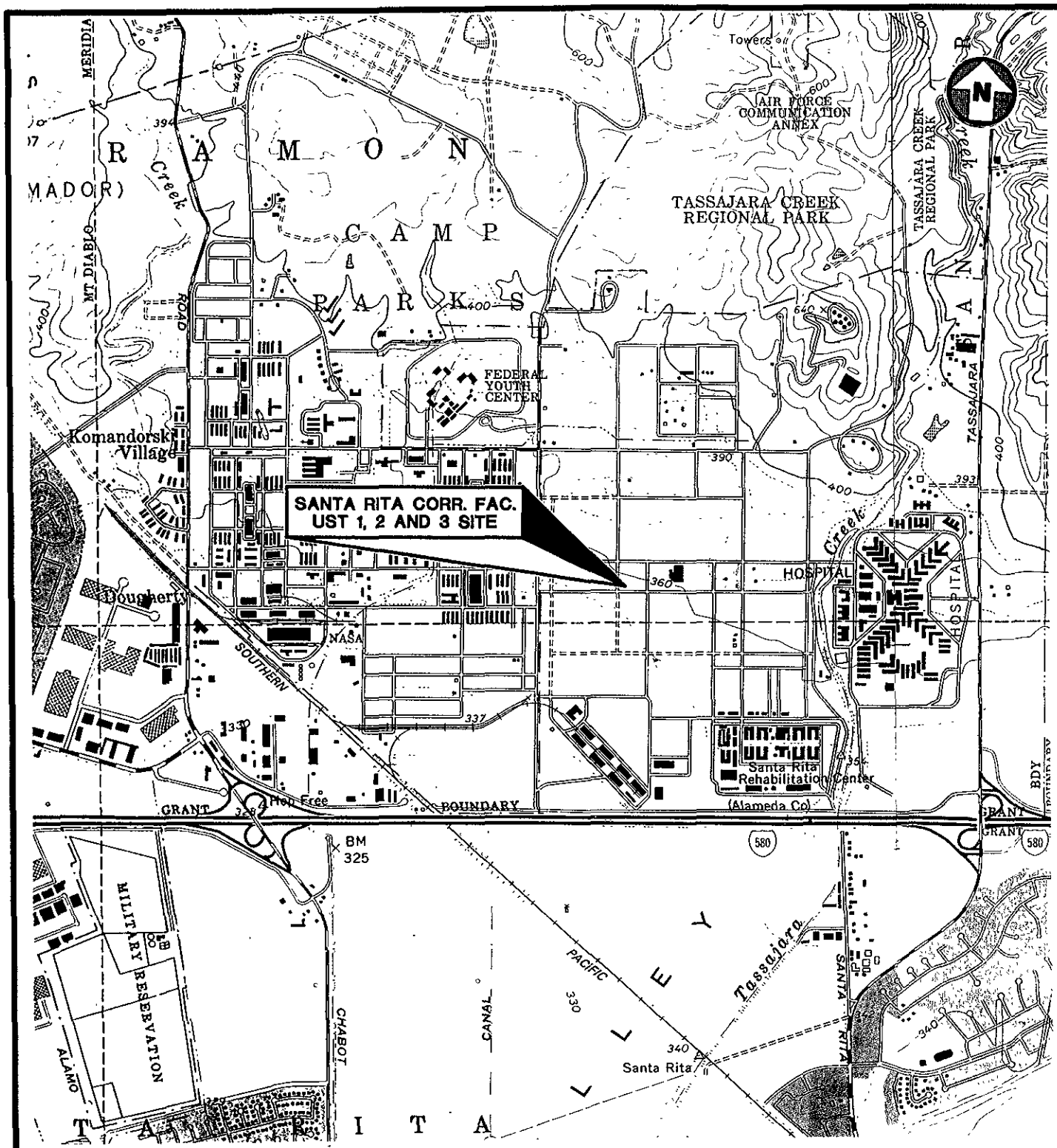
Gregg & Associates, Inc., 1988. Underground Tank Removal and Site Remediation Report; May, 1988.

Norris, R.M., and Webb, R.W., 1976. Geology of California; John Wiley & Sons, Inc., New York. 365pp.

State of California Department of Water Resources (DWR), 1974. Evaluation of Ground Water Resources: Livermore and Sunol Valleys; Bull. 118-2, pp.153.

State of California Regional Water Quality Control Board (RWQCB), 1990. Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites; August 10, 1990.

