Previous

N00236.002017
ALAMEDA POINT
SSIC NO. 5090.3

A-E CERCLA/RCRA/UST STUDIE DIAL

Contract Number N68711-03-D-5104

Remedial Investigation Report Sites 9, 13, 19, 22, and 23 Operable Unit 2A (OU-2A)

Alameda Point
Alameda, California

DS.B010.20039

FINAL

Volume II of III
Appendices A through E

April 1, 2005

NAVFAC
Naval Facilities Engineering Command

Department of the Navy
Base Realignment and Closure
Program Management Office West
1230 Columbia Street, Suite 1100
San Diego, California 92101-8571

A JOINT VENTURE OF SULLIVAN CONSULTING C

APPENDIX A
BACKGROUND ANALYSIS OF SOIL AND GROUNDWATER

CONTENTS

A.1 INTRODUCTION 1

A.2 METHODOLOGY 1

A.3 BACKGROUND SCREENING RESULTS FOR SITE 9 4

A.4 BACKGROUND SCREENING RESULTS FOR SITE 13 5

A.5 BACKGROUND SCREENING RESULTS FOR SITE 19 5

A.6 BACKGROUND SCREENING RESULTS FOR SITE 22 6

A.7 BACKGROUND SCREENING RESULTS FOR SITE 23 7

A.8 REFERENCES 7

FIGURES

A-1 Flow Chart Showing the Background Screening Process for Metals in Soil and Groundwater

A-2 Key to Interpreting Outlier Box Plots

A-3 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 9 Soil

A-4 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 9 Groundwater

A-5 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 13 Soil

A-6 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 13 Groundwater

A-7 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 19 Soil

A-8 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 19 Groundwater

A-9 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 22 Soil

A-10 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 22 Groundwater

A-11 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 23 Soil

A-12 Quantile Tables and Box-plot Comparisons of Chemicals in Ambient and Site 23 Groundwater

TABLES

A-1 Summary Statistics for Background Soil Data Set

A-2 Summary Statistics for Background Groundwater Data Set

A-3 Site 9 - Summary Statistics for Comparison to Background Soil Data Set

A-4 Site 9 - Summary Statistics for Comparison to Background Groundwater Data Set

A-5 Site 13 - Summary Statistics for Comparison to Background Soil Data Set

A-6 Site 13 - Summary Statistics for Comparison to Background Groundwater Data Set

A-7 Site 19 - Summary Statistics for Comparison to Background Soil Data Set

A-8 Site 19 - Summary Statistics for Comparison to Background Groundwater Data Set

A-9 Site 22 - Summary Statistics for Comparison to Background Soil Data Set

A-10 Site 22 - Summary Statistics for Comparison to Background Groundwater Data Set

A-11 Site 23 - Summary Statistics for Comparison to Background Soil Data Set

A-12 Site 23 - Summary Statistics for Comparison to Background Groundwater Data Set

APPENDIX A
BACKGROUND ANALYSIS OF SOIL AND GROUNDWATER

A.1 INTRODUCTION

Soil and groundwater metals at Operable Unit 2A (OU-2A) were screened against background data sets developed for Alameda Point; the data sets were presented in the "Final Statistical Methodology for Background Comparisons, Naval Air Station Alameda, Alameda, California" (PRC Environmental Management, Inc. [PRCEMI] 1997) and in the "Technical Memorandum for Estimation of Ambient Metal Concentrations in Shallow Groundwater" (Tetra Tech EM Inc. [Tetra Tech] 1998). These background data sets were compared to the soil and groundwater data sets for metals at each site using several statistical tests. The results of this comparison were used to determine whether a metal was naturally occurring or whether its presence resulted from previous site activities.

Background soil data were separated into three groups for comparison to site data results (PRCEMI 1997). Areas of the installation with geologically similar soils that represent a single background data set were designated as the pink, blue, or yellow areas. These areas correspond to a particular fill event provided as follows and are shown on Figure 3-2 of the remedial investigation (RI) report. OU-2A is located in the blue area.

Discussion of the statistical methods used to accomplish background screening of metals is provided in Section A.2. Sections A.3 through A.7 provide the results of soil and background screening for Sites 9, 13, 19, 22, and 23. References are listed in Section A.8.

A.2 METHODOLOGY

The background screening process consisted of preparing data summaries and calculating descriptive statistics for both the background and site data sets. These summaries and calculations provided information on the following:

- Types of data distributions
- Numbers of detected samples, total number of samples, and detection frequency
- Minimum and maximum concentrations for censored (nondetect) data
- Minimum and maximum concentrations for detected data
- Medians, 95th percentiles, mean, standard deviations, coefficients of variation, and one-sided upper 95th percentile upper confidence limits of the arithmetic mean for detected and censored data combined

Details of the methods for performing distribution testing and for calculating population moments are provided in "Guidance for Data Quality Assessment: Practical Methods for Data Analysis: EPA QA/G9, QA97 Version." EPA/600/R-96/084. Office of Research and Development. Washington, DC, EPA. July 2000. (EPA 2000b?) and. "Calculating exposure

point concentrations at hazardous waste sites." OSWER 9285.6-10. EPA Office of Emergency and Remedial Response. Washington, DC. December 2002. (EPA 2002d?) Tables of descriptive statistics for the site human health and ecological risk assessments data sets are provided in Appendix H and Appendix I. Descriptive statistics for the soil and groundwater background data sets are provided in Tables A-1 and A-2.

Two-population statistical tests were used to compare metal concentrations in site data to background concentrations determined for Alameda Point soil and groundwater. The methodologies employed follow U.S. Department of the Navy (Navy) guidance (Navy 1998, 1999, 2000, 2002). One-sided statistical tests were used in all cases and employed a Type I error rate of 5 percent.

A flow diagram illustrating the background screening process is provided in Figure A-1. The screening process is hierarchical, and the application of some tests was contingent on certain properties of the site and background data sets or, in some cases, the results of prior tests. Detection frequencies in the site and background populations were first determined, and if each data set consisted of at least 60 percent detected data, a two-population test of the median concentrations was performed using either the Wilcoxon rank sum (WRS) test or the Gehan-Wilcoxon (GT) test, as described in the following text.

Wilcoxon rank sum and Gehan-Wilcoxon tests

The null (H_0) and alternative (H_A) hypotheses tested in the WRS or GT tests are as follows:

- H_0: the median metal concentration for the site is less than or equal to the median concentration in the background population

- H_A: the median metal concentration for the site is greater than the median concentration in the background population

The WRS test was used in cases where only a single detection limit was present; otherwise the GT test was used, following methods presented by the Navy (1999). The reporting limit was substituted for all censored data analyzed using the WRS or GT tests.

In cases where the detection frequency in the site or background population was less than 60 percent, two additional tests, the test of proportions and the quantile test, were performed. The quantile test was also performed in cases where the WRS or GT tests concluded that the site median concentration did not exceed the background median concentration. Each of these tests is described in the following text.

Test of Proportions

The test of proportions is used to compare the frequency of detected measurements in the site and background data sets. The test of proportions was implemented using a contingency table approach, and the significance of the tests was determined using the Fisher exact test (note that the Navy [1999] describes an approach for conducting the test of proportions using a normal approximation to the binomial distribution, which can also be used if software is not available for implementing the Fisher exact test).

The H_0 and H_A tested in the test of proportions are as follows:

- H_0: the metal detection frequency at the site is less than or equal to the detection frequency in the background population

- H_A: the metal detection frequency at the site is greater than the detection frequency in the background population

Quantile test

The quantile test (Johnson and others 1987; U.S. Environmental Protection Agency [EPA] 1994; Navy 1999) is a nonparametric two-population test developed for comparing the right-hand tails or upper quantiles of two distributions. The quantile test can be used when some proportion of large responses (rather than the entire distribution) of one population has shifted relative to a second population. The quantile test is not as powerful as the WRS test when the distribution of site concentrations is shifted in its entirety to the right of the background distribution. The quantile test, however, is more powerful than the WRS test for detecting cases where only a small number of high-value measurements are present in the upper quantile of the site distribution. For this reason, the EPA (1994, 2000) and the Navy (1999) recommend that the quantile test be used in conjunction with the WRS test. When applied together, these tests have more power to detect true differences between two population distributions.

The quantile test is easy to apply and consists of looking at the largest r measurements in the pooled (and rank-ordered) site and background data sets and counting the number of r measurements from the site. If k or more of the r measurements are site measurements, the quantile test declares that the upper range of concentrations at the site are elevated relative to the background population. The H_o addressed by the quantile test is that $\varepsilon \leq 0$ and $\Delta/\sigma \leq 0$, where ε is the proportion of site measurements that have shifted to the right and Δ/σ is the magnitude (in units of standard deviation, σ) of the shift.

Critical values for the quantile test are provided in Navy (1999) and EPA (1994, 2000). For cases where the sample sizes for the site or background populations exceed the range of values provided in these tables (that is, either the site or background sample-size exceeds 100) or the paired values for the site and background population did not match the tabulated values exactly,

the critical probabilities were derived using Monte Carlo simulation. The stochastic model developed for calculating critical values of the quantile test was validated by successfully reproducing the published critical values for site and background population-sizes in the range of 5 to 100.

Again, it should be noted that the WRS (or GT) test and the quantile test and test of proportions are applied sequentially. The quantile test and the test of proportions are also conditional tests in this scheme. That is, if H_0 (site median concentration is less than or equal to background) is rejected under the WRS (or GT) test, then no further testing is necessary and the chemical is treated as a chemical of potential concern (COPC). Failure to reject H_0 triggers implementation of the quantile test. In cases where the detection frequency is less than 60 percent, both the test of proportions and quantile test are applied. Independent conclusions are reported for both the quantile test and test of proportions, so failure of either test can result in a determination that a site exceeds background. In cases where the only difference between the site and background populations is in the frequency of detection, however, site-specific information and professional judgment were used to ultimately determine whether treating a chemical as a COPC was justified.

A.3 BACKGROUND SCREENING RESULTS FOR SITE 9

The comparison of Site 9 metal soil and groundwater sample results with the Alameda Point background data set are shown in Tables A-3 and A-4.

As shown in Table A-3, metals that exceeded background in soil at Site 9 included barium, beryllium, and lead. Beryllium and lead exceeded background based on detection frequencies only, rather than the magnitude of the concentration. The barium concentrations only slightly exceeded background. The barium background data set concentration ranges from 0.3 to 198 milligrams per kilogram (mg/kg) versus 16 to 266 mg/kg for the Site 9 soil data set. The statistical comparisons are shown graphically on box-plot diagrams. Figure A-2 shows the key to reading box-plot diagrams used to show comparisons between the background data set and site-specific data in the following sections for each site. Figure A-3 shows the box-plot comparisons for metals in soil between the background data set and Site 9 data sample results.

As shown in Table A-4, aluminum, barium, chromium, copper, iron, manganese, selenium, and vanadium exceeded background in groundwater at Site 9. Selenium exceeded background based on detection frequencies only, rather than the magnitude of the concentration. The groundwater concentrations of aluminum, barium, chromium, copper, iron, manganese, and vanadium in groundwater exceeded the background concentrations by marginal amounts. The aluminum background concentration range was 0.003 to 4.53 milligrams per liter (mg/L) versus the Site 9 range of 0.0043 to 98 mg/L. The barium background concentration range was 0.0023 to 1.26 mg/L. The chromium background concentration range was 0.0002 to 0.0828 mg/L versus the Site 9 range of 0.0002 to 0.35 mg/L. The copper background concentration range was 0.00035 to 0.0697 mg/L background versus the Site 9 range of 0.00059 to 0.14 mg/L. The iron background concentration range was 0.0048 to 24.4 mg/L versus the Site 9 range of 0.0.0032 to

136 mg/L. The manganese background concentration range was 0.00078 to 2.48 mg/L versus the Site 9 range of 0.0023 to 17.8 mg/L. The vanadium background concentration range was 0.00025 to 0.0508 mg/L versus the Site 9 range of 0.0003 to 0.28 mg/L. See Figure A-4 for the box-plot diagrams showing these comparisons.

A.4 BACKGROUND SCREENING RESULTS FOR SITE 13

The comparison of Site 13 metal soil and groundwater sample results with the Alameda Point background data set is shown in Tables A-5 and A-6.

As shown in Table A-5, metals that exceeded background in soil included antimony, arsenic, beryllium, iron, lead, mercury, selenium, and zinc. Four of these metals (antimony, arsenic, mercury, and selenium) exceeded background based on the frequency of detection, rather than on exceeding the concentration values in soil. Metals exceeding background concentration values are beryllium, iron, lead, and zinc. The beryllium background concentration range was 0.092 to 1.3 mg/kg versus the Site 13 range of 0.044 to 2 mg/kg. The iron background concentration range was 760 to 26,900 mg/kg versus the Site 13 range of 1,110 to 74,800 mg/kg. The lead background concentration range was 1.3 to 41 mg/kg versus the Site 13 range of 1 to 431 mg/kg. The zinc background concentration range was 14 to 84 mg/kg versus the Site 13 range of 5.6 to 7,120 mg/kg at Site 13. Figure A-5 shows the comparisons in side-by-side box plots.

As shown in Table A-6, antimony, barium, beryllium, chromium, iron, manganese, and selenium exceeded background in groundwater at Site 13. Of these seven metals, antimony, beryllium, chromium, and selenium exceeded background based on the frequency of detection, rather than on exceeding the concentration values in groundwater. Barium, iron, and manganese Site 13 groundwater concentrations statistically exceeded the background data set concentrations. The barium background concentrations range was 0.0023 to 1.26 mg/L versus the Site 13 range of 0.0067 to 1.7 mg/L. The iron background concentrations range was 0.0048 to 24.4 mg/L versus the Site 13 range of 0.00032 to 300 mg/L. The manganese background concentration range was 0.00078 to 2.48 mg/L versus the Site 13 range of 0.0012 to 11 mg/L. Figure A-6 presents the groundwater background and Site 13 data set box plots for comparison.

A.5 BACKGROUND SCREENING RESULTS FOR SITE 19

The comparison of Site 19 metal soil and groundwater sample results with the Alameda Point background data set are shown in Tables A-7 and A-8.

As shown in Table A-7, metals that exceeded background in soil at Site 19 included copper, iron, lead, and zinc. These four metals statistically exceeded the background data set by higher concentrations rather than by detection frequency. The copper background concentrations range was 4.2 to 89.4 mg/kg versus the Site 19 range of 5 to 138 mg/kg. The iron background concentrations range was 760 to 26,900 mg/kg versus the Site 19 range of 4,670 to 32,300 mg/kg. The lead background concentrations range was 1.3 to 41 mg/kg versus the Site 19 range of 3.1 to 303 mg/kg. The zinc background concentrations range was from 14 to

84 mg/kg versus the Site 19 range of 13.8 to 292 mg/kg. Figure A-7 shows the comparisons in side-by-side box plots for soil at Site 19.

As shown in Table A-8, aluminum, barium, chromium, copper, iron, manganese, selenium, and vanadium exceeded background in groundwater at Site 19. These eight metals all statistically exceeded the background data set by higher concentrations rather than only by detection frequency. The aluminum background concentrations range was 0.003 to 4.53 mg/L versus the Site 19 range of 0.0064 to 378 mg/L. The barium background concentrations range was 0.0023 to 1.26 mg/L versus the Site 19 range of 0.0093 to 2.9 mg/L. The chromium background concentrations range was 0.0002 to 0.0828 mg/L versus the Site 19 range of 0.00022 to 1 mg/L. The copper background concentrations range was 0.00035 to 0.0697 mg/L versus the Site 19 range of 0.00031 to 0.55 mg/L. The iron background concentrations range was 0.0048 to 24.4 mg/L versus the Site 19 range of 0.0032 to 494 mg/L. The manganese background concentrations range was 0.00078 to 2.48 mg/L versus the Site 19 range of 0.00023 to 12 mg/L. The selenium background concentrations range was 0.0008 to 0.054 mg/L versus the Site 19 range of 0.00085 to 0.15 mg/L. The vanadium background concentrations range was 0.00025 to 0.0508 mg/L versus the Site 19 range of 0.00025 to 0.93 mg/L. Figure A-8 presents the groundwater background and Site 19 data set box plots for comparison.

A.6 BACKGROUND SCREENING RESULTS FOR SITE 22

The comparison of Site 22 metal soil and groundwater sample results with the Alameda Point background data set are shown in Tables A-9 and A-10.

As shown in Table A-9, metals that exceeded background in soil at Site 22 included barium, beryllium, lead, manganese, selenium, vanadium, and zinc. Of these seven metals, beryllium and selenium statistically exceeded background based on the frequency of detection, rather than on exceeding the concentration values in soil. Metals exceeding background concentration values are barium, lead, manganese, vanadium, and zinc. The barium background concentrations range was 0.3 to 1.3 mg/kg versus the Site 22 range of 0.03 to 140 mg/kg. The lead background concentrations range was 1.3 to 41 mg/kg versus the Site 22 range of 2.1 to 9,890 mg/kg. The manganese background concentrations range was 50 to 1,060 mg/kg versus the Site 22 range of 72.4 to 440 mg/kg. The vanadium background concentrations range was 12.8 to 62.3 mg/kg versus the Site 22 range of 13.9 to 62.3 mg/kg. The zinc background concentrations range was 14 to 84 mg/kg versus the Site 22 range of 14 to 151 mg/kg at Site 22. Figure A-9 shows the comparisons in side-by-side box plots for metals in soil at Site 22.