FIGURES



SCALE 1:24,000

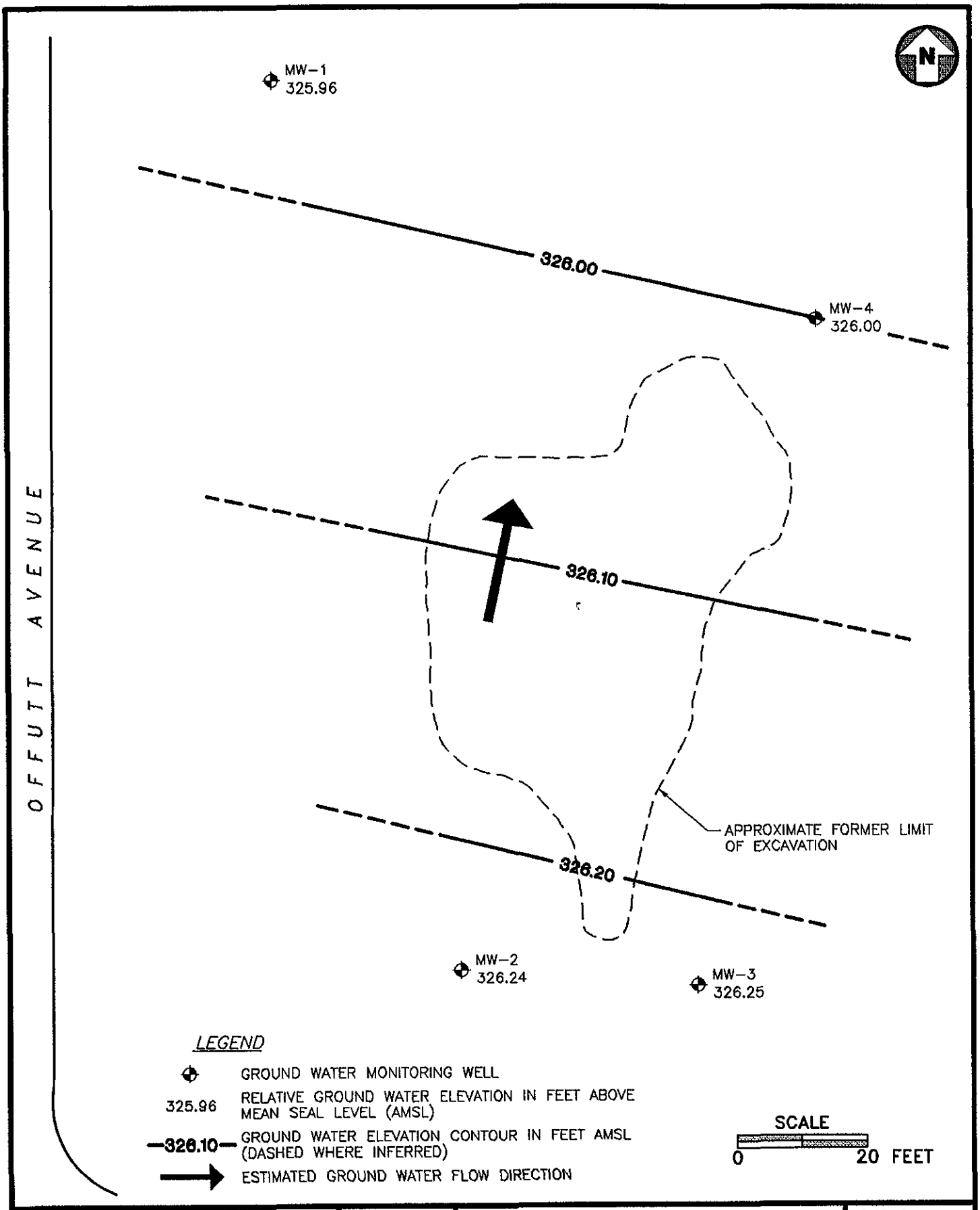
1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

ADAPTED FROM U.S.G.S. DUBLIN AND LIVERMORE, CALIFORNIA, 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAPS, 1980.

Environmental Science & Engineering, Inc. A CECOR Company	DATE 11/23/94 REVISED	LOCATION MAP	FIGURE NO. 1
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 52400005	ALAMEDA COUNTY – UST 1,2,3 SITE SANTA RITA CORRECTIONAL FACILITY DUBLIN, CALIFORNIA	PROJ. NO. 6-94-5240



Environmental Science & Engineering, Inc. A CB&I Company	DATE 11/23/94 REVISED	GROUND WATER ELEVATION MAP SEPTEMBER 6, 1994	FIGURE NO. 2
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 52400004	ALAMEDA COUNTY – UST 1,2,3 SITE SANTA RITA CORRECTIONAL FACILITY DUBLIN, CALIFORNIA	PROJ. NO. 6-94-5240

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.

APPENDIX B
BORING LOGS

Environmental Science & Engineering, Inc.
A CILCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

MW-1

Page 1 of 2

WELL COMPLETION

Completion Depth: 50 Feet

Size/Type	From	To
Casing: 4" Diam. Blank PVC	0 Feet	30.0 Feet
Screen: 4" Diam Slotted (0.020") PVC	30 0 Feet	50.0 Feet
Filter: #3 Sand	28.0 Feet	50.0 Feet
Seal: Bentonite	26.5 Feet	28.0 Feet
Grout	0 Feet	26.5 Feet

Well Cap or Box: 5' Square Stand Pipe

Project Name: Alameda County GSA Project No: 6-94-5240

Location: UST 1, 2 & 3
Santa Rita Correctional Facility
Dublin, California

Driller: Exploration Geoservices, Inc.
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Jason Garrison

Dates:
Start: 8-26-94
Finish: 8-26-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
0	FILL						
	SILTY CLAY, dark brown, stiff, damp, 10-20% silts, no odor	CL					
5	SANDY CLAY, light brown, stiff, 10-20% fine grained sand.	CL	5, 9, 13			0	SAMPLE MW-1-5' @ 09.20
10	SANDY CLAY, light brown, stiff, damp, 10-20% fine grained sand, no odor.	CL	5, 14, 20			0	SAMPLE MW-1-10' @ 09.40
15	SILTY SANDY CLAY, light brown with white stringers, very stiff, damp, 10-20% fine grained sand/silt, no odor.	CL	12, 20, 35			0.1	SAMPLE MW-1-15' @ 09:50
20	CLAY, light brown, stiff, damp, no odor.	CL	12, 15, 23			0	SAMPLE MW-1-20' @ 10:10
	SILTY SAND, light brown, stiff, 30-40% very fine sands, no odor	SM					
25	SILTY SANDY CLAY, light brown, stiff, damp, 10-20% very fine sand/silt, no odor.	CL	8, 12, 20			0	SAMPLE MW-1-25' @ 10 30
30	SILTY CLAY, light brown, stiff, damp, 10-20% silts, no odor.	CL	8, 11, 15			0.3	SAMPLE MW-1-30' @ 10.45
35							

Environmental Science & Engineering, Inc.

A CILCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

MW-1

WELL COMPLETION

Completion Depth:

Size/Type	From	To

Casing:
Screen: **See Page 1**
Filter:
Seal:

Well Cap or Box:

Project Name: Alameda County GSA Project No: 6-94-5240
Location: UST 1, 2 & 3
Santa Rita Correctional Facility

Driller: Exploration Geoservices, Inc
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Jason Garrison

Dates:
Start: 8-26-94
Finish: 8-26-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
35	SANDY CLAY, light brown, stiff, wet, 10-20% fine sands, no odor.	CL	8 18 23				Water @ 35 feet.
40	As above						
45	As above.						
50	As above.						TOTAL DEPTH = 50 FEET
55							
60							
65							
70							

REGISTERED GEOLOGIST
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#3351
STATE OF CALIFORNIA

Environmental Science & Engineering, Inc.
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BORING LOG AND WELL COMPLETION SUMMARY

MW-2

Page 1 of 2

WELL COMPLETION

Completion Depth: 50 Feet

	Size/Type	From	To
Casing:	4" Diam. Blank PVC	0 Feet	30.0 Feet
Screen:	4" Diam. Slotted (0.020") PVC	30.0 Feet	50.0 Feet
Filter:	#3 Sand	28.0 Feet	50.0 Feet
Seal:	Bentonite	26.5 Feet	28.0 Feet
	Grout	0 Feet	26.5 Feet

Well Cap or Box: 5' Square Stand Pipe

Project Name: Alameda County GSA Project No: 6-94-5240

Location: UST 1, 2 & 3
Santa Rita Correctional Facility
Dublin, California

Driller: Exploration Geoservices, Inc.
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-25-94
Finish: 8-25-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
0	FILL						
	SILTY CLAY, dark brown, stiff, 10-20% silts, damp, no odor.	CL					
5	SANDY CLAY, light brown, stiff, damp, 10-20% fine to medium sand, no odor.	CL	7 8 9			1.2	SAMPLE MW-2-6' @ 07:55
10	As above.	CL	9 10 11			2.8	SAMPLE MW-2-11' @ 08:05
15	SILTY SANDY CLAY, light brown, stiff, damp, 10-20% fine sand/silt, no odor	CL	4 6 10			0.5	SAMPLE MW-2-16' @ 08:15
20	CLAY, light brown with white stringers, stiff, damp, no odor.	CL	11 12 13				SAMPLE MW-2-21' @ 08:25
25	SILTY SAND, light brown, dense, damp, 10-20% silts, very fine sand, no odor.	SM	3 5 7			1.0	SAMPLE MW-2-26' @ 08:45
	SANDY CLAY, light brown, stiff, damp, 30-40% very fine sand, no odor.	CL					
30	SILTY CLAY, light brown, stiff, damp, 10-20% silt, no odor.	CL	7 9 12			1.1	SAMPLE MW-2-31' @ 08:55
35							Water @ 34.5 feet

Environmental Science & Engineering, Inc.
A CALCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

MW-2

Page 2 of 2

WELL COMPLETION

Completion Depth:

Size/Type	From	To
Casing:		
Screen:	See Page 1	
Filter:		
Seal:		

Well Cap or Box:

Project Name: Alameda County GSA Project No: 6-94-5240
Location: UST 1, 2 & 3
Santa Rita Correctional Facility

Driller: Exploration Geoservices, Inc
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-25-94
Finish: 8-25-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
35	SANDY CLAY, light brown, stiff, wet, 10-20% fine sands, no odor.	CL					
40	As above	CL					
45	As above.	CL					
50	As above	CL					TOTAL DEPTH = 50 FEET
55							
60							
65							
70							

REGISTERED GEOLOGIST
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Environmental Science & Engineering, Inc.

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BORING LOG AND WELL COMPLETION SUMMARY

MW-3

Page 1 of 2

WELL COMPLETION

Completion Depth: 50 Feet

	Size/Type	From	To
Casing:	4" Diam. Blank PVC	0 Feet	30.0 Feet
Screen:	4" Diam. Slotted (0.020") PVC	30.0 Feet	50.0 Feet
Filter:	#3 Sand	28.0 Feet	50.0 Feet
Seal:	Bentonite	26.5 Feet	28 0 Feet
	Grout	0 Feet	26.5 Feet

Well Cap or Box: 6' Square Stand Pipe

Project Name: Alameda County GSA Project No: 6-94-5240

Location: UST 1, 2 & 3
Santa Rita Correctional Facility
Dublin, California

Driller: Exploration Geoservices, Inc
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50 0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-24-94
Finish: 8-24-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
0	FILL						
	SILTY CLAY, dark brown, stiff, damp, 10-20% silts, no odor	CL					
	As above, light brown.	CL					
5	SANDY CLAY, light brown, stiff, damp, 10-20% fine sand, no odor.	CL	5, 6, 6			0.1	SAMPLE MW-3-6' @ 09:45
10	SILTY SAND, light brown, dense, damp, 30-40% silts, fine grained sand, no odor.	SM	10, 11, 14			3.0	SAMPLE MW-3-11' @ 09:55
	SILT, light brown, stiff, damp, no odor.	ML					
15	As above.	ML	6, 7, 9			0.4	SAMPLE MW-3-16' @ 10:05
20	SANDY CLAY, light brown, stiff, damp, 10-20% fine to medium sand, no odor.	CL	10, 13, 17			0	SAMPLE MW-3-21' @ 10:50
25	SILTY SAND, light brown, dense, damp, 30-40% silts, fine to medium sand, no odor.	SM	5, 9, 17			0	SAMPLE MW-3-26' @ 11:00
	SANDY CLAY, light brown, stiff, dry, 10-20% fine sands, no odor.	CL					
30	As above, dry	CL	12, 20, 18			0	SAMPLE MW-3-31' @ 11:20
	As above, moist	CL					
	As above, wet.	CL					Water @ 34.5 feet @ 14:45
35							