As shown in Table A-10, arsenic, iron, manganese, and thallium exceeded background in groundwater at Site 22. Of these four metals, arsenic, and thallium exceeded background based on the frequency of detection, rather than on exceeding the concentration values in groundwater. The iron background concentrations range was 0.0048 to 24.4 mg/L versus the Site 22 range of 0.0032 to 376 mg/L. The manganese background concentrations range was 0.00078 to 2.48 mg/L versus the Site 22 range of 0.0021 to 11 mg/L. Figure A-10 presents the background and Site 22 groundwater data set box plots for comparison.

A.7 BACKGROUND SCREENING RESULTS FOR SITE 23

The comparison of Site 23 metal soil and groundwater sample results with the Alameda Point background data set are shown in Tables A-11 and A-12.

As shown in Table A-11, metals that exceeded background in soil at Site 23 included antimony, copper, and lead. Antimony exceeded background based on detection frequencies only, rather than the magnitude of the concentration. The copper background concentrations range was 4.2 to 89.4 mg/kg versus the Site 23 range of 4.5 to 113 mg/kg. The lead background concentrations range was 1.3 to 41 mg/kg versus the Site 23 range of 1.3 to 120 mg/kg. Figure A-11 shows the box-plot comparisons for metals in soil between the background data set and Site 23 data sample results.

As shown in Table A-12, aluminum, chromium, iron, manganese, selenium, vanadium, and zinc exceeded background in groundwater at Site 23. Of these seven metals, selenium statistically exceeded the background data set based on the frequency of detection, rather than on exceeding the concentration values in groundwater. Aluminum, chromium, iron, manganese, vanadium, and zinc exceeded background in groundwater at Site 23 based on higher concentrations. Aluminum background concentrations range was 0.003 to 4.53 mg/L versus the Site 23 range of 0.0049 to 223 mg/L. The chromium background concentrations range was 0.0002 to 0.0828 mg/L versus the Site 23 range of 0.00016 to 0.65 mg/L. The iron background concentrations range was 0.0048 to 24.4 mg/L versus the Site 23 range of 0.0032 to 296 mg/L. The manganese background concentrations range was 0.00078 to 2.48 mg/L versus the Site 23 range of 0.0009 to 11.9 mg/L. The vanadium background concentrations range was 0.00025 to 0.0508 mg/L versus the Site 23 range of 0.00021 to 0.51 mg/L. The zinc groundwater background concentrations range was 0.0005 to 46.8 mg/L versus the Site 23 range of 0.0017 to 1.38 mg/L. Figure A-12 presents the groundwater background and Site 23 data set box plots for comparison.

A.8 REFERENCES

Johnson, R.A., S. Verrill, and D.H. Moore II. 1987. "Two-Sample Rank Tests for Detecting Changes that Occur in a Small Proportion of the Treated Population." *Biometrics*. 43:641-655.

PRC Environmental Management, Inc. 1997. "Final Statistical Methodology for Background Comparisons. Naval Air Station Alameda, Alameda, California." March 14.

Tetra Tech EM Inc. 1998. "Technical Memorandum for Estimation of Ambient Metal Concentrations in Shallow Groundwater." August.

U.S. Department of the Navy (Navy). 1998. "Procedural Guidance for Statistically Analyzing Environmental Background Data." Naval Facilities Engineering Command, Southwest Division and Engineering Field Activity West (SWDIV and EFA West). September.

Navy. 1999. "Handbook for Statistical Analysis of Environmental Background Data." SWDIV and EFA West. April.

Navy. 2000. "Navy Interim Final Policy on the Use of Background Chemicals." Chief of Naval Operations Memo Ser. N453E/OU595690.

Navy. 2002. "Guidance for Environmental Background Analysis. Volume I: Soil, NFESC User's Guide." UG-2049-ENV. Washington, D.C. April.

U.S. Environmental Protection Agency (EPA). 1994. "Statistical Methods for Evaluating the Attainment of Cleanup Standards. Volume 3: Reference-Based Standards for Soil and Solid Media." EPA 230-R-94-004. Statistical Policy Branch. Washington, D.C.

EPA. 2000a. "Guidance for Data Quality Assessment: Practical Methods for Data Analysis: EPA QA/G-9, QA97 Version." EPA/600/R-96/084. Office of Research and Development. Washington, D.C. July.

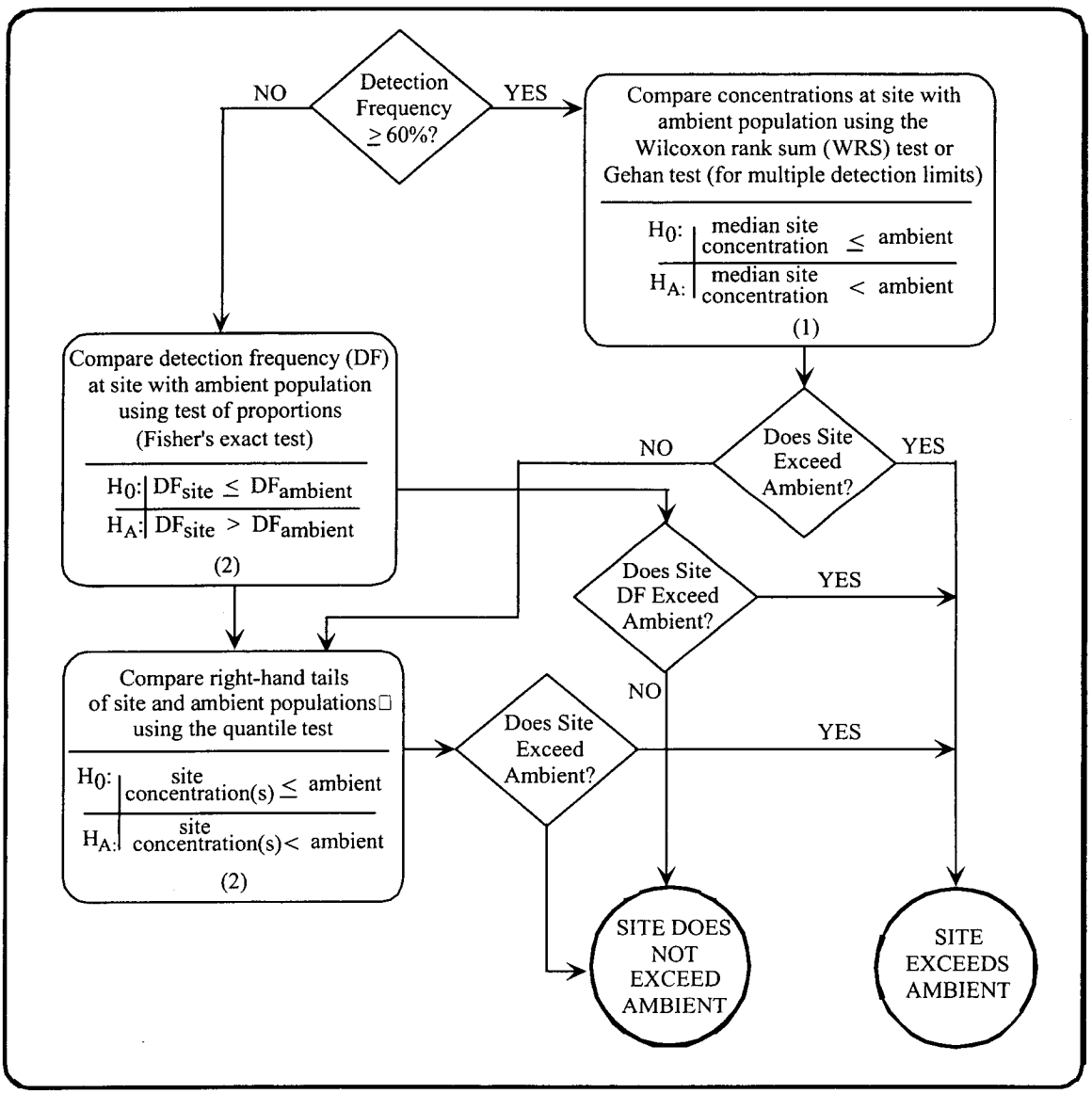
EPA. 2000b. "Guidance for Data Quality Assessment: Practical Methods for Data Analysis: EPA QA/G9, QA97 Version." EPA/600/R-96/084. Office of Research and Development. Washington, DC. July.

EPA. 2002. "Calculating exposure point concentrations at hazardous waste sites." OSWER 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December.

FIGURES

FIGURE A-1

FLOW CHART SHOWING THE BACKGROUND SCREENING PROCESS FOR METALS IN SOIL AND GROUNDWATER



Notes:

H_0 Null hypothesis

H_A Alternative hypothesis

(1) Censored observations are replaced with the reporting limit for all testing conducted using the WRS (or Gehan) and quantile tests. For cases where either the site or ambient data set contains fewer than 10 measurements, only the test of proportions and quantile tests are conducted. However, an additional option when n is small is to use an equivalent permutation (or randomization) test for comparing two populations.

(2) Both the test of proportions and quantile test are performed for the following cases: a) H_0 is not rejected under the WRS or Gehan tests, and b) the sample detection frequency is less than 60 percent. Independent conclusions are drawn from these tests. Chemicals that are identified as exceeding ambient based on <u>either</u> test are treated as chemicals of potential concern (or a justification is provided for not carrying a chemical forward if the only difference noted is the frequency of detection).

FIGURE A-2

KEY TO INTERPRETING OUTLIER BOX-PLOTS

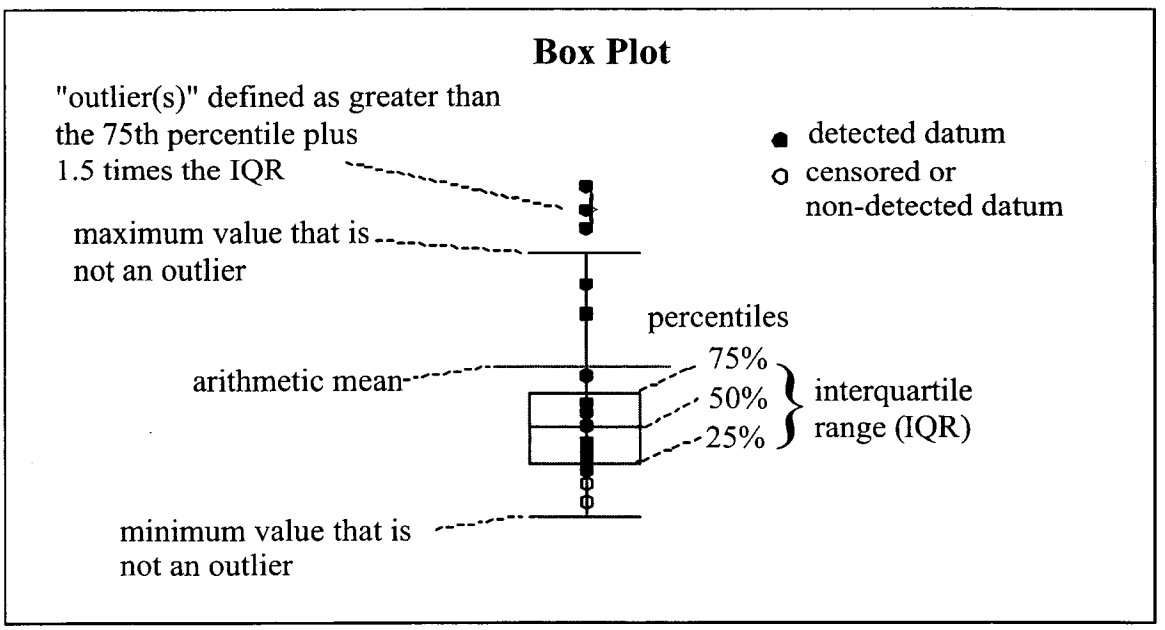
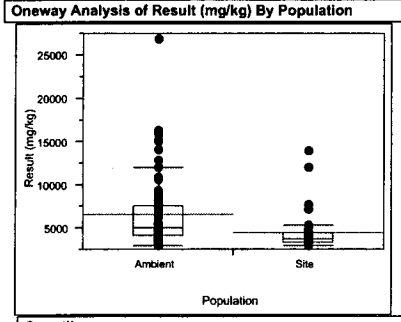


FIGURE A-3
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 SOIL

Site=Site 9 (0-8 feet bgs), Chemical=Aluminum

Oneway Analysis of Result (mg/kg) By Population

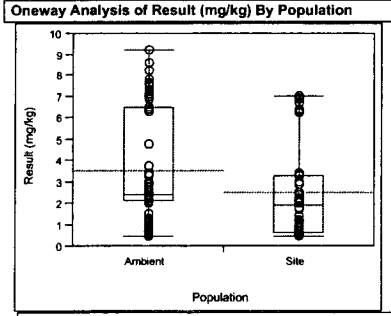


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	2880	3363	4122.5	4965	7520	14100	26800
Site	2890	3155	3337.5	3745	4437.5	6548	13900

Site=Site 9 (0-8 feet bgs), Chemical=Antimony

Oneway Analysis of Result (mg/kg) By Population

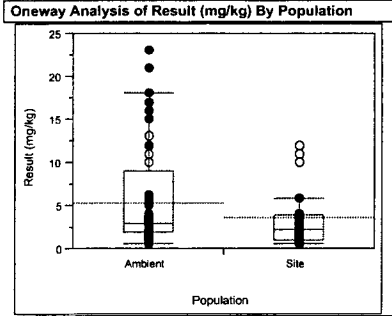


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.46	0.689	2.1	2.4	6.475	7.32	9.2
Site	0.47	0.49	0.6225	1.9	3.3	6.37	7

Site=Site 9 (0-8 feet bgs), Chemical=Arsenic

Oneway Analysis of Result (mg/kg) By Population

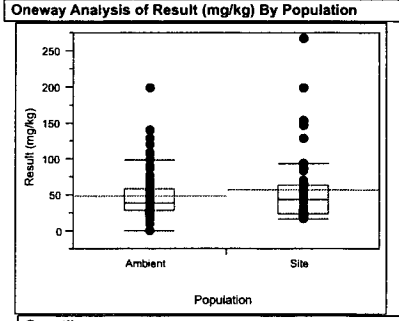


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.61	0.799	1.925	2.9	9.05	12.1	23
Site	0.55	0.56	0.925	2.2	3.85	10.7	12

Site=Site 9 (0-8 feet bgs), Chemical=Barium

Oneway Analysis of Result (mg/kg) By Population

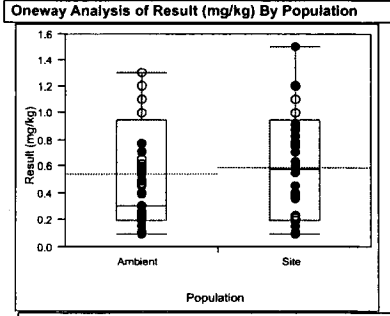


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.3	22.28	27.55	38.75	58.45	98.98	198
Site	16.3	18.86	24.025	43.5	63.75	140.6	266

Site=Site 9 (0-8 feet bgs), Chemical=Beryllium

Oneway Analysis of Result (mg/kg) By Population

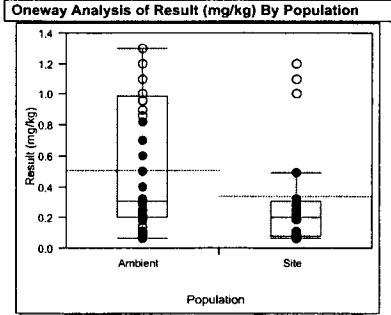


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.092	0.2	0.2	0.3	0.9425	1.2	1.3
Site	0.09	0.0974	0.2	0.575	0.94	1.17	1.5

Site=Site 9 (0-8 feet bgs), Chemical=Cadmium

Oneway Analysis of Result (mg/kg) By Population



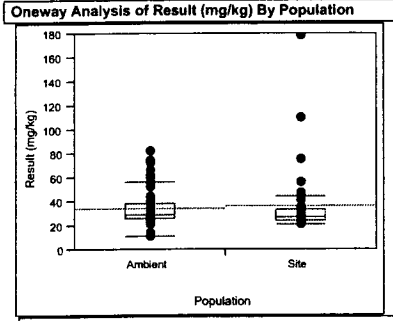
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.06	0.09	0.2	0.3	0.98925	1.2	1.3
Site	0.06	0.08	0.08	0.2	0.305	1.07	1.2

FIGURE A-3 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 SOIL

Site=Site 9 (0-8 feet bgs), Chemical=Chromium

Oneway Analysis of Result (mg/kg) By Population

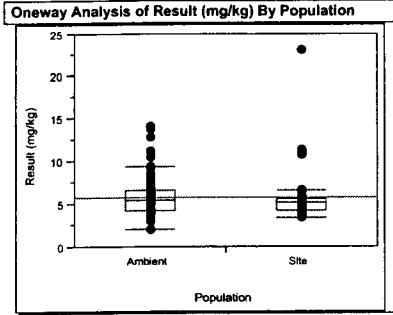


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.4	22.88	25.725	29.5	38.075	54.83	81.7
Site	21	22.79	24.35	27.5	33.025	56.28	178

Site=Site 9 (0-8 feet bgs), Chemical=Cobalt

Oneway Analysis of Result (mg/kg) By Population

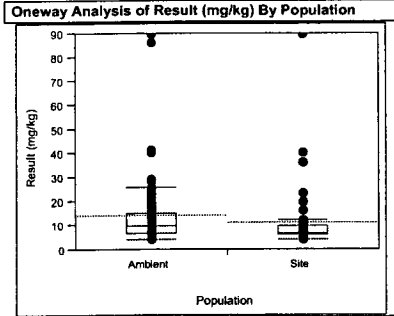


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.9	3.4	4.1	5.35	6.475	9.1	14
Site	3.3	3.6	4.2	5.2	5.625	9.44	23