Environmental Science & Engineering, Inc.
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BORING LOG AND WELL COMPLETION SUMMARY

MW-3

Page 2 of 2

WELL COMPLETION

Completion Depth:

Size/Type	From	To
Casing:		
Screen:	**See Page 1**	
Filter:		
Seal:		

Well Cap or Box:

Project Name: Alameda County GSA Project No: 6-94-5240
Location: UST 1, 2 & 3
Santa Rita Correctional Facility

Driller: Exploration Geoservices, Inc.
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-24-94
Finish: 8-24-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
35	SANDY CLAY, light brown, stiff, wet, 20-30% fine sands, no odor	CL					
40	As above.	CL					
45	As above, 10-20% fine sand.	CL					
50	CLAYEY SAND, light brown, dense, wet, 30-40% clay, fine grained, no odor.	SC					TOTAL DEPTH = 50 FEET
55							
60							
65							
70							

REGISTERED GEOLOGIST
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Environmental Science & Engineering, Inc.
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BORING LOG AND WELL COMPLETION SUMMARY

MW-4

Page 1 of 2

WELL COMPLETION

Completion Depth: 50 Feet

	Size/Type	From	To
Casing:	4" Diam Blank PVC	0 Feet	30.0 Feet
Screen:	4" Diam Slotted (0.020") PVC	30.0 Feet	50.0 Feet
Filter:	#3 Sand	28.0 Feet	50.0 Feet
Seal:	Bentonite	26.5 Feet	28.0 Feet
	Grout	0 Feet	26.5 Feet

Well Cap or Box: 5' Square Stand Pipe

Project Name: Alameda County GSA Project No: 6-94-5240

Location: UST 1, 2 & 3
Santa Rita Correctional Facility
Dublin, California

Driller: Exploration Geoservices, Inc.
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-25-94
Finish: 8-25-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
0	FILL						
	SILTY CLAY, dark brown, stiff, damp, 20-30% silts, no odor.	CL					
	As above, light brown.	CL					
5	SILTY SANDY CLAY, light brown, stiff, damp, 10-20% fine sand/silt, no odor.	CL	10 14 17			0	SAMPLE MW-4-6' @ 12:10
10	As above, no sand.	CL	8 12 17			0.6	SAMPLE MW-4-11' @ 12:20
15	SANDY CLAY, light brown, stiff, damp, 10-20% fine sand, no odor.	CL	9 14 17			0	SAMPLE MW-4-16' @ 12.30
20	SILTY CLAY, light brown with white stringers, stiff, damp, 30-40% silt, no odor.	CL	7 9 13			0	SAMPLE MW-4-21' @ 12.40
25	As above.	CL	9 13 15			0	SAMPLE MW-4-26' @ 12:55
	SANDY SILT, light brown, stiff, damp, 30-40% fine sand, no odor.	ML					
30	SILTY SANDY CLAY, light brown, stiff, damp, 20-30% fine silt and sand, no odor.	CL	8 14 17			2.1	SAMPLE MW-4-31' @ 13:30
35							

Environmental Science & Engineering, Inc.
A CILCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

MW-4

WELL COMPLETION

Completion Depth:

Size/Type	From	To
Casing:		
Screen:	**See Page 1**	
Filter:		
Seal:		

Well Cap or Box:

Project Name: Alameda County GSA Project No: 6-94-5240
Location: UST 1, 2 & 3
Santa Rita Correctional Facility

Driller: Exploration Geoservices, Inc.
Method: Hollow Stem Auger
Hole Diameter: 10 Inches Total Depth: 50.0 Feet
Ref. Elevations:
Logged By: Chris Valcheff

Dates:
Start: 8-25-94
Finish: 8-25-94

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type
35	SANDY SILT, light brown, soft, wet, 30-40% very fine sand, no odor.	ML	7 4 7				Water @ 35 feet
40	As above						
45	As above						
50	As above.						TOTAL DEPTH = 50 FEET
65							
60							
65							
70							

REGISTERED GEOLOGIST
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#3851
STATE OF CALIFORNIA

APPENDIX C
SAMPLE COLLECTION LOGS

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - UST 1,2,3 SITE
PROJECT NO.: 6-94-5240
DATE: SEPTEMBER 6, 1994

SAMPLE LOCATION I.D.: MW-1
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2"
4" X
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.)
DEPTH TO WATER: 37.30 (ft.)
DEPTH OF WELL: 50.46 (ft.)

PRODUCT THICKNESS: — (ft.)
WATER COLUMN: 13.16 (ft.)
WELL CASING VOLUME: 8.59 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 34.36 (gal)
ACTUAL VOLUME PURGED: 55 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1439	0	6.09	0.83	76.3	—	BROWN/SILTY
1443	10	6.81	0.73	70.0	—	"
1447	20	6.78	0.78	68.1	—	"
1451	30	6.74	0.83	68.2	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9308A DATE: 9-6-94 TIME: 0800 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump ___Other
___Bailer (Teflon/PVC/SS) X Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS) ___Dedicated
X Bailer (Disposable) ___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-1	1500	9-6-94	McCAMPBELL	TPH-D/TOG/BTEX
DUPLICATE	DUP	1500	9.6.94	McCAMPBELL	TPH-D/TOG/BTEX
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: [signature] PROJECT MANAGER [signature]

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

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - UST 1,2,3 SITE
PROJECT NO.: 6-94-5240
DATE: SEPTEMBER 6, 1994

SAMPLE LOCATION I.D.: MW-2
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2"_____
4" X
Other___

SAMPLE TYPE

Ground Water X
Surface Water____
Treat. Influent____
Treat. Effluent____
Other_____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.)
DEPTH TO WATER: 35.42 (ft.)
DEPTH OF WELL: 51.55 (ft.)

PRODUCT THICKNESS: — (ft.)
WATER COLUMN: 16.13 (ft.)
WELL CASING VOLUME: 10.53 (gal)

MINIMUM PURGE VOLUME (3 or (4) WCV): 42.12 (gal)
ACTUAL VOLUME PURGED: 50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1640	0	7.15	1.22	73.1	—	Brown/silty
1645	10	7.16	1.22	72.6	—	"
1655	20	7.15	1.11	69.9	—	↓
1705	30	7.18	1.14	69.9	—	↓

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9308A DATE: 9-6-94 TIME: 0800 BY: CHV
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump ___Other
___Bailer (Teflon/PVC/SS) X Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS) ___Dedicated
X Bailer (Disposable) ___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-2	1720	9-6-94	McCAMPBELL	TPH-D/TOG/BTEX
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: _____ PROJECT MANAGER _____

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

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - UST 1,2,3 SITE
PROJECT NO.: 6-94-5240
DATE: SEPTEMBER 6, 1994

SAMPLE LOCATION I.D.: MW-3
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2" ____
4" X
Other ____

SAMPLE TYPE

Ground Water X
Surface Water ____
Treat. Influent ____
Treat. Effluent ____
Other ____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.)
DEPTH TO WATER: 36.20 (ft.)
DEPTH OF WELL: 49.62 (ft.)

PRODUCT THICKNESS: — (ft.)
WATER COLUMN: 13.24 (ft.)
WELL CASING VOLUME: 8.64 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 34.57 (gal)
ACTUAL VOLUME PURGED: 40 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1546	0	7.11	1.62	69.7	—	BROWN/SLTY
1603	10	6.70	1.69	74.2	—	"
1608	20	6.62	1.56	76.3	—	"
1616	30	6.63	1.63	71.3	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9308A DATE: 9-6-94 TIME: 0800 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
___Other
X Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-3	1630	9-6-94	McCAMPBELL	TPH-D/EDB/BTEX
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS: ____

SAMPLER: C. H. Valcheff
PROJECT MANAGER: B. Miller

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

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - UST 1,2,3 SITE
PROJECT NO.: 6-94-5240
DATE: SEPTEMBER 6, 1994

SAMPLE LOCATION I.D.: MW-4
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2"_____
4" X
Other___

SAMPLE TYPE

Ground Water X
Surface Water____
Treat. Influent____
Treat. Effluent____
Other_____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.)
DEPTH TO WATER: 37.20 (ft.)
DEPTH OF WELL: 50.94 (ft.)

PRODUCT THICKNESS: — (ft.)
WATER COLUMN: 13.74 (ft.)
WELL CASING VOLUME: 8.97 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 35.87 (gal)
ACTUAL VOLUME PURGED: 55 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1515	0	7.48	0.91	69.8	—	BROWN/SILTY
1519	10	7.32	0.95	67.9	—	"
1523	20	7.19	0.87	67.8	—	"
1527	30	7.15	0.88	68.1	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9308A DATE: 9-6-94 TIME: 0800 BY: CHV
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump ___Other
___Bailer (Teflon/PVC/SS) X Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS) ___Dedicated
X Bailer (Disposable) ___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-4	1540	9-6-94	McCAMPBELL	TPH-D/TOG/BTEX
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: _____ PROJECT MANAGER _____

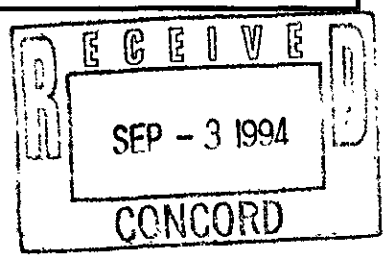
4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

APPENDIX D

ANALYTICAL REPORTS WITH CHAIN OF CUSTODY DOCUMENTS

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622



09/02/94

Dear Bart:

Enclosed are:

1). the results of **12** samples from your **# 6-94-5240; Alameda GSA-VST 1,2,3** Site project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/25/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/27-08/28/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
40593	MW-2-6	S	---	ND	ND	ND	ND	99
40594	MW-2-11	S	---	ND	ND	ND	ND	101
40595	MW-2-16	S	---	ND	ND	ND	ND	97
40596	MW-2-21	S	---	ND	ND	ND	ND	98
40597	MW-2-26	S	---	ND	ND	ND	ND	99
40598	MW-2-31	S	---	ND	ND	ND	ND	99
40599	MW-4-6	S	---	ND	ND	ND	ND	100
40600	MW-4-11	S	---	ND	ND	ND	ND	97
40601	MW-4-16	S	---	ND	ND	ND	ND	97
40602	MW-4-21	S	---	ND	ND	ND	ND	98
40603	MW-4-26	S	---	ND	ND	ND	ND	98
40604	MW-4-31	S	---	ND	ND	ND	ND	98
Detection Limit unless other-wise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/25/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/28/94