Site=Site 9 (0-8 feet bgs), Chemical=Copper

Oneway Analysis of Result (mg/kg) By Population

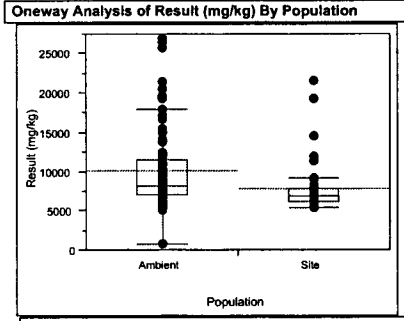


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	4.2	5.377	6.5	9.7	14.85	25.83	89.4
Site	4.1	4.39	5.925	6.6	9.425	21.92	89.4

Site=Site 9 (0-8 feet bgs), Chemical=Iron

Oneway Analysis of Result (mg/kg) By Population

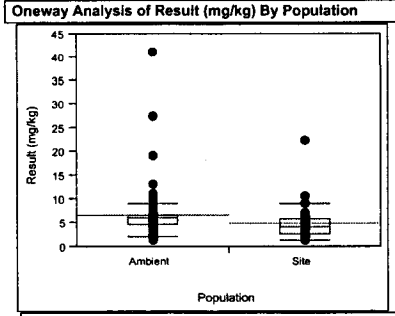


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	760	5689	6970	8140	11525	19310	26900
Site	5350	5555	6122.5	6820	7785	11720	21500

Site=Site 9 (0-8 feet bgs), Chemical=Lead

Oneway Analysis of Result (mg/kg) By Population

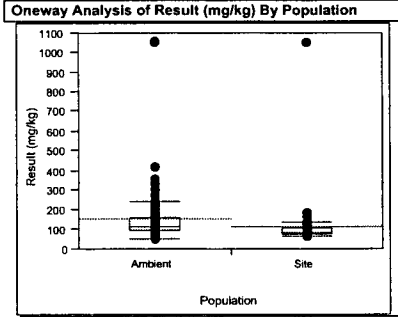


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.3	1.69	4.575	5.9	6.45	9.82	41
Site	1.3	2.16	2.6	4.05	5.65	6.94	22.2

Site=Site 9 (0-8 feet bgs), Chemical=Manganese

Oneway Analysis of Result (mg/kg) By Population



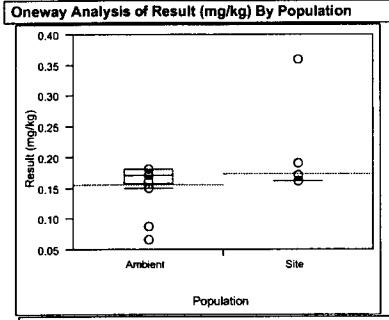
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	50	78.75	89.65	108.5	159.5	222.1	1060
Site	62.5	67.72	75.775	82.25	101.25	132.9	1050

FIGURE A-3 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 SOIL

Site=Site 9 (0-8 feet bgs), Chemical=Mercury

Oneway Analysis of Result (mg/kg) By Population

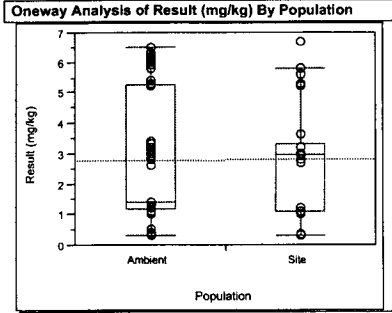


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.065	0.0713	0.1575	0.17	0.18	0.18	0.18
Site	0.16	0.16	0.16	0.16	0.16	0.186	0.36

Site=Site 9 (0-8 feet bgs), Chemical=Molybdenum

Oneway Analysis of Result (mg/kg) By Population

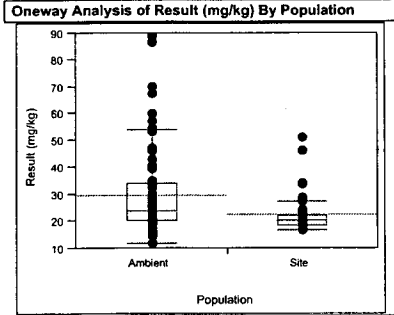


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.31	1	1.15	1.4	5.25	6.04	6.5
Site	0.31	0.322	1.075	2.95	3.3	5.51	6.7

Site=Site 9 (0-8 feet bgs), Chemical=Nickel

Oneway Analysis of Result (mg/kg) By Population

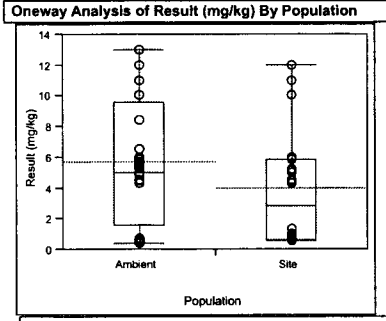


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.6	18.24	20.225	23.8	33.85	53.12	88.5
Site	16.5	17.12	18.3	20.25	22.175	32.14	50.8

Site=Site 9 (0-8 feet bgs), Chemical=Selenium

Oneway Analysis of Result (mg/kg) By Population

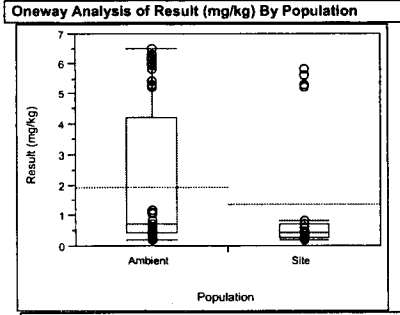


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.425	0.589	1.5925	5	9.6	12	13
Site	0.55	0.57	0.6025	2.8	5.825	10.7	12

Site=Site 9 (0-8 feet bgs), Chemical=Silver

Oneway Analysis of Result (mg/kg) By Population

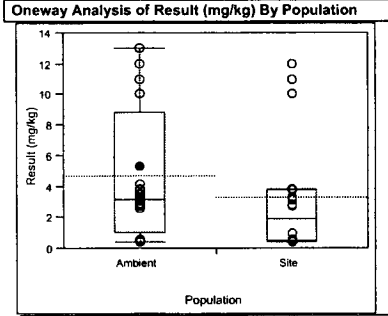


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.18	0.21	0.4325	0.7	4.195	6.01	6.5
Site	0.18	0.19	0.2775	0.425	0.7	5.27	5.8

Site=Site 9 (0-8 feet bgs), Chemical=Thallium

Oneway Analysis of Result (mg/kg) By Population



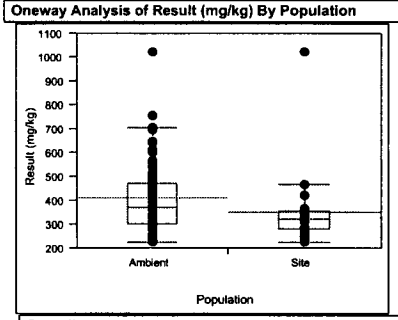
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.361	0.439	1.0475	3.1	8.825	12	13
Site	0.4	0.42	0.43	1.83	3.7	10.7	12

FIGURE A-3 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 SOIL

Site=Site 9 (0-8 feet bgs), Chemical=Titanium

Oneway Analysis of Result (mg/kg) By Population

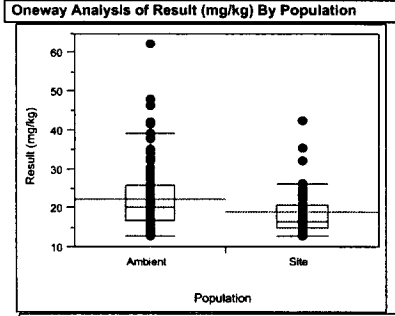


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	223	269.7	300	372.5	467.75	618.3	1020
Site	223	245.8	281.5	320	356.5	455.8	1020

Site=Site 9 (0-8 feet bgs), Chemical=Vanadium

Oneway Analysis of Result (mg/kg) By Population

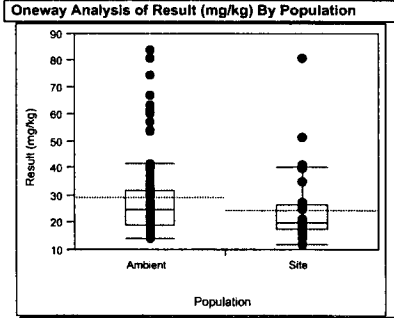


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	12.8	14	16.775	20	25.75	34.11	62.3
Site	12.7	13.86	15	16.4	20.825	25.94	42.3

Site=Site 9 (0-8 feet bgs), Chemical=Zinc

Oneway Analysis of Result (mg/kg) By Population



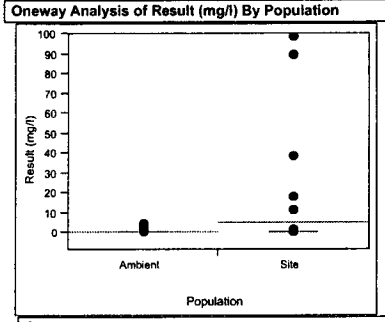
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	14	17.19	19	24.85	31.95	54.47	84
Site	12	14.51	17.375	19.75	26.65	40.28	80.6

FIGURE A-4
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 GROUNDWATER

Site=9, Chemical=Aluminum

Oneway Analysis of Result (mg/l) By Population

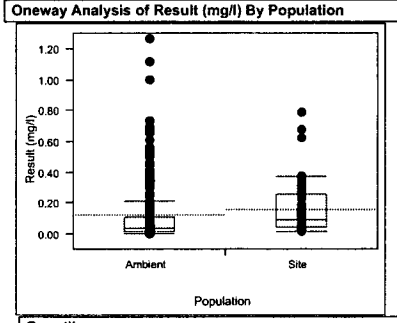


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.003	0.0207	0.0282	0.04075	0.066675	0.2545	4.53
Site	0.0043	0.00708	0.0282	0.0424	0.1	5.312	98

Site=9, Chemical=Barium

Oneway Analysis of Result (mg/l) By Population

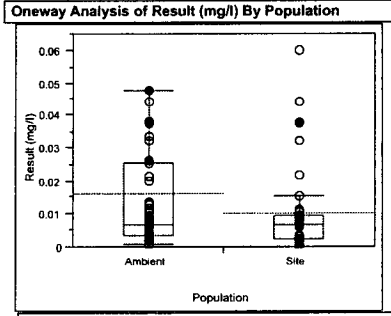


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0023	0.00875	0.0151	0.0425	0.10625	0.389	1.26
Site	0.0192	0.02788	0.0476	0.0964	0.26	0.3528	0.785

Site=9, Chemical=Antimony

Oneway Analysis of Result (mg/l) By Population

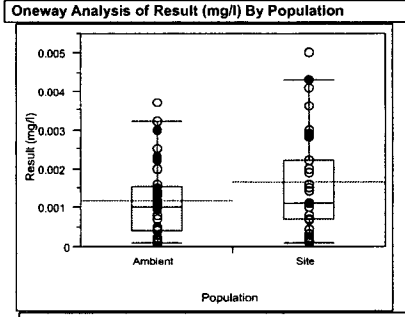


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00065	0.002	0.0033	0.0065	0.0251	0.0375	0.0478
Site	0.00012	0.000176	0.0022	0.0064	0.0094	0.0342	0.06

Site=9, Chemical=Beryllium

Oneway Analysis of Result (mg/l) By Population

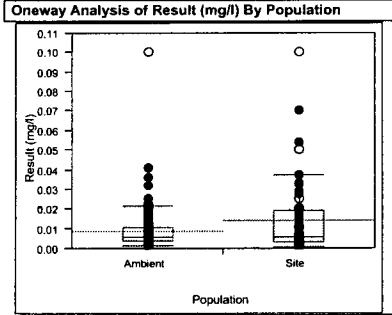


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.000407	0.001	0.001525	0.0025	0.0037
Site	0.0001	0.0001	0.0007	0.0011	0.0022	0.0043	0.005

Site=9, Chemical=Arsenic

Oneway Analysis of Result (mg/l) By Population

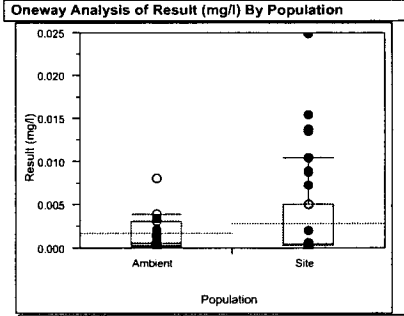


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.001	0.00259	0.0034	0.00525	0.010525	0.01681	0.1
Site	0.0008	0.00166	0.003	0.0055	0.0189	0.0346	0.1

Site=9, Chemical=Cadmium

Oneway Analysis of Result (mg/l) By Population



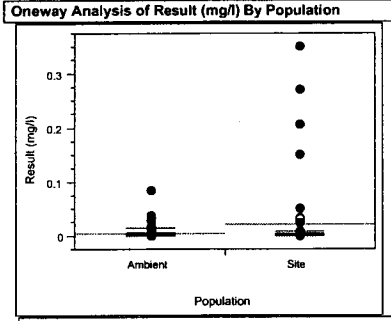
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.0003	0.0003	0.000555	0.003	0.0039	0.008
Site	0.000055	0.0003	0.0003	0.0004	0.005	0.0095	0.0248

FIGURE A-4 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 GROUNDWATER

Site=9, Chemical=Chromium

Oneway Analysis of Result (mg/l) By Population

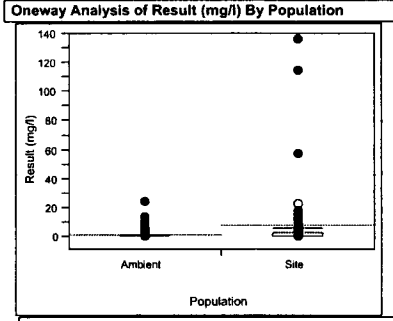


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0002	0.0007	0.001	0.0023	0.0063	0.0063	0.0828
Site	0.0002	0.00043	0.0007	0.0019	0.0043	0.0398	0.35

Site=9, Chemical=Iron

Oneway Analysis of Result (mg/l) By Population

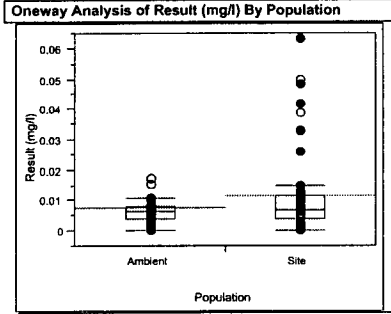


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0048	0.01047	0.031375	0.1305	0.5555	3.736	24.4
Site	0.0032	0.00608	0.0125	0.122	2.51	16.08	136

Site=9, Chemical=Cobalt

Oneway Analysis of Result (mg/l) By Population

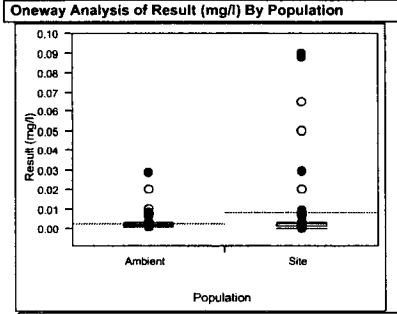


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00195	0.0038	0.0061	0.0077	0.0172	0.0172
Site	0.00011	0.001132	0.0038	0.0066	0.0112	0.03974	0.063

Site=9, Chemical=Lead

Oneway Analysis of Result (mg/l) By Population

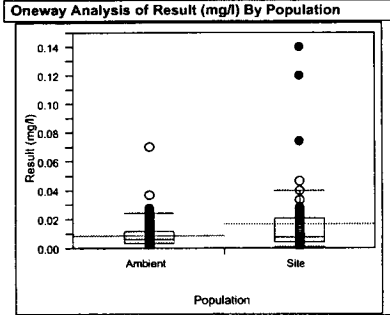


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.0008	0.0011	0.0013	0.002	0.0025	0.0284
Site	0.000043	0.000548	0.0011	0.0013	0.0025	0.02356	0.09

Site=9, Chemical=Copper

Oneway Analysis of Result (mg/l) By Population

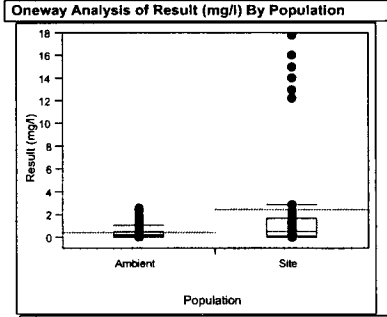


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00035	0.002	0.003725	0.00585	0.012	0.019	0.0697
Site	0.00059	0.00106	0.004	0.0077	0.0207	0.04	0.14

Site=9, Chemical=Manganese

Oneway Analysis of Result (mg/l) By Population



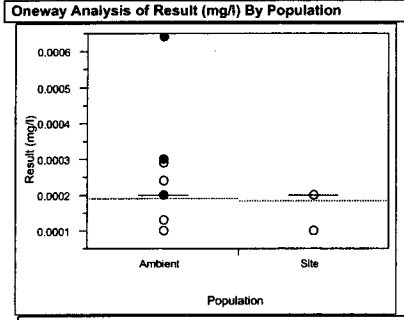
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00078	0.00438	0.021525	0.1315	0.435	1.203	2.48
Site	0.0023	0.00732	0.0474	0.483	1.64	12.9	17.8

FIGURE A-4 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 GROUNDWATER

Site=9, Chemical=Mercury

Oneway Analysis of Result (mg/l) By Population

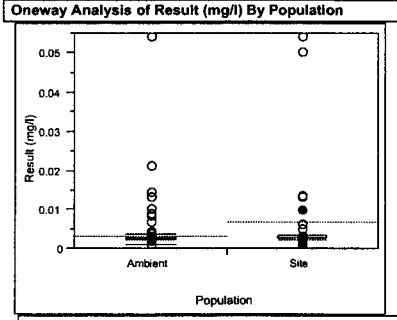


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.00064
Site	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002

Site=9, Chemical=Selenium

Oneway Analysis of Result (mg/l) By Population

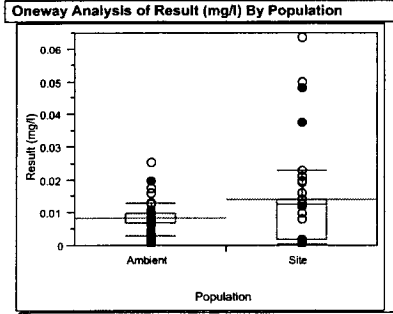


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0008	0.002	0.002	0.0024	0.0027	0.003	0.054
Site	0.00085	0.0016	0.0026	0.0027	0.0035	0.01325	0.054

Site=9, Chemical=Molybdenum

Oneway Analysis of Result (mg/l) By Population

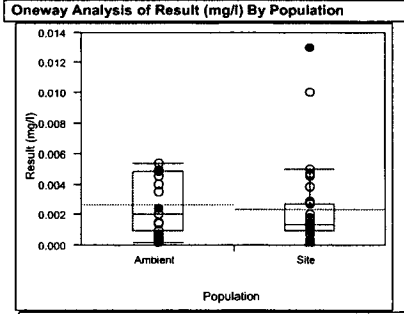


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.002	0.007	0.0096	0.0098	0.0127	0.0254
Site	0.00025	0.00053	0.0017	0.0127	0.014	0.0419	0.0635

Site=9, Chemical=Silver

Oneway Analysis of Result (mg/l) By Population

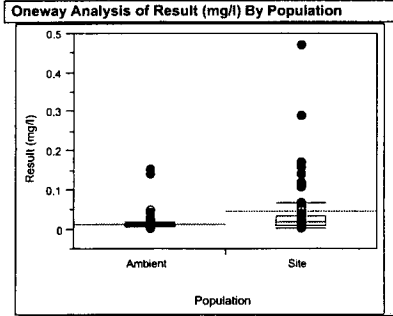


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.00035	0.0009	0.002	0.0048	0.0049	0.0054
Site	0.000038	0.0003	0.0009	0.0013	0.002725	0.005	0.013

Site=9, Chemical=Nickel

Oneway Analysis of Result (mg/l) By Population

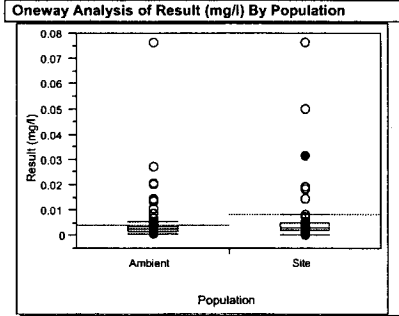


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0007	0.00269	0.0093	0.0113	0.0132	0.0132	0.151
Site	0.00076	0.0055	0.0093	0.0163	0.0317	0.1394	0.47

Site=9, Chemical=Thallium

Oneway Analysis of Result (mg/l) By Population



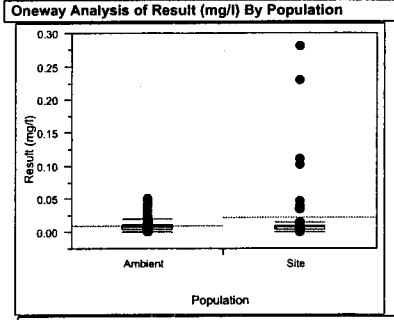
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0009	0.0017	0.0017	0.0027	0.0035	0.00496	0.076
Site	0.000019	0.00102	0.002	0.0032	0.005	0.02392	0.076

FIGURE A-4 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 9 GROUNDWATER

Site=9, Chemical=Vanadium

Oneway Analysis of Result (mg/l) By Population

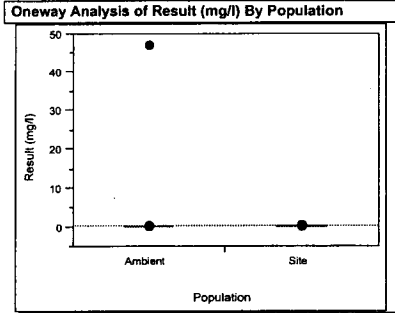


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00368	0.0042	0.007	0.010525	0.01843	0.0508
Site	0.0003	0.00144	0.0042	0.007	0.01	0.04288	0.28

Site=9, Chemical=Zinc

Oneway Analysis of Result (mg/l) By Population



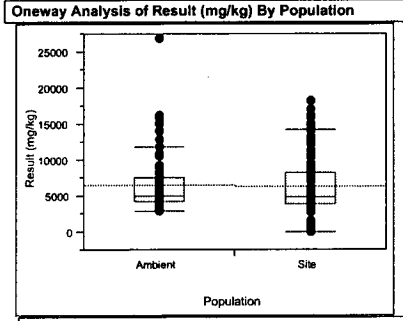
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.00319	0.0046	0.00775	0.0131	0.02075	46.8
Site	0.0014	0.0053	0.0087	0.02	0.04	0.124	0.35

FIGURE A-5
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 SOIL

Site=Site 13 (0-8 feet bgs), Chemical=Aluminum

Oneway Analysis of Result (mg/kg) By Population

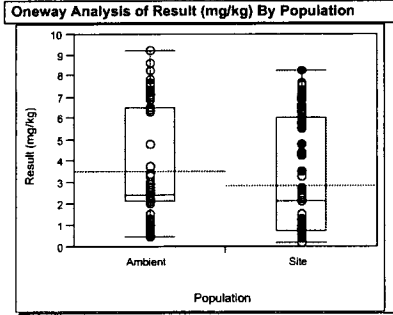


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	2880	3363	4122.5	4965	7520	14100	26800
Site	45.8	3136	3790	4830	8180	13200	18200

Site=Site 13 (0-8 feet bgs), Chemical=Antimony

Oneway Analysis of Result (mg/kg) By Population

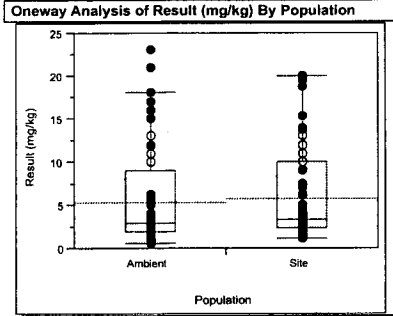


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.46	0.689	2.1	2.4	6.475	7.32	9.2
Site	0.15	0.49	0.74	2.1	6	7	8.2

Site=Site 13 (0-8 feet bgs), Chemical=Arsenic

Oneway Analysis of Result (mg/kg) By Population

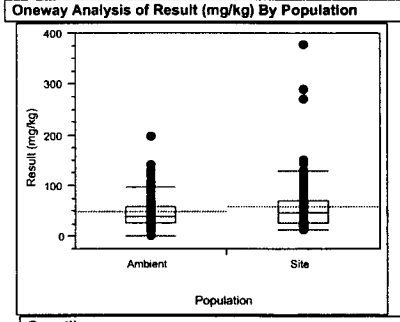


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.61	0.799	1.925	2.9	9.05	12.1	23
Site	1.1	1.5	2.4	3.3	10	12	20

Site=Site 13 (0-8 feet bgs), Chemical=Barium

Oneway Analysis of Result (mg/kg) By Population

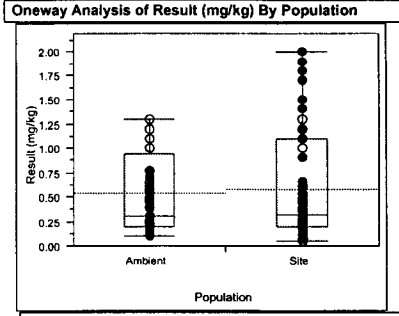


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.3	22.28	27.55	38.75	58.45	98.98	198
Site	11.6	21.16	26.8	44.9	68.5	109.4	376

Site=Site 13 (0-8 feet bgs), Chemical=Beryllium

Oneway Analysis of Result (mg/kg) By Population

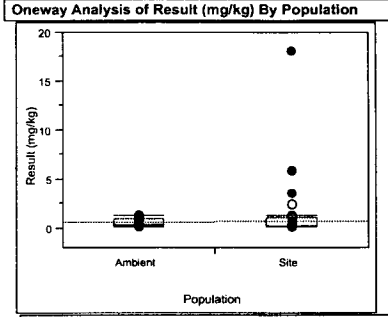


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.092	0.2	0.2	0.3	0.9425	1.2	1.3
Site	0.044	0.11	0.2	0.32	1.1	1.2	2

Site=Site 13 (0-8 feet bgs), Chemical=Cadmium

Oneway Analysis of Result (mg/kg) By Population



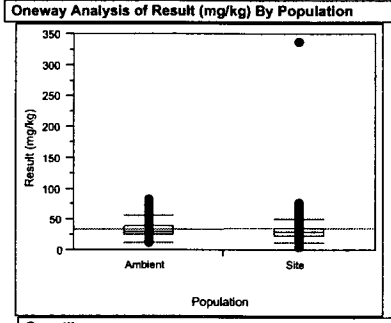
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.06	0.09	0.2	0.3	0.98925	1.2	1.3
Site	0.02	0.0492	0.09	0.2	1	1.2	18

FIGURE A-5 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 SOIL

Site=Site 13 (0-8 feet bgs), Chemical=Chromium

Oneway Analysis of Result (mg/kg) By Population

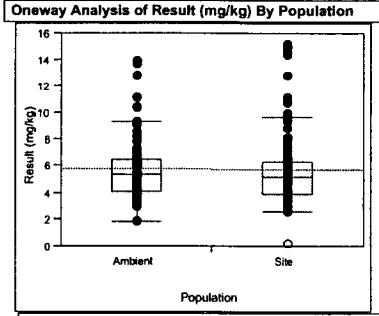


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.4	22.88	25.725	29.5	38.075	54.83	81.7
Site	3.4	21.94	23.3	28.2	34.4	52.36	337

Site=Site 13 (0-8 feet bgs), Chemical=Cobalt

Oneway Analysis of Result (mg/kg) By Population

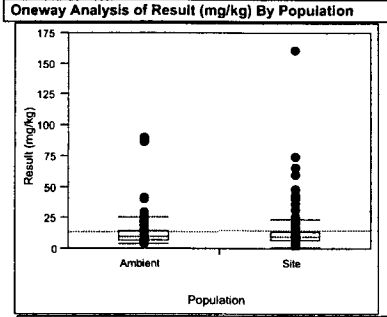


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.9	3.4	4.1	5.35	6.475	9.1	14
Site	0.15	3.28	3.9	5.2	6.3	9.54	15.2

Site=Site 13 (0-8 feet bgs), Chemical=Copper

Oneway Analysis of Result (mg/kg) By Population

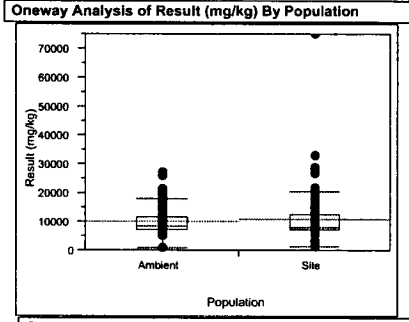


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	4.2	5.377	6.5	9.7	14.85	25.83	89.4
Site	1.2	5.24	6.6	9.4	13.3	24.26	160

Site=Site 13 (0-8 feet bgs), Chemical=Iron

Oneway Analysis of Result (mg/kg) By Population

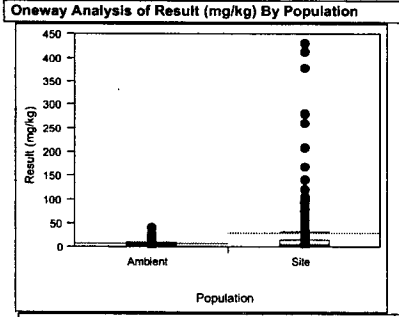


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	760	5689	6970	8140	11525	19310	26900
Site	1110	6054	6890	7900	12300	19580	74800

Site=Site 13 (0-8 feet bgs), Chemical=Lead

Oneway Analysis of Result (mg/kg) By Population

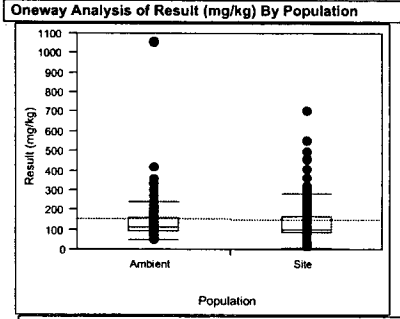


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.3	1.69	4.575	5.9	6.45	9.82	41
Site	1	1.8	3.75	6	16.15	75	431

Site=Site 13 (0-8 feet bgs), Chemical=Manganese

Oneway Analysis of Result (mg/kg) By Population



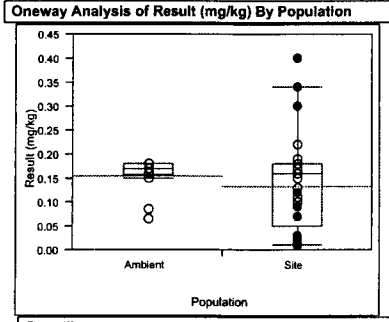
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	50	78.75	89.65	108.5	159.5	222.1	1060
Site	7.5	66.08	83.6	96.6	163	284.2	702

FIGURE A-5 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 SOIL

Site=Site 13 (0-8 feet bgs), Chemical=Mercury

Oneway Analysis of Result (mg/kg) By Population

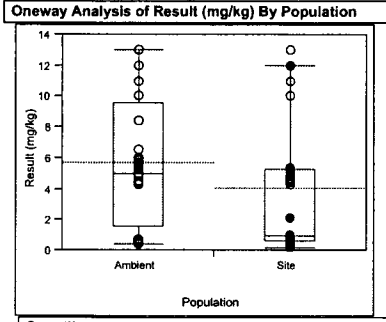


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.065	0.0713	0.1575	0.17	0.18	0.18	0.18
Site	0.01	0.01	0.05	0.16	0.18	0.19	0.4

Site=Site 13 (0-8 feet bgs), Chemical=Selenium

Oneway Analysis of Result (mg/kg) By Population

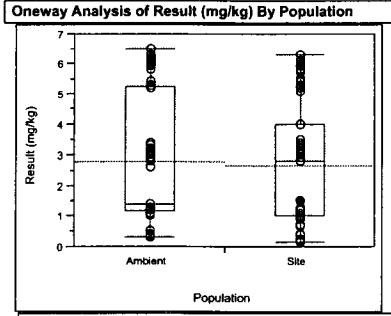


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.425	0.589	1.5925	5	9.6	12	13
Site	0.14	0.318	0.61	0.93	5.3	12	13

Site=Site 13 (0-8 feet bgs), Chemical=Molybdenum

Oneway Analysis of Result (mg/kg) By Population

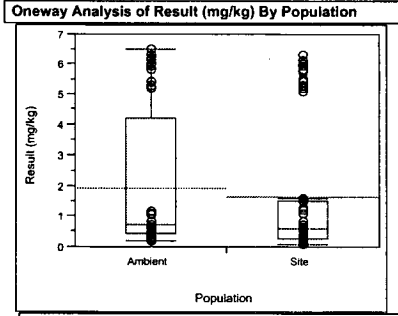


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.31	1	1.15	1.4	5.25	6.04	6.5
Site	0.15	0.17	1	2.8	4	5.8	6.3

Site=Site 13 (0-8 feet bgs), Chemical=Silver

Oneway Analysis of Result (mg/kg) By Population

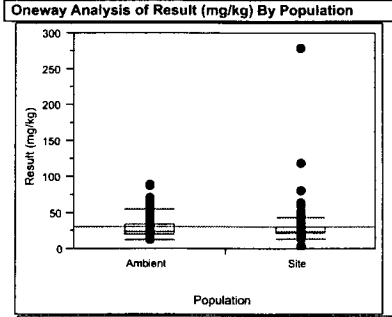


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.18	0.21	0.4325	0.7	4.195	6.01	6.5
Site	0.088	0.176	0.26	0.6	1.5	5.72	6.3

Site=Site 13 (0-8 feet bgs), Chemical=Nickel

Oneway Analysis of Result (mg/kg) By Population

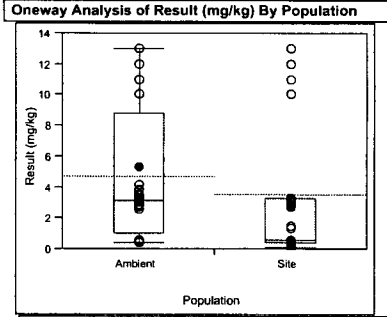


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.6	18.24	20.225	23.8	33.85	53.12	88.5
Site	1.2	16	20.9	24	29.9	47.02	278

Site=Site 13 (0-8 feet bgs), Chemical=Thallium

Oneway Analysis of Result (mg/kg) By Population



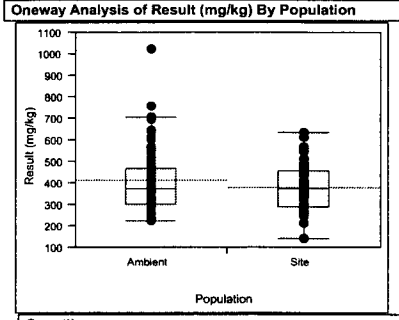
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.361	0.439	1.0475	3.1	8.825	12	13
Site	0.11	0.12	0.42	0.55	3.3	12	13