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
40593	MW-2-6	S	ND	Not Added
40594	MW-2-11	S	ND	Not Added
40595	MW-2-16	S	ND	Not Added
40596	MW-2-21	S	ND	Not Added
40597	MW-2-26	S	ND	Not Added
40598	MW-2-31	S	ND	Not Added
40599	MW-4-6	S	ND	Not Added
40600	MW-4-11	S	ND	Not Added
40601	MW-4-16	S	ND	Not Added
40602	MW-4-21	S	ND	Not Added
40603	MW-4-26	S	ND	Not Added
40604	MW-4-31	S	ND	Not Added
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(C_L) or heavy(C_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/25/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/29/94
	Client P.O:	Date Analyzed: 08/29/94

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 B/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease
40593	MW-2-6	S	ND
40594	MW-2-11	S	ND
40595	MW-2-16	S	ND
40596	MW-2-21	S	ND
40597	MW-2-26	S	ND
40598	MW-2-31	S	ND
40599	MW-4-6	S	ND
40600	MW-4-11	S	ND
40601	MW-4-16	S	ND
40602	MW-4-21	S	ND
40603	MW-4-26	S	ND
40604	MW-4-31	S	ND
Detection Limit unless otherwise stated; ND means Not Detected		W	5 mg/L
		S	50 mg/kg

*water samples are reported in mg/L and soils in mg/kg

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/27-08/28/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.960	2.018	2.03	97	99	2.9
Benzene	0.000	0.176	0.184	0.2	88	92	4.4
Toluene	0.000	0.180	0.184	0.2	90	92	2.2
Ethylbenzene	0.000	0.178	0.186	0.2	89	93	4.4
Xylenes	0.000	0.554	0.574	0.6	92	96	3.5
TPH (diesel)	0	300	300	300	100	100	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/29/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0.0	22.7	22.9	20.8	109	110	0.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

2625 AESE77

CHAIN OF CUSTODY RECORD

DATE August 25, 1994 PAGE 1 OF 1

PROJECT NAME Alameda GSA - UST 1, 2, 3 site

ADDRESS Santa Rita Correctional Facility
Dublin, CA

PROJECT NO. 6-94-5240

SAMPLED BY Chris Vacchieri

LAB NAME McCampbell Analytical

ESE Environmental Science & Engineering, Inc.
A CH2M HILL Company
4090 Nelson Avenue
Suite j
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED: TPH-D (8015m)	TOG (gasoline) 5030/5520	BTEX (8020)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW-2-6	8-25-94	0755	Dublin	X	X	X	Soil	1	6" Brass w/ S.S. Rings
MW-2-11		0805		X	X	X		1	
MW-2-16		0815		X	X	X		1	
MW-2-21		0825		X	X	X		1	
MW-2-26		0845		X	X	X		1	
MW-2-31		0855		X	X	X		1	
MW-4-6		1210		X	X	X			
MW-4-11		1220		X	X	X			
MW-4-16		1230		X	X	X			
MW-4-21		1240		X	X	X			
MW-4-26		1255		X	X	X			
MW-4-31		1330		X	X	X			

40593
40594
40595
40596
40597
40598
40599
40600
40601
40602
40603
40604

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1.		8/25/94	18:15
2.		8/26/94	16:50
3.			
4.			
5.			

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
APPROPRIATE CONTAINERS ✓
PRESERVATIVE

TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO:
Bart Miller
ESE

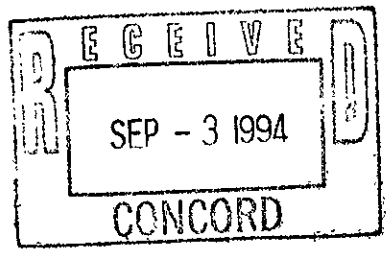
SPECIAL SHIPPING REQUIREMENTS:
Cold Transport/Storage

SAMPLE RECEIPT
CHAIN OF CUSTODY SEAL
REC'D GOOD CONDITION/COLD
CONFORMS TO RECORD

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
Normal T.A.T. Alameda Co. GSA to be invoiced for these analyses

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622



09/02/94

Dear Bart:

Enclosed are:

1). the results of 6 samples from your # **6-94-5240; Alameda GSA-VST 1,2,3 Site** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/26/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/27/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
40581	MW-1-5	S	---	ND	ND	ND	ND	97
40582	MW-1-10	S	---	ND	ND	ND	ND	99
40583	MW-1-15	S	---	ND	ND	ND	ND	101
40584	MW-1-20	S	---	ND	ND	ND	ND	100
40585	MW-1-25	S	---	ND	ND	ND	ND	98
40586	MW-1-30	S	---	ND	ND	ND	ND	99
Detection Limit unless other-wise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/26/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/28/94

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
40581	MW-1-5	S	ND	Not Added
40582	MW-1-10	S	ND	Not Added
40583	MW-1-15	S	ND	Not Added
40584	MW-1-20	S	ND	Not Added
40585	MW-1-25	S	ND	Not Added
40586	MW-1-30	S	ND	Not Added
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(C_L) or heavy(C_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/26/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/29/94
	Client P.O:	Date Analyzed: 08/29/94

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 B/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease
40581	MW-1-5	S	ND
40582	MW-1-10	S	ND
40583	MW-1-15	S	ND
40584	MW-1-20	S	ND
40585	MW-1-25	S	ND
40586	MW-1-30	S	ND
Detection Limit unless otherwise stated; ND means Not Detected		W	5 mg/L
		S	50 mg/kg