FIGURE A-5 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 SOIL

Site=Site 13 (0-8 feet bgs), Chemical=Titanium

Oneway Analysis of Result (mg/kg) By Population

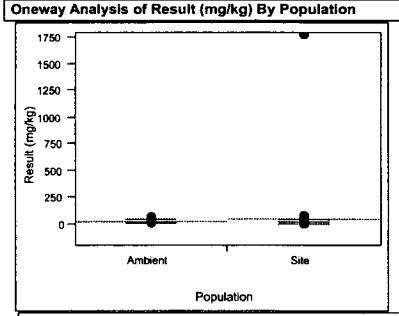


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	223	269.7	300	372.5	467.75	618.3	1020
Site	139	250.7	288.5	370	455.5	540.9	632

Site=Site 13 (0-8 feet bgs), Chemical=Vanadium

Oneway Analysis of Result (mg/kg) By Population

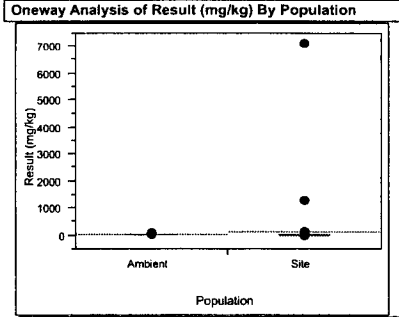


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	12.8	14	16.775	20	25.75	34.11	62.3
Site	2	14.6	16.9	19.9	27.6	38.14	1780

Site=Site 13 (0-8 feet bgs), Chemical=Zinc

Oneway Analysis of Result (mg/kg) By Population



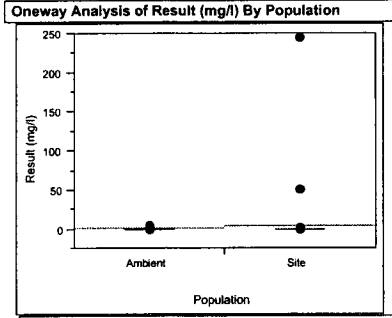
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	14	17.19	19	24.85	31.95	54.47	84
Site	5.6	15.08	17.7	22.5	32.8	62.3	7120

FIGURE A-6
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 GROUNDWATER

Site=13, Chemical=Aluminum

Oneway Analysis of Result (mg/l) By Population

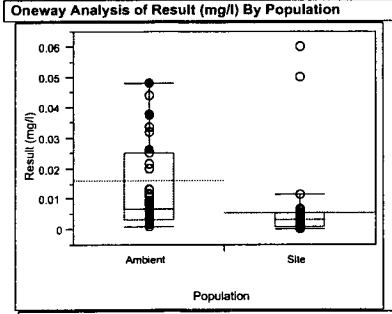


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.003	0.0207	0.0282	0.04075	0.066675	0.2545	4.53
Site	0.0046	0.0084	0.0207	0.0282	0.058975	0.2065	244

Site=13, Chemical=Antimony

Oneway Analysis of Result (mg/l) By Population

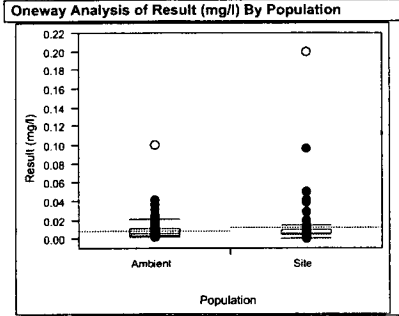


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00065	0.002	0.0033	0.0065	0.0251	0.0375	0.0478
Site	0.000051	0.000166	0.000675	0.0033	0.0056	0.0064	0.06

Site=13, Chemical=Arsenic

Oneway Analysis of Result (mg/l) By Population

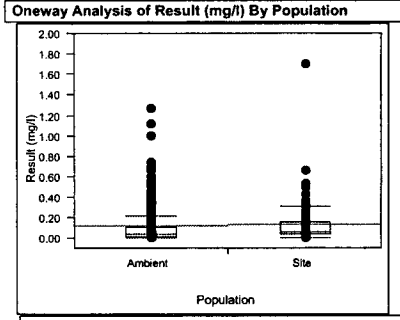


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.001	0.00259	0.0034	0.00525	0.010525	0.01681	0.1
Site	0.00021	0.0014	0.0036	0.005	0.00935	0.0208	0.2

Site=13, Chemical=Barium

Oneway Analysis of Result (mg/l) By Population

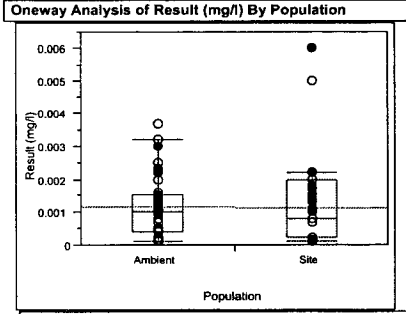


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0023	0.00875	0.0151	0.0425	0.10625	0.389	1.26
Site	0.0067	0.0315	0.045825	0.0625	0.152	0.3125	1.7

Site=13, Chemical=Beryllium

Oneway Analysis of Result (mg/l) By Population

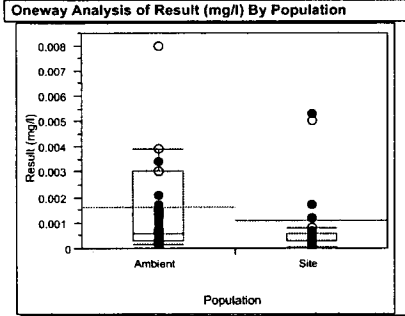


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.000407	0.001	0.001525	0.0025	0.0037
Site	0.0001	0.0001	0.0002	0.0008	0.002	0.002	0.006

Site=13, Chemical=Cadmium

Oneway Analysis of Result (mg/l) By Population



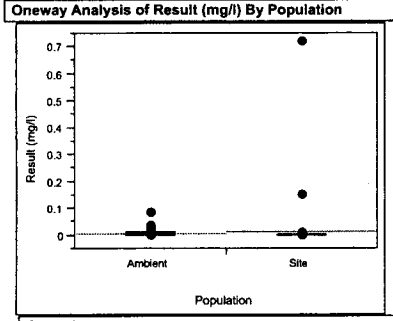
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.0003	0.0003	0.000555	0.003	0.0039	0.008
Site	0.000065	0.000142	0.0003	0.0003	0.00056	0.005	0.0053

FIGURE A-6 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 GROUNDWATER

Site=13, Chemical=Chromium

Oneway Analysis of Result (mg/l) By Population

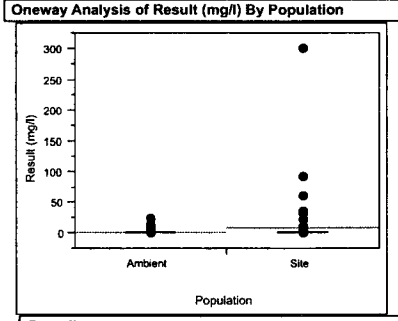


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0002	0.0007	0.001	0.0023	0.0063	0.0063	0.0828
Site	0.00009	0.0006	0.0008	0.0015	0.00245	0.01	0.72

Site=13, Chemical=Iron

Oneway Analysis of Result (mg/l) By Population

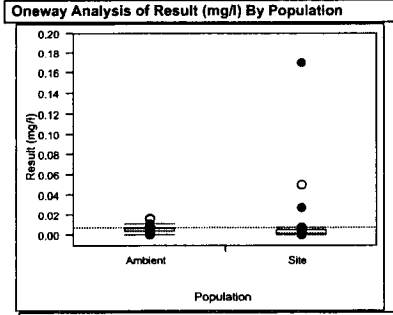


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0048	0.01047	0.031375	0.1305	0.5555	3.736	24.4
Site	0.0032	0.0078	0.017075	0.112	1.3125	9.22	300

Site=13, Chemical=Cobalt

Oneway Analysis of Result (mg/l) By Population

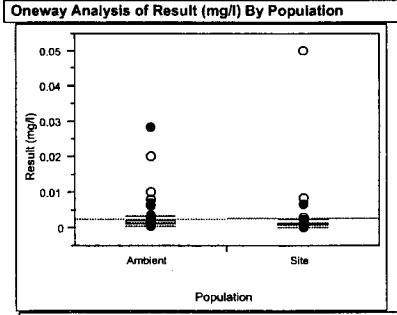


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00195	0.0038	0.0061	0.0077	0.0172	0.0172
Site	0.000093	0.000416	0.00155	0.0046	0.0056	0.0077	0.17

Site=13, Chemical=Lead

Oneway Analysis of Result (mg/l) By Population

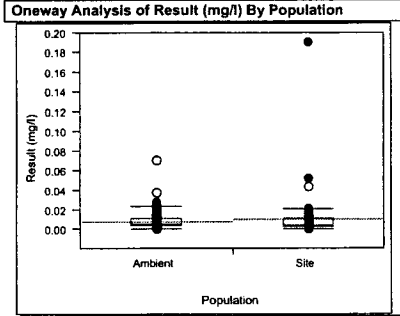


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.0008	0.0011	0.0013	0.002	0.0025	0.0284
Site	0.000022	0.00022	0.000795	0.0011	0.0015	0.0022	0.05

Site=13, Chemical=Copper

Oneway Analysis of Result (mg/l) By Population

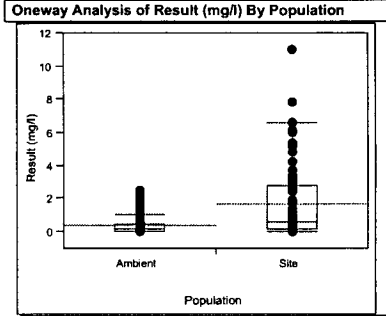


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00035	0.002	0.003725	0.00585	0.012	0.019	0.0697
Site	0.00057	0.0011	0.0029	0.0046	0.012	0.01555	0.19

Site=13, Chemical=Manganese

Oneway Analysis of Result (mg/l) By Population



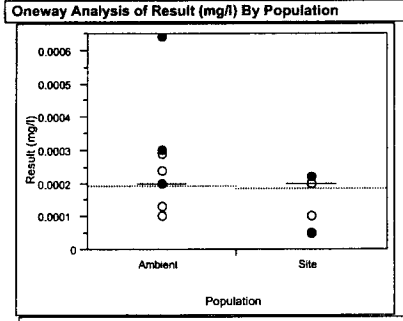
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00078	0.00438	0.021525	0.1315	0.435	1.203	2.48
Site	0.0012	0.006	0.141	0.5805	2.775	5.175	11

FIGURE A-6 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 GROUNDWATER

Site=13, Chemical=Mercury

Oneway Analysis of Result (mg/l) By Population

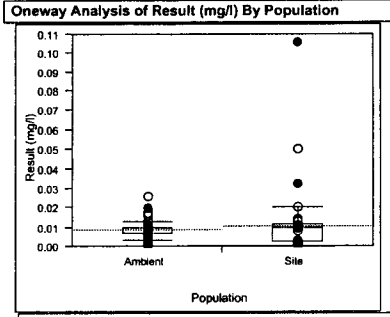


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.00064
Site	0.000046	0.0001	0.0002	0.0002	0.0002	0.0002	0.00022

Site=13, Chemical=Molybdenum

Oneway Analysis of Result (mg/l) By Population

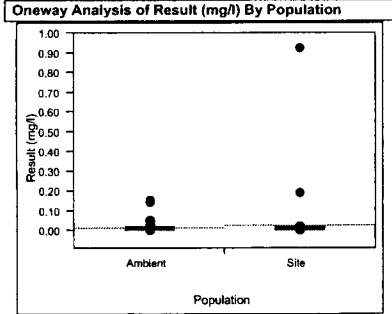


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.002	0.007	0.0096	0.0098	0.0127	0.0254
Site	0.00025	0.000624	0.0026	0.0096	0.0119	0.01304	0.106

Site=13, Chemical=Nickel

Oneway Analysis of Result (mg/l) By Population

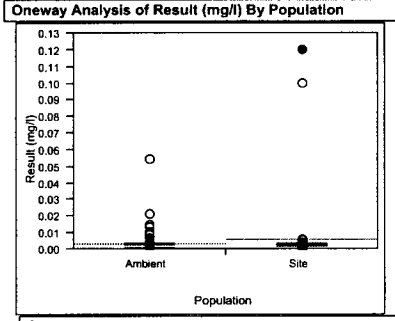


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0007	0.00269	0.0093	0.0113	0.0132	0.0132	0.151
Site	0.00082	0.00258	0.0075	0.0093	0.0113	0.02	0.92

Site=13, Chemical=Selenium

Oneway Analysis of Result (mg/l) By Population

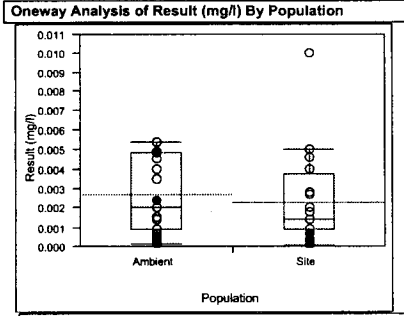


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0008	0.002	0.002	0.0024	0.0027	0.003	0.054
Site	0.00036	0.00104	0.0024	0.0027	0.0033	0.005	0.12

Site=13, Chemical=Silver

Oneway Analysis of Result (mg/l) By Population

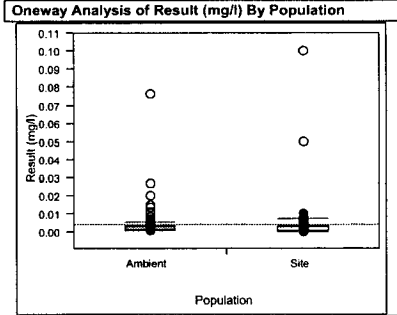


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.00035	0.0009	0.002	0.0048	0.0049	0.0054
Site	0.000037	0.000338	0.0009	0.0014	0.0037	0.005	0.01

Site=13, Chemical=Thallium

Oneway Analysis of Result (mg/l) By Population



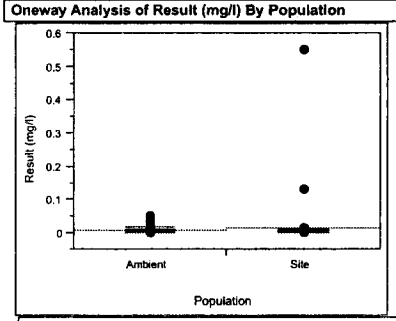
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0009	0.0017	0.0017	0.0027	0.0035	0.00496	0.076
Site	0.000037	0.000148	0.0012	0.0029	0.0038	0.00412	0.1

FIGURE A-6 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 13 GROUNDWATER

Site=13, Chemical=Vanadium

Oneway Analysis of Result (mg/l) By Population

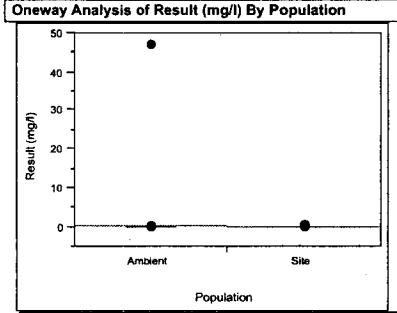


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00368	0.0042	0.007	0.010525	0.01843	0.0508
Site	0.0003	0.00146	0.0037	0.0063	0.0072	0.01	0.55

Site=13, Chemical=Zinc

Oneway Analysis of Result (mg/l) By Population



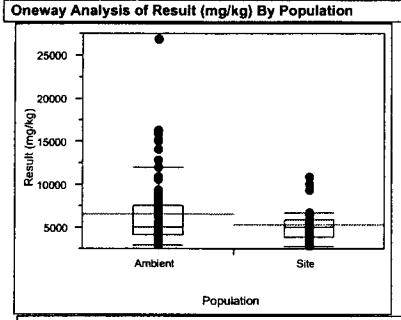
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.00319	0.0046	0.00775	0.0131	0.02075	46.8
Site	0.00084	0.0022	0.00585	0.0127	0.017175	0.0235	0.56

FIGURE A-7
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 SOIL

Site=Site 19 (0-8 feet bgs), Chemical=Aluminum

Oneway Analysis of Result (mg/kg) By Population

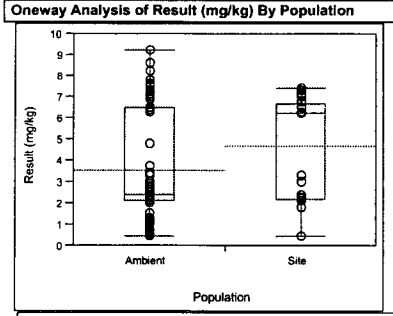


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	2880	3363	4122.5	4965	7520	14100	26800
Site	2840	3426	3945	5020	5780	8256	10900

Site=Site 19 (0-8 feet bgs), Chemical=Antimony

Oneway Analysis of Result (mg/kg) By Population

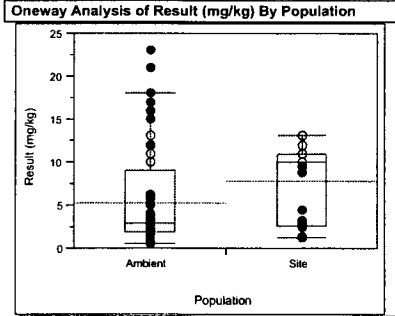


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.46	0.689	2.1	2.4	6.475	7.32	9.2
Site	0.42	1.92	2.15	6.2	6.65	7.22	7.4

Site=Site 19 (0-8 feet bgs), Chemical=Arsenic

Oneway Analysis of Result (mg/kg) By Population

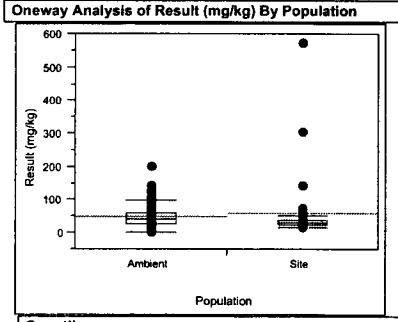


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.61	0.799	1.925	2.9	9.05	12.1	23
Site	1.3	2.5	2.7	10	11	12	13

Site=Site 19 (0-8 feet bgs), Chemical=Barium

Oneway Analysis of Result (mg/kg) By Population

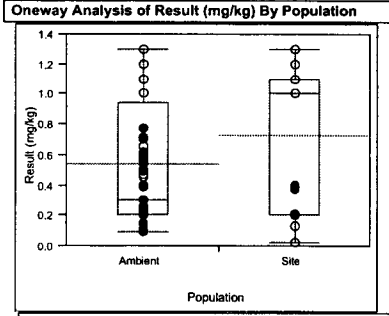


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.3	22.28	27.55	38.75	58.45	98.98	198
Site	15.3	20.38	22.9	30	36.4	112.4	570

Site=Site 19 (0-8 feet bgs), Chemical=Beryllium

Oneway Analysis of Result (mg/kg) By Population

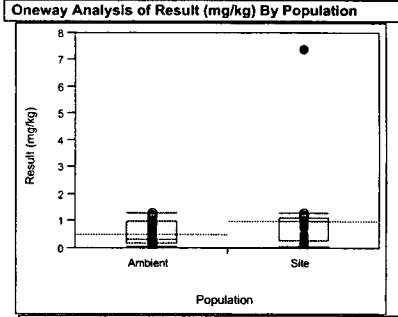


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.092	0.2	0.2	0.3	0.9425	1.2	1.3
Site	0.023	0.158	0.2	1	1.1	1.2	1.3

Site=Site 19 (0-8 feet bgs), Chemical=Cadmium

Oneway Analysis of Result (mg/kg) By Population



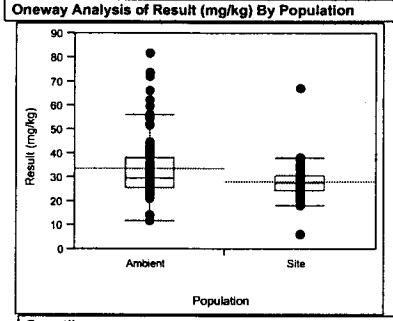
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.06	0.09	0.2	0.3	0.98925	1.2	1.3
Site	0.044	0.2	0.285	1	1.1	1.2	7.4

FIGURE A-7 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 SOIL

Site=Site 19 (0-8 feet bgs), Chemical=Chromium

Oneway Analysis of Result (mg/kg) By Population

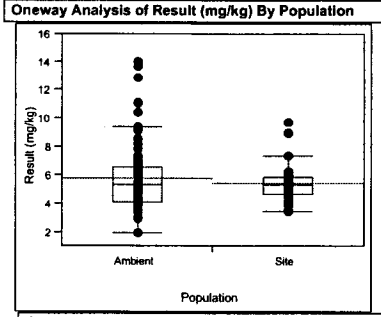


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.4	22.88	25.725	29.5	38.075	54.83	81.7
Site	5.8	20.36	24.5	27.6	30.4	36.2	67

Site=Site 19 (0-8 feet bgs), Chemical=Cobalt

Oneway Analysis of Result (mg/kg) By Population

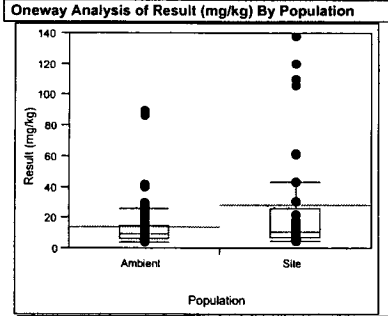


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.9	3.4	4.1	5.35	6.475	9.1	14
Site	3.4	3.92	4.65	5.3	5.85	6.86	9.7

Site=Site 19 (0-8 feet bgs), Chemical=Copper

Oneway Analysis of Result (mg/kg) By Population

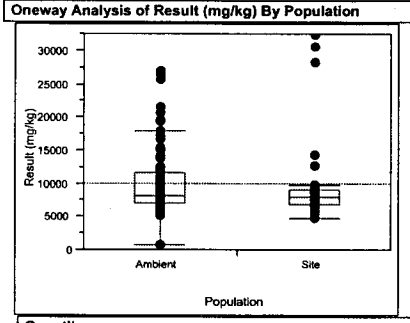


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	4.2	5.377	6.5	9.7	14.85	25.83	89.4
Site	5	5.24	6.8	11	25.8	108.4	138

Site=Site 19 (0-8 feet bgs), Chemical=Iron

Oneway Analysis of Result (mg/kg) By Population

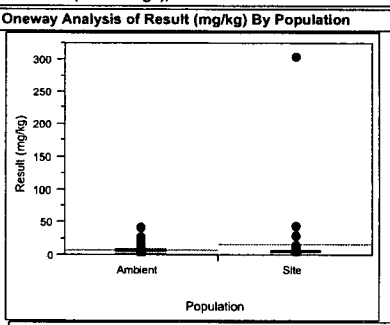


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	760	5689	6970	8140	11525	19310	26900
Site	4670	5966	6790	7910	9110	22640	32300

Site=Site 19 (0-8 feet bgs), Chemical=Lead

Oneway Analysis of Result (mg/kg) By Population

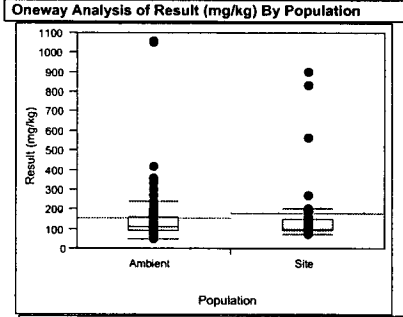


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.3	1.69	4.575	5.9	6.45	9.82	41
Site	3.1	4.02	5.2	5.4	6.4	22.52	303

Site=Site 19 (0-8 feet bgs), Chemical=Manganese

Oneway Analysis of Result (mg/kg) By Population



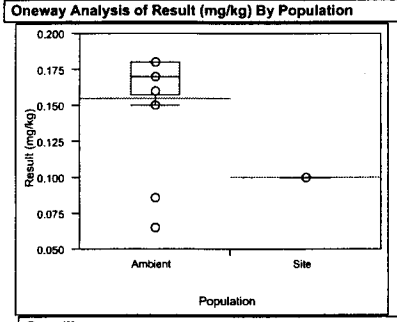
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	50	78.75	89.65	108.5	159.5	222.1	1060
Site	72	84.4	91	100	149	446	897

FIGURE A-7 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 SOIL

Site=Site 19 (0-8 feet bgs), Chemical=Mercury

Oneway Analysis of Result (mg/kg) By Population

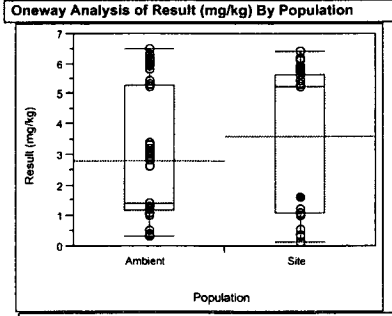


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.065	0.0713	0.1575	0.17	0.18	0.18	0.18
Site	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Site=Site 19 (0-8 feet bgs), Chemical=Molybdenum

Oneway Analysis of Result (mg/kg) By Population

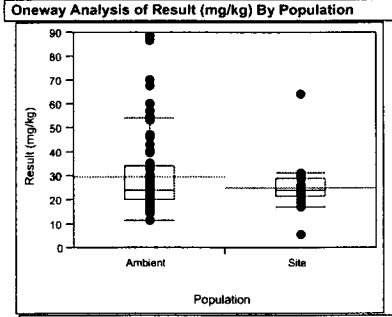


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.31	1	1.15	1.4	5.25	6.04	6.5
Site	0.11	0.326	1.1	5.2	5.6	6.1	6.4

Site=Site 19 (0-8 feet bgs), Chemical=Nickel

Oneway Analysis of Result (mg/kg) By Population

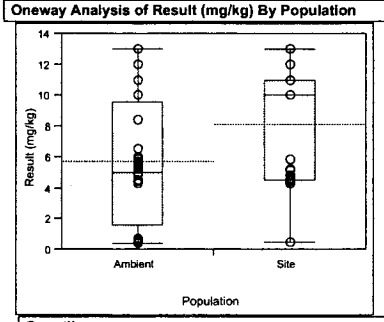


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.6	18.24	20.225	23.8	33.85	53.12	88.5
Site	5.5	18.58	21.75	23.8	29	30.6	64

Site=Site 19 (0-8 feet bgs), Chemical=Selenium

Oneway Analysis of Result (mg/kg) By Population

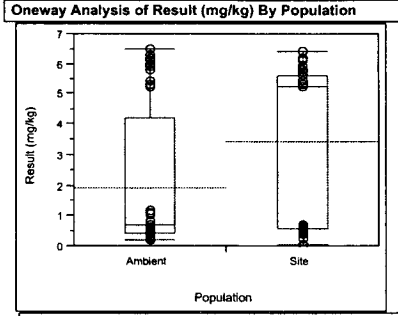


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.425	0.589	1.5925	5	9.6	12	13
Site	0.47	4.34	4.55	10	11	12	13

Site=Site 19 (0-8 feet bgs), Chemical=Silver

Oneway Analysis of Result (mg/kg) By Population

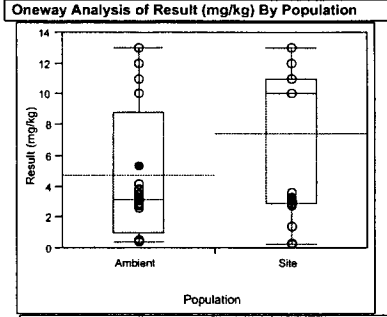


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.18	0.21	0.4325	0.7	4.195	6.01	6.5
Site	0.055	0.302	0.6	5.2	5.6	6.1	6.4

Site=Site 19 (0-8 feet bgs), Chemical=Thallium

Oneway Analysis of Result (mg/kg) By Population



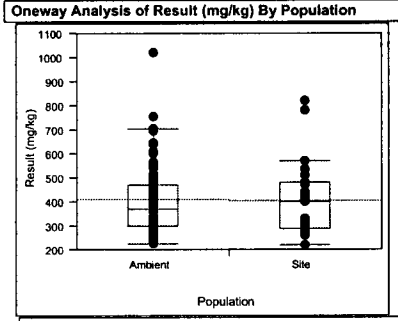
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.361	0.439	1.0475	3.1	8.825	12	13
Site	0.27	1.92	2.85	10	11	12	13

FIGURE A-7 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 SOIL

Site=Site 19 (0-8 feet bgs), Chemical=Titanium

Oneway Analysis of Result (mg/kg) By Population

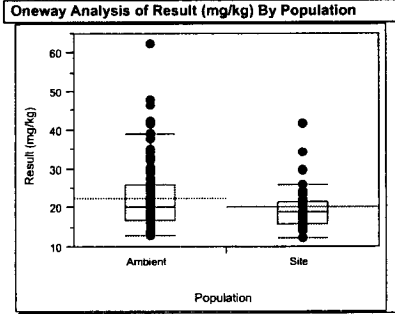


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	223	269.7	300	372.5	467.75	618.3	1020
Site	220	269.2	288	400	480	563.8	819

Site=Site 19 (0-8 feet bgs), Chemical=Vanadium

Oneway Analysis of Result (mg/kg) By Population

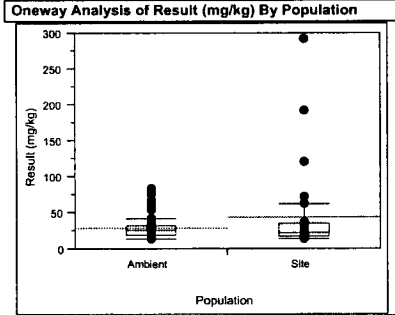


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	12.8	14	16.775	20	25.75	34.11	62.3
Site	12	14	15.8	19	21.3	28.16	41.5

Site=Site 19 (0-8 feet bgs), Chemical=Zinc

Oneway Analysis of Result (mg/kg) By Population



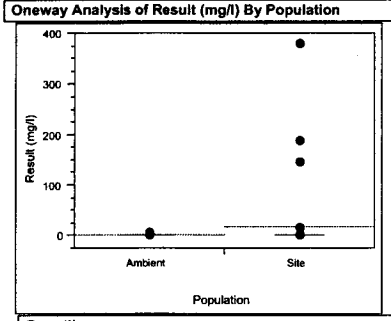
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	14	17.19	19	24.85	31.95	54.47	84
Site	13.8	16	17.5	22.2	35.35	100.48	292

FIGURE A-8
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 GROUNDWATER

Site=19, Chemical=Aluminum

Oneway Analysis of Result (mg/l) By Population

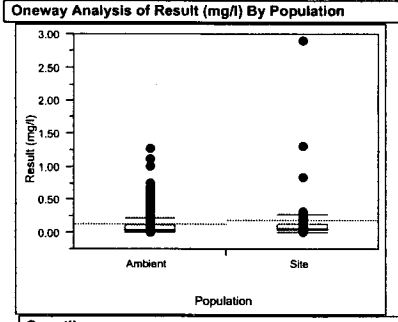


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.003	0.0207	0.0262	0.04075	0.066675	0.2545	4.53
Site	0.0064	0.0091	0.0207	0.0402	0.07645	7.7145	378

Site=19, Chemical=Barium

Oneway Analysis of Result (mg/l) By Population

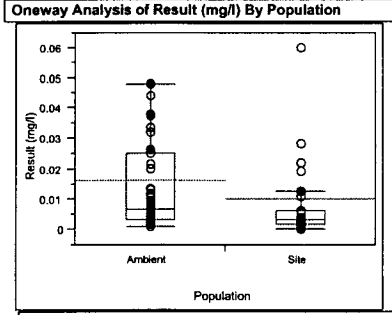


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0023	0.00875	0.0151	0.0425	0.10625	0.389	1.26
Site	0.0093	0.0149	0.030075	0.0561	0.1255	0.286	2.9

Site=19, Chemical=Antimony

Oneway Analysis of Result (mg/l) By Population

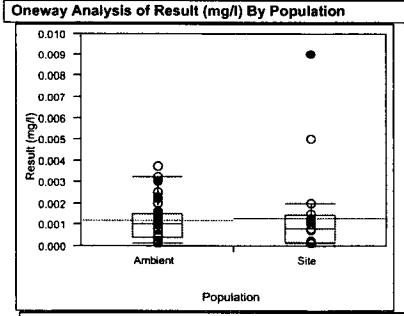


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00065	0.002	0.0033	0.0065	0.0251	0.0375	0.0478
Site	0.000068	0.000585	0.0018	0.0033	0.0064	0.044	0.06

Site=19, Chemical=Beryllium

Oneway Analysis of Result (mg/l) By Population

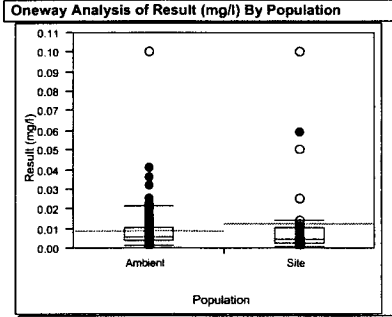


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.000407	0.001	0.001525	0.0025	0.0037
Site	0.0001	0.0001	0.000162	0.0008	0.00145	0.0035	0.009

Site=19, Chemical=Arsenic

Oneway Analysis of Result (mg/l) By Population

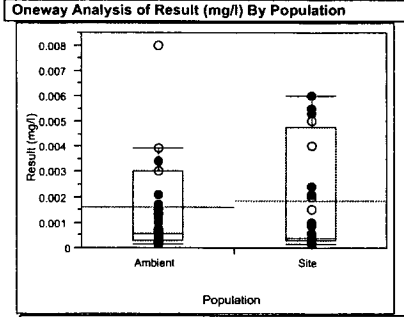


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.001	0.00259	0.0034	0.00525	0.010525	0.01681	0.1
Site	0.00064	0.0011	0.002625	0.00425	0.01055	0.05	0.1

Site=19, Chemical=Cadmium

Oneway Analysis of Result (mg/l) By Population



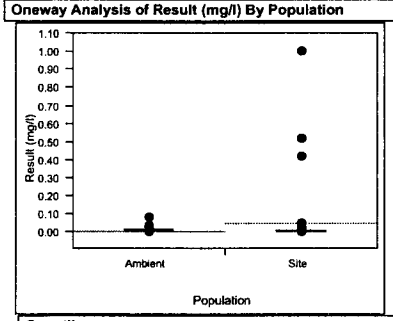
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.0003	0.0003	0.000555	0.003	0.0039	0.008
Site	0.00015	0.0003	0.0003	0.0004	0.00475	0.005	0.006