*water samples are reported in mg/L and soils in mg/kg

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/27-08/28/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.960	2.018	2.03	97	99	2.9
Benzene	0.000	0.176	0.184	0.2	88	92	4.4
Toluene	0.000	0.180	0.184	0.2	90	92	2.2
Ethylbenzene	0.000	0.178	0.186	0.2	89	93	4.4
Xylenes	0.000	0.554	0.574	0.6	92	96	3.5
TPH (diesel)	0	300	300	300	100	100	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/29/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0.0	22.7	22.9	20.8	109	110	0.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

2823 AESE 76

DATE 8/26/94 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

PROJECT NAME Alameda GSA-VSI 1,2,3

ADDRESS SANTA RITA CORRECTIONAL FACILITY
DUBLIN, CALIFORNIA

PROJECT NO. 6945240

SAMPLED BY Jason Garrison

LAB NAME McCAMPBELL ANALYTICAL

ESE A CRLCORP Company
Environmental Science & Engineering, Inc.
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	TPH-D (8015m)	TOG SM5520 (gravimetry)	BTEX (8020)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW-1-5	8/26/94	9:20	Dublin	X	X	X	SOIL	1	40581
MW-1-10	8/26/94	9:40		X	X	X	"	1	40582
MW-1-15	8/26/94	9:50		X	X	X	"	1	40583
MW1-20	8/26/94	10:10		X	X	X	"	1	40584
MW1-25	8/26/94	10:30		X	X	X	"	1	40585
MW1-30	8/26/94	10:45		X	X	X	"	1	40586

ANALYSES TO BE PERFORMED

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATIVE APPROPRIATE ✓
CONTAINERS ✓

WASTE U&G TIMELS OTHER

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1.		8/26/94	16:35
2.		8/26/94	16:50
3.			
4.			
5.			

6 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: BART MILLER ESE

SPECIAL SHIPMENT REQUIREMENTS: COLD TRANSPORT

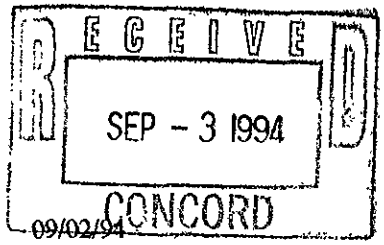
SAMPLE RECEIPT

CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDTN/COLD	
CONFORMS TO RECORD	

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
NORMAL T.A.T. ALAMEDA CO. GSA TO BE INVOICED FOR THESE ANALYSES

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622



Dear Bart:

Enclosed are:

1). the results of 6 samples from your # **6-94-5240; Alameda GSA-VST 1,2,3 Site** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng.	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/24/94
4090 Nelson Avenue, Suite J		Date Received: 08/26/94
Concord, CA 94520	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/27/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
40587	MW-3-6	S	---	ND	ND	ND	ND	98
40588	MW-3-11	S	---	ND	ND	ND	ND	97
40589	MW-3-16	S	---	ND	ND	ND	ND	98
40590	MW-3-21	S	---	ND	ND	ND	ND	99
40591	MW-3-26	S	---	ND	ND	ND	ND	96
40592	MW-3-31	S	---	ND	ND	ND	ND	100
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/24/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/26/94
	Client P.O:	Date Analyzed: 08/28/94

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
40587	MW-3-6	S	ND	Not Added
40588	MW-3-11	S	ND	Not Added
40589	MW-3-16	S	ND	Not Added
40590	MW-3-21	S	ND	Not Added
40591	MW-3-26	S	ND	Not Added
40592	MW-3-31	S	ND	Not Added
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(C_L) or heavy(C_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST 1,2,3 Site	Date Sampled: 08/24/94
		Date Received: 08/26/94
	Client Contact: Bart Miller	Date Extracted: 08/29/94
	Client P.O:	Date Analyzed: 08/29/94

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 B/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease
40587	MW-3-6	S	ND
40588	MW-3-11	S	ND
40589	MW-3-16	S	ND
40590	MW-3-21	S	ND
40591	MW-3-26	S	ND
40592	MW-3-31	S	ND
Detection Limit unless otherwise stated; ND means Not Detected		W	5 mg/L
		S	50 mg/kg

*water samples are reported in mg/L and soils in mg/kg

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/27-08/28/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.960	2.018	2.03	97	99	2.9
Benzene	0.000	0.176	0.184	0.2	88	92	4.4
Toluene	0.000	0.180	0.184	0.2	90	92	2.2
Ethylbenzene	0.000	0.178	0.186	0.2	89	93	4.4
Xylenes	0.000	0.554	0.574	0.6	92	96	3.5
TPH (diesel)	0	300	300	300	100	100	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/29/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0.0	22.7	22.9	20.8	109	110	0.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

2824AESE75

DATE Aug. 24, 1994 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

PROJECT NAME Alameda GSA - UST 1,2,3 Site

ADDRESS Santa Rita Correctional Facility
Dublin, CA

PROJECT NO. 6-94-5240

SAMPLED BY Chris Valcheff

LAB NAME McCampbell Analytical

ESE Environmental Science & Engineering, Inc.
A CH2M HILL Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED: TPH-D (8015m)	TOG SMWW 5520 (gravimetric)	BTEX (8020)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
~~MW-3-1~~ CAN	8/24/94	-	DUBLIN	X	X	X	SOIL	#	6" Brass/or SS. Ring
MW-3-6		0945		X	X	X		1	40587
MW-3-11		0955		X	X	X		1	40588
MW-3-16		1005		X	X	X		1	40589
MW-3-21		1050		X	X	X		1	40590
MW-3-26		1100		X	X	X		1	40591
MW-3-31		1120		X	X	X		1	40592

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. Chris Valcheff		8/24/94	18:30
2.		8/26/94	16:50
3.			
4.			
5.			