FIGURE A-8 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 GROUNDWATER

Site=19, Chemical=Chromium

Oneway Analysis of Result (mg/l) By Population

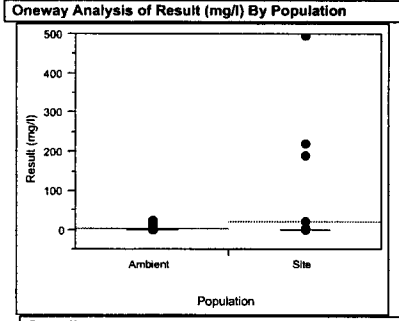


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0002	0.0007	0.001	0.0023	0.0063	0.0063	0.0828
Site	0.00022	0.0004	0.0006	0.001	0.004275	0.0332	1

Site=19, Chemical=Iron

Oneway Analysis of Result (mg/l) By Population

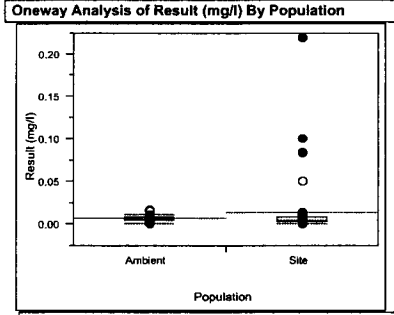


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0048	0.01047	0.031375	0.1305	0.5555	3.736	24.4
Site	0.0032	0.0052	0.0104	0.03165	0.1	11.5	494

Site=19, Chemical=Cobalt

Oneway Analysis of Result (mg/l) By Population

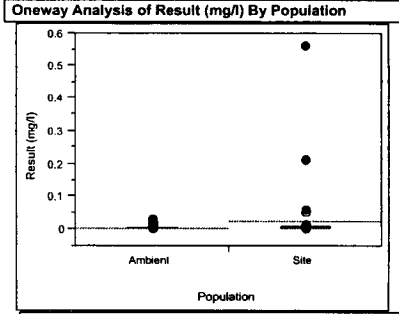


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00195	0.0038	0.0061	0.0077	0.0172	0.0172
Site	0.000046	0.00021	0.002575	0.0046	0.0077	0.03195	0.22

Site=19, Chemical=Lead

Oneway Analysis of Result (mg/l) By Population

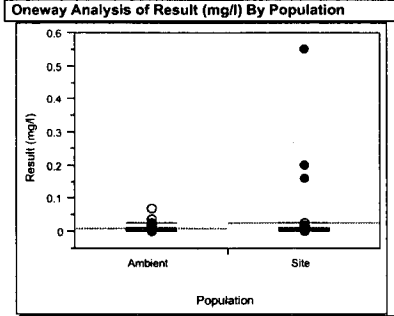


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.0008	0.0011	0.0013	0.002	0.0025	0.0284
Site	0.000035	0.00039	0.001	0.0013	0.00365	0.03	0.56

Site=19, Chemical=Copper

Oneway Analysis of Result (mg/l) By Population

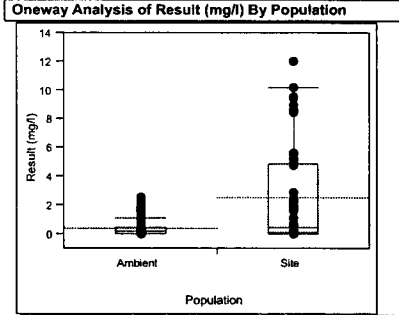


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00035	0.002	0.003725	0.00585	0.012	0.019	0.0697
Site	0.00031	0.00074	0.0031	0.00615	0.012	0.02185	0.55

Site=19, Chemical=Manganese

Oneway Analysis of Result (mg/l) By Population



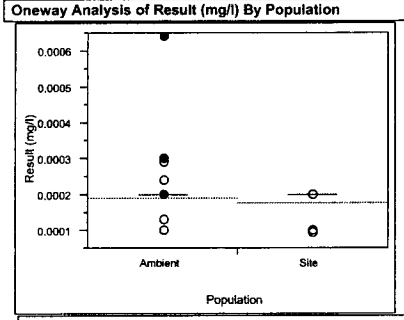
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00078	0.00438	0.021525	0.1315	0.435	1.203	2.48
Site	0.00023	0.00175	0.044475	0.3775	4.7975	9.175	12

FIGURE A-8 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 GROUNDWATER

Site=19, Chemical=Mercury

Oneway Analysis of Result (mg/l) By Population

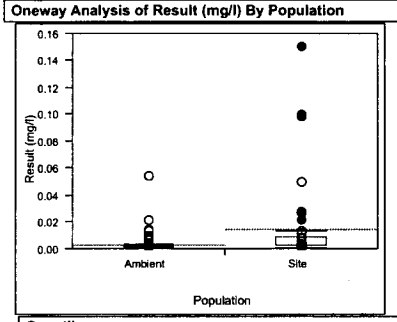


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.00064
Site	0.000095	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002

Site=19, Chemical=Selenium

Oneway Analysis of Result (mg/l) By Population

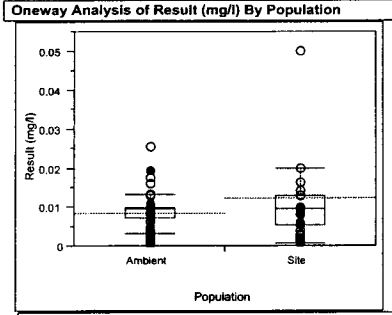


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0008	0.002	0.002	0.0024	0.0027	0.003	0.054
Site	0.00085	0.00109	0.0024	0.0027	0.00885	0.0434	0.15

Site=19, Chemical=Molybdenum

Oneway Analysis of Result (mg/l) By Population

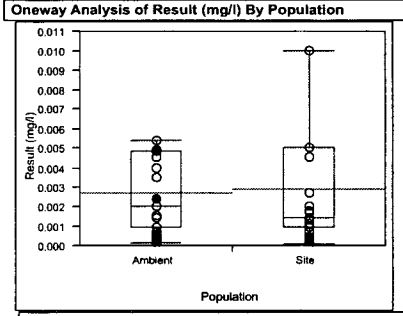


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.002	0.007	0.0096	0.0098	0.0127	0.0254
Site	0.00056	0.0015	0.00525	0.0096	0.0127	0.035	0.05

Site=19, Chemical=Silver

Oneway Analysis of Result (mg/l) By Population

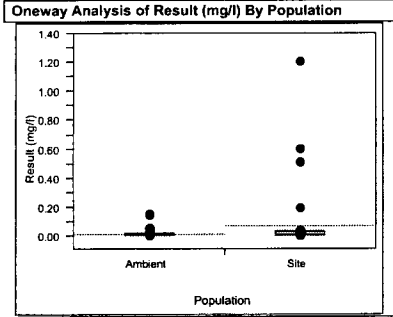


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.00035	0.0009	0.002	0.0048	0.0049	0.0054
Site	0.000078	0.00032	0.0009	0.0014	0.005	0.01	0.01

Site=19, Chemical=Nickel

Oneway Analysis of Result (mg/l) By Population

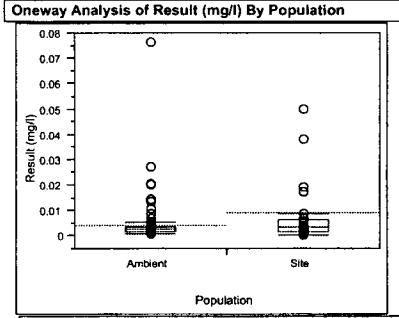


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0007	0.00269	0.0093	0.0113	0.0132	0.0132	0.151
Site	0.0014	0.0022	0.0075	0.0113	0.023525	0.11205	1.2

Site=19, Chemical=Thallium

Oneway Analysis of Result (mg/l) By Population



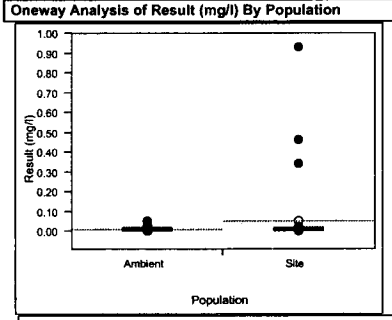
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0009	0.0017	0.0017	0.0027	0.0035	0.00496	0.076
Site	0.00012	0.001	0.00155	0.0034	0.0063	0.044	0.05

FIGURE A-8 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 19 GROUNDWATER

Site=19, Chemical=Vanadium

Oneway Analysis of Result (mg/l) By Population

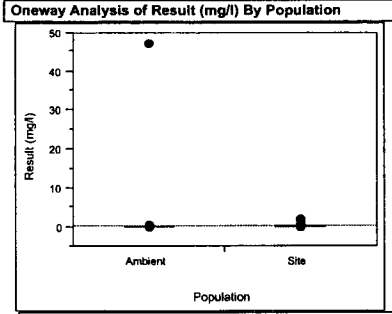


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00368	0.0042	0.007	0.010525	0.01843	0.0508
Site	0.00025	0.000935	0.0037	0.007	0.009975	0.0359	0.93

Site=19, Chemical=Zinc

Oneway Analysis of Result (mg/l) By Population



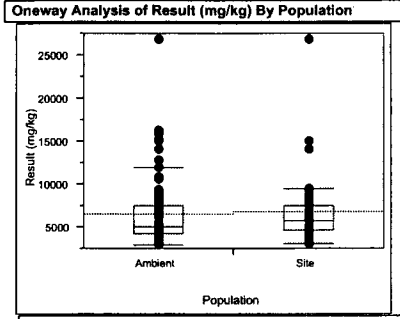
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.00319	0.0046	0.00775	0.0131	0.02075	46.8
Site	0.0007	0.00295	0.0062	0.0131	0.0337	0.3345	1.7

FIGURE A-9
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 SOIL

Site=Site 22 (0-8 feet bgs), Chemical=Aluminum

Oneway Analysis of Result (mg/kg) By Population

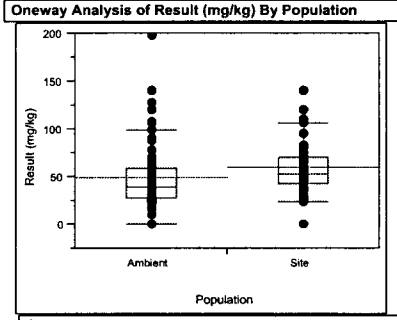


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	2880	3363	4122.5	4965	7520	14100	26800
Site	3120	3860	4520	5700	7500	10368	26800

Site=Site 22 (0-8 feet bgs), Chemical=Barium

Oneway Analysis of Result (mg/kg) By Population

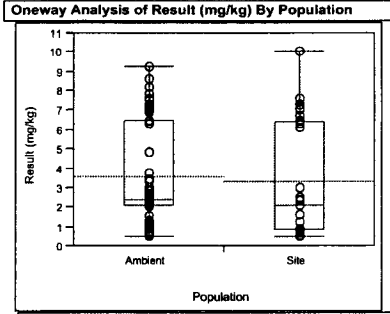


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.3	22.28	27.55	38.75	58.45	98.98	198
Site	0.3	26.24	42.7	52.7	69.4	112	140

Site=Site 22 (0-8 feet bgs), Chemical=Antimony

Oneway Analysis of Result (mg/kg) By Population

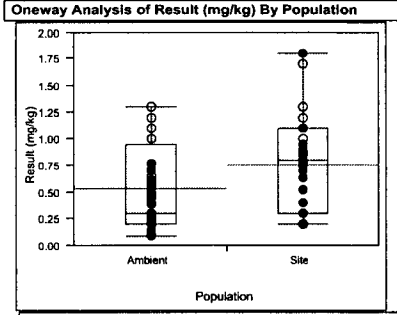


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.46	0.689	2.1	2.4	6.475	7.32	9.2
Site	0.48	0.528	0.87	2.1	6.4	7.1	10

Site=Site 22 (0-8 feet bgs), Chemical=Beryllium

Oneway Analysis of Result (mg/kg) By Population

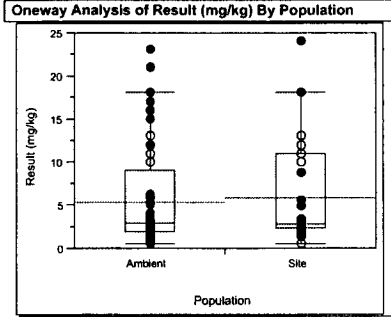


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.092	0.2	0.2	0.3	0.9425	1.2	1.3
Site	0.2	0.2	0.3	0.8	1.1	1.2	1.8

Site=Site 22 (0-8 feet bgs), Chemical=Arsenic

Oneway Analysis of Result (mg/kg) By Population

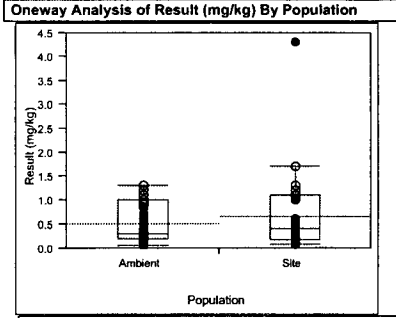


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.61	0.799	1.925	2.9	9.05	12.1	23
Site	0.59	1.5	2.4	2.8	11	12	24

Site=Site 22 (0-8 feet bgs), Chemical=Cadmium

Oneway Analysis of Result (mg/kg) By Population



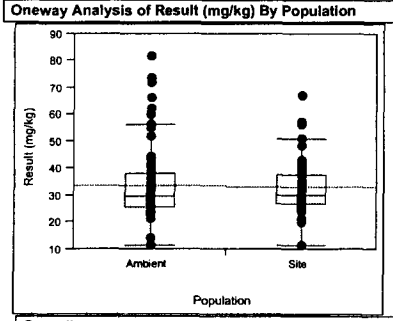
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.06	0.09	0.2	0.3	0.98925	1.2	1.3
Site	0.08	0.09	0.18	0.4	1.1	1.2	4.3

FIGURE A-9 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 SOIL

Site=Site 22 (0-8 feet bgs), Chemical=Chromium

Oneway Analysis of Result (mg/kg) By Population

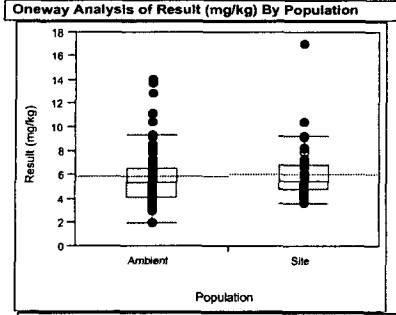


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.4	22.88	25.725	29.5	38.075	54.83	81.7
Site	11.4	24.4	27	30	37.6	48.64	67

Site=Site 22 (0-8 feet bgs), Chemical=Cobalt

Oneway Analysis of Result (mg/kg) By Population

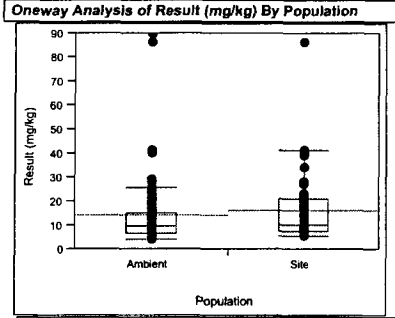


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.9	3.4	4.1	5.35	6.475	9.1	14
Site	3.6	4.08	4.8	5.4	6.8	8.38	17

Site=Site 22 (0-8 feet bgs), Chemical=Copper

Oneway Analysis of Result (mg/kg) By Population

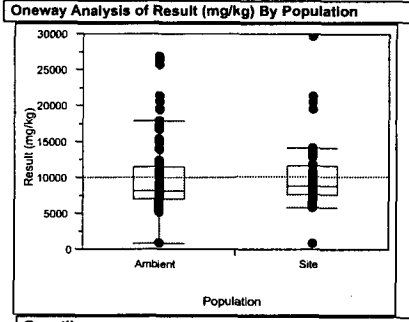


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	4.2	5.377	6.5	9.7	14.85	25.83	89.4
Site	5.6	6.06	7.4	10.2	21	34.84	86.2

Site=Site 22 (0-8 feet bgs), Chemical=Iron

Oneway Analysis of Result (mg/kg) By Population

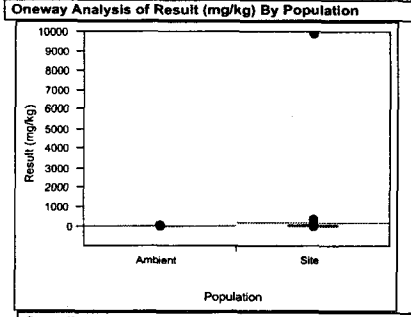


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	760	5689	6970	8140	11525	19310	26900
Site	760	6522	7660	8900	11700	15180	29600

Site=Site 22 (0-8 feet bgs), Chemical=Lead

Oneway Analysis of Result (mg/kg) By Population

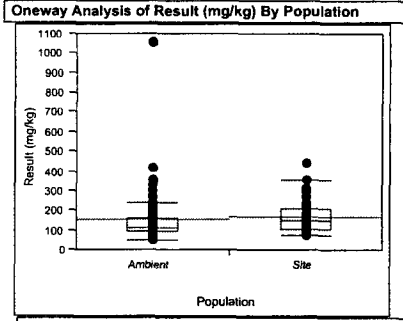


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.3	1.69	4.575	5.9	6.45	9.82	41
Site	2.1	4.92	5.7	8.2	23.2	51.78	9890

Site=Site 22 (0-8 feet bgs), Chemical=Manganese

Oneway Analysis of Result (mg/kg) By Population



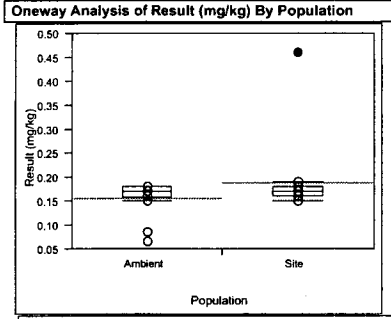
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	50	78.75	89.65	108.5	159.5	222.1	1060
Site	72.4	88.3	103	148	210	295.2	440

FIGURE A-9 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 SOIL

Site=Site 22 (0-8 feet bgs), Chemical=Mercury

Oneway Analysis of Result (mg/kg) By Population

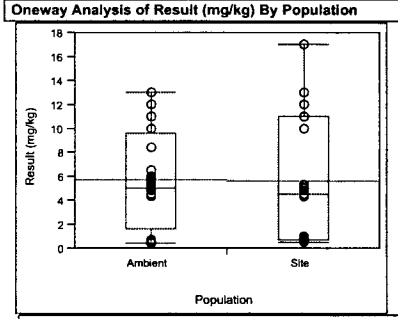


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.065	0.0713	0.1575	0.17	0.18	0.18	0.18
Site	0.15	0.15	0.16	0.17	0.18	0.271	0.46

Site=Site 22 (0-8 feet bgs), Chemical=Selenium

Oneway Analysis of Result (mg/kg) By Population

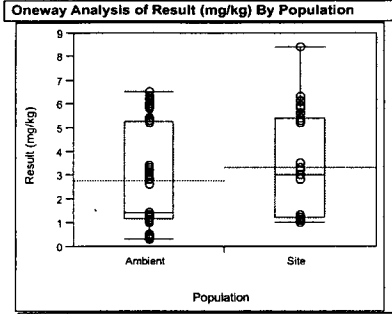


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.425	0.589	1.5925	5	9.6	12	13
Site	0.54	0.58	0.66	4.5	11	12	17

Site=Site 22 (0-8 feet bgs), Chemical=Molybdenum

Oneway Analysis of Result (mg/kg) By Population

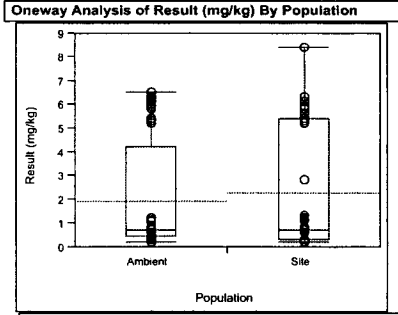


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.31	1	1.15	1.4	5.25	6.04	6.5
Site	1	1	1.2	3	5.4	5.9	8.4

Site=Site 22 (0-8 feet bgs), Chemical=Silver

Oneway Analysis of Result (mg/kg) By Population

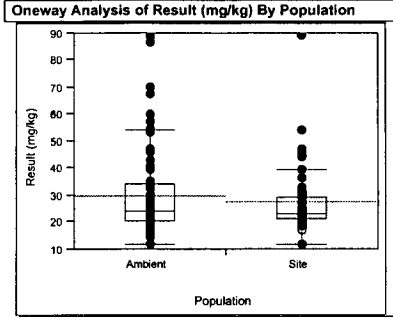


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.18	0.21	0.4325	0.7	4.195	6.01	6.5
Site	0.18	0.19	0.3	0.7	5.4	5.9	8.4

Site=Site 22 (0-8 feet bgs), Chemical=Nickel

Oneway Analysis of Result (mg/kg) By Population

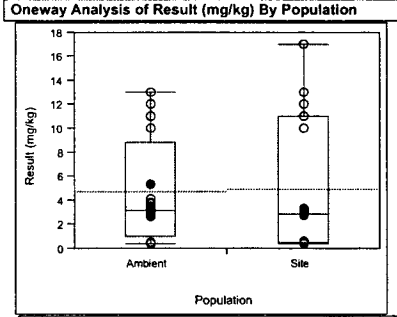


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.6	18.24	20.225	23.8	33.85	53.12	88.5
Site	11.6	19.5	21.1	23	29.3	44.44	89

Site=Site 22 (0-8 feet bgs), Chemical=Thallium

Oneway Analysis of Result (mg/kg) By Population



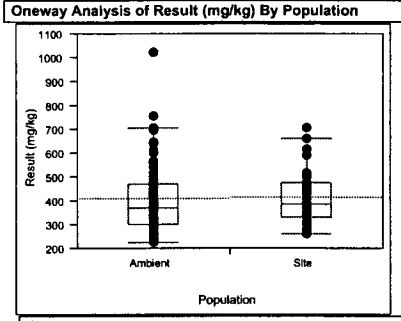
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.361	0.439	1.0475	3.1	8.825	12	13
Site	0.4	0.43	0.46	2.8	11	12	17

FIGURE A-9 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 SOIL

Site=Site 22 (0-8 feet bgs), Chemical=Titanium

Oneway Analysis of Result (mg/kg) By Population

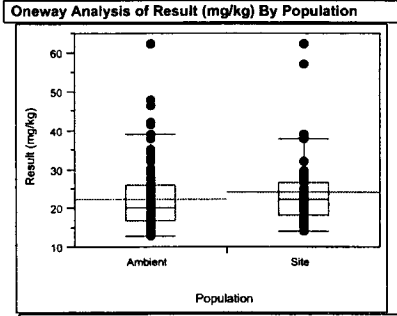


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	223	269.7	300	372.5	467.75	618.3	1020
Site	258	284	330	387	473	610.8	704

Site=Site 22 (0-8 feet bgs), Chemical=Vanadium

Oneway Analysis of Result (mg/kg) By Population

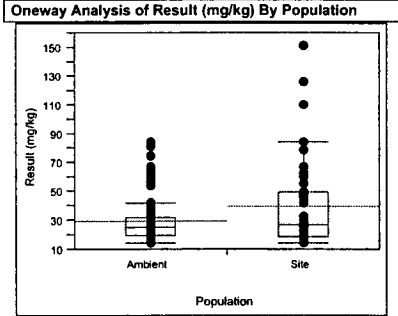


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	12.8	14	16.775	20	25.75	34.11	62.3
Site	13.9	15.98	18.3	22.1	26.4	33.14	62.3

Site=Site 22 (0-8 feet bgs), Chemical=Zinc

Oneway Analysis of Result (mg/kg) By Population



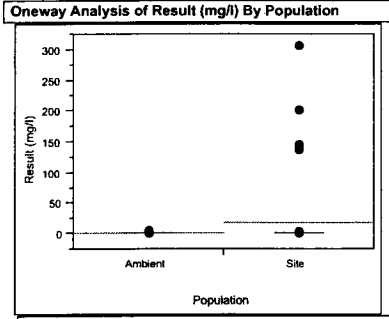
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	14	17.19	19	24.85	31.95	54.47	84
Site	14	17.16	18.7	26.6	49	84	151

FIGURE A-10
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 GROUNDWATER

Site=22, Chemical=Aluminum

Oneway Analysis of Result (mg/l) By Population

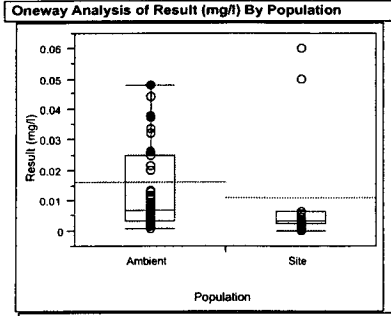


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.003	0.0207	0.0282	0.04075	0.066675	0.2545	4.53
Site	0.0035	0.0076	0.0207	0.0282	0.0445	110.12	305

Site=22, Chemical=Antimony

Oneway Analysis of Result (mg/l) By Population

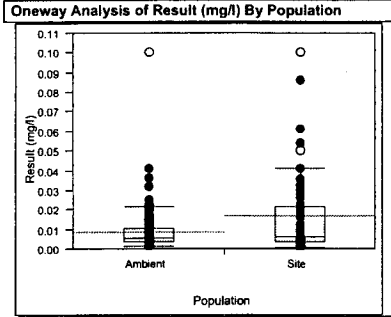


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00065	0.002	0.0033	0.0065	0.0251	0.0375	0.0478
Site	0.000079	0.000852	0.0022	0.0033	0.0064	0.06	0.06

Site=22, Chemical=Arsenic

Oneway Analysis of Result (mg/l) By Population

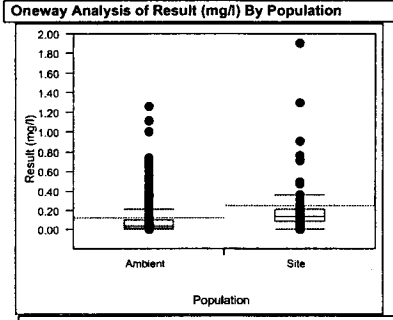


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.001	0.00259	0.0034	0.00525	0.010525	0.01681	0.1
Site	0.0008	0.00132	0.0038	0.0064	0.0214	0.0482	0.1

Site=22, Chemical=Barium

Oneway Analysis of Result (mg/l) By Population

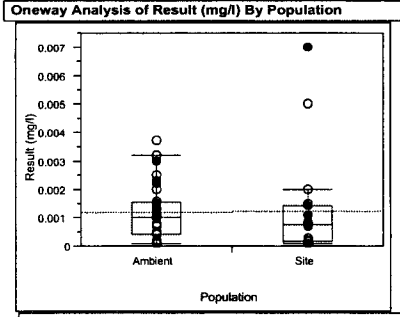


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0023	0.00875	0.0151	0.0425	0.10625	0.389	1.26
Site	0.0099	0.04544	0.089	0.136	0.217	0.666	1.9

Site=22, Chemical=Beryllium

Oneway Analysis of Result (mg/l) By Population

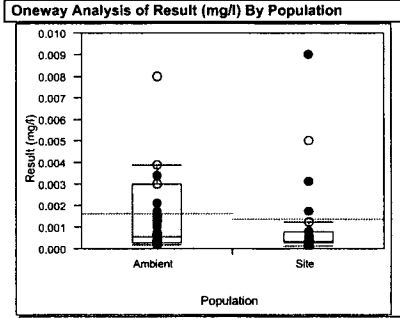


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.000407	0.001	0.001525	0.0025	0.0037
Site	0.0001	0.0001	0.00015	0.00075	0.0014	0.0044	0.007

Site=22, Chemical=Cadmium

Oneway Analysis of Result (mg/l) By Population



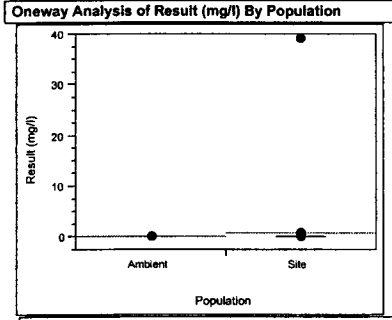
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.0003	0.0003	0.000555	0.003	0.0039	0.008
Site	0.00011	0.000204	0.0003	0.00032	0.00078	0.005	0.009

FIGURE A-10 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 GROUNDWATER

Site=22, Chemical=Chromium

Oneway Analysis of Result (mg/l) By Population

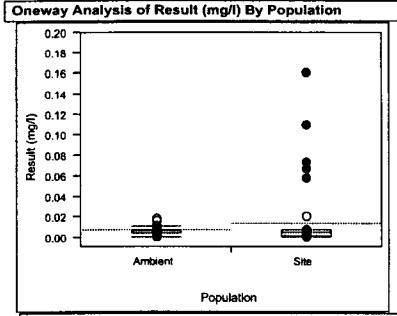


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0002	0.0007	0.001	0.0023	0.0063	0.0063	0.0828
Site	0.0002	0.00048	0.0007	0.001	0.0017	0.298	39

Site=22, Chemical=Cobalt

Oneway Analysis of Result (mg/l) By Population

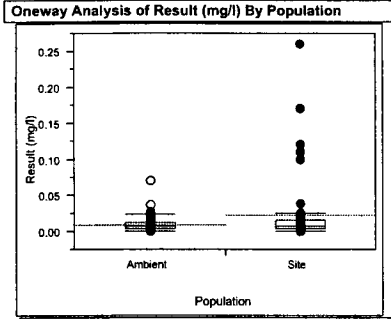


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00195	0.0038	0.0061	0.0077	0.0172	0.0172
Site	0.00026	0.000484	0.0017	0.0046	0.0077	0.0496	0.16

Site=22, Chemical=Copper

Oneway Analysis of Result (mg/l) By Population

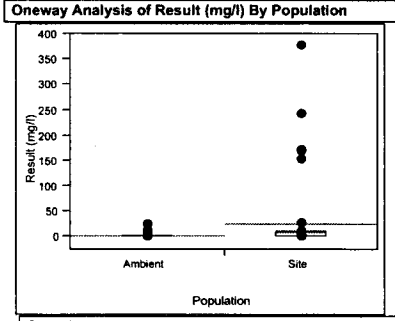


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00035	0.002	0.003725	0.00585	0.012	0.019	0.0697
Site	0.00035	0.000656	0.0027	0.0068	0.0144	0.0876	0.26

Site=22, Chemical=Iron

Oneway Analysis of Result (mg/l) By Population

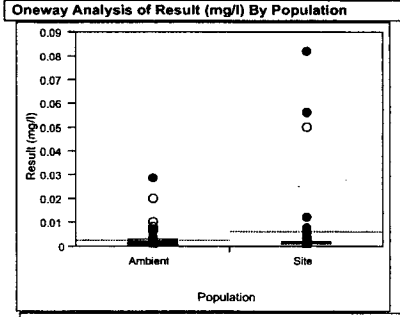


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0048	0.01047	0.031375	0.1305	0.5555	3.736	24.4
Site	0.0032	0.0067	0.034	0.104	7.25	126.8	376

Site=22, Chemical=Lead

Oneway Analysis of Result (mg/l) By Population

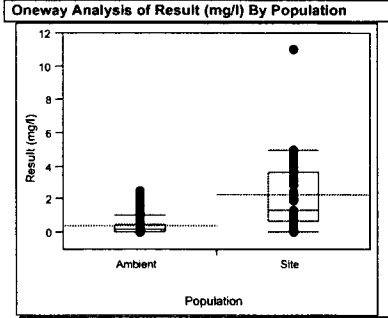


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.0008	0.0011	0.0013	0.002	0.0025	0.0284
Site	0.00025	0.000624	0.001	0.0011	0.0017	0.01108	0.082

Site=22, Chemical=Manganese

Oneway Analysis of Result (mg/l) By Population



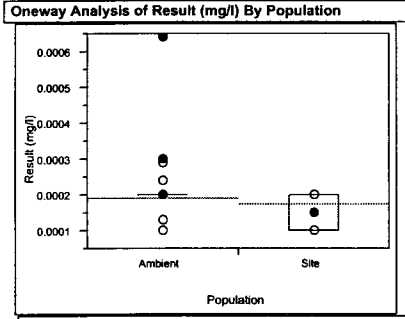
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00078	0.00438	0.021525	0.1315	0.435	1.203	2.48
Site	0.0021	0.1402	0.666	1.29	3.61	4.46	11

FIGURE A-10 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 GROUNDWATER

Site=22, Chemical=Mercury

Oneway Analysis of Result (mg/l) By Population

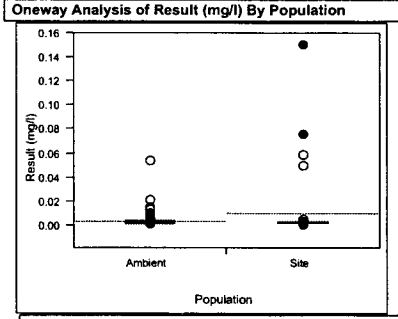


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.00064
Site	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002

Site=22, Chemical=Selenium

Oneway Analysis of Result (mg/l) By Population

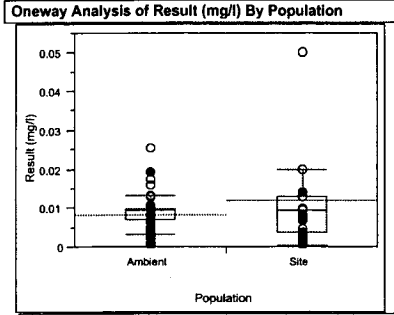


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0008	0.002	0.002	0.0024	0.0027	0.003	0.054
Site	0.00038	0.00109	0.00225	0.0026	0.003	0.05	0.15

Site=22, Chemical=Molybdenum

Oneway Analysis of Result (mg/l) By Population

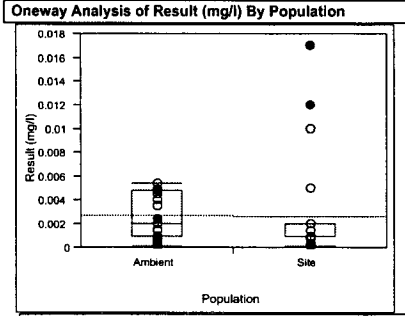


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.002	0.007	0.0096	0.0098	0.0127	0.0254
Site	0.0003	0.00118	0.0036	0.0096	0.0127	0.044	0.05

Site=22, Chemical=Silver

Oneway Analysis of Result (mg/l) By Population

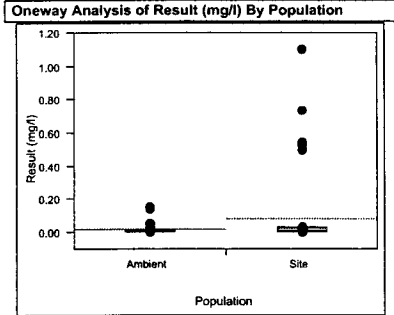


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.00035	0.0009	0.002	0.0048	0.0049	0.0054
Site