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE APPROPRIATE
CONTAINERS ✓

VOAS O&G METALS OTHER

6 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO:
BART MILLER
ESE

SPECIAL SHIPMENT REQUIREMENTS
Cold Transport/Storage

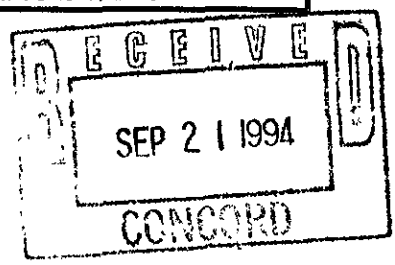
SAMPLE RECEIPT

CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDTN/COLD	
CONFORMS TO RECORD	

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
NORMAL T.A.T. ALAMEDA CO. GSA TO BE INVOICED FOR THESE ANALYSES
~~5 DAY TAT~~

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622



09/15/94

Dear Bart:

Enclosed are:

1). the results of **5** samples from your **# 6-94-5240; Alameda GSA-VST1,2,3** Site project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST1,2,3 Site	Date Sampled: 09/06/94
		Date Received: 09/07/94
	Client Contact: Bart Miller	Date Extracted: 09/07-09/08/94
	Client P.O:	Date Analyzed: 09/07-09/08/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
40767	MW-1	W	---	ND	ND	ND	ND	92
40768	MW-2	W	---	ND	ND	ND	ND	91
40769	MW-3	W	---	ND	ND	ND	ND	94
40770	MW-4	W	---	ND	ND	ND	ND	92
40771	Dup	W	---	ND	ND	ND	ND	108
40771A	Trip Blank	W	---	ND	ND	ND	ND	92
Detection Limit unless other-wise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST1,2,3 Site	Date Sampled: 09/06/94
		Date Received: 09/07/94
	Client Contact: Bart Miller	Date Extracted: 09/09/94
	Client P.O:	Date Analyzed: 09/09/94

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
40767	MW-1	W	ND	101
40768	MW-2	W	ND	99
40769	MW-3	W	ND	100
40770	MW-4	W	ND	99
40771	Dup	W	ND	98
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(c_L) or heavy(c_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Tele: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-94-5240; Alameda GSA-VST1,2,3 Site	Date Sampled: 09/06/94
		Date Received: 09/07/94
	Client Contact: Bart Miller	Date Extracted: 09/09/94
	Client P.O:	Date Analyzed: 09/09/94

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 B/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease
40767	MW-1	W	ND
40768	MW-2	W	ND
40769	MW-3	W	ND
40770	MW-4	W	ND
40771	Dup	W	ND
Detection Limit unless otherwise stated; ND means Not Detected		W	5 mg/L
		S	50 mg/kg

*water samples are reported in mg/L and soils in mg/kg

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/07/94 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	95.9	105.3	100	95.9	105.3	9.4
Benzene	0	10	9.1	10	100.0	91.0	9.4
Toluene	0	10.2	9.2	10	102.0	92.0	10.3
Ethyl Benzene	0	10	9.4	10	100.0	94.0	6.2
Xylenes	0	31.3	29.3	30	104.3	97.7	6.6
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/08/94 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	106.2	102.2	100	106.2	102.2	3.8
Benzene	0	10	9.9	10	100.0	99.0	1.0
Toluene	0	10.1	10	10	101.0	100.0	1.0
Ethyl Benzene	0	10.2	10	10	102.0	100.0	2.0
Xylenes	0	31.7	31.1	30	105.7	103.7	1.9
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/09/94 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	97.8	96.4	100	97.8	96.4	1.4
Benzene	0	8.9	9.4	10	89.0	94.0	5.5
Toluene	0	9	9.5	10	90.0	95.0	5.4
Ethyl Benzene	0	9	9.5	10	90.0	95.0	5.4
Xylenes	0	29.3	27.4	30	97.7	91.3	6.7
TPH (diesel)	0	134	131	150	90	87	2.4
TRPH (oil & grease)	0	21600	21800	23700	91	92	0.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

287478 401072

CHAIN OF CUSTODY RECORD

DATE Sept. 6, 1994 PAGE 1 OF 1

PROJECT NAME Alameda GSA - UST 1,2,3 site

ADDRESS Santa Rita Correctional Facility
Dublin, CA

PROJECT NO. 6-94-5240

SAMPLED BY Chris Valcheff

LAB NAME McCampbell

ESE Environmental Science & Engineering, Inc.
A CRLCORP Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	TPH-D (8015M)	TOG (SMWW 5520)	BTEX (8020)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW-1	9-6-94	1500	DUBLIN	X	X	X	H_2O	4	2 VOAs w/HCl, 2 AMBER LTRS
MW-2		1720		X	X	X		4	
MW-3		1630		X	X	X		4	
MW-4		1580		X	X	X		4	
DUP		1500		X	X	X		4	
T.B.								1	VOA

40767
40768
40769
40770
40771
40771A

ANALYSES TO BE PERFORMED

MATRIX

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATIVE APPROPRIATE ✓
CONTAINERS ✓

VOAS O&G METALS OTHER

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1.		9/6	2:05
2.			
3.			
4.			
5.			

20 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO:
Bart Miller
Pete DeVoos (Alameda County)

SPECIAL SHIPMENT REQUIREMENTS
Cold Transport/Storage

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
Standard T.A.T.
Invoice Alameda County Directly

SAMPLE RECEIPT

CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDTN/COLD	
CONFORMS TO RECORD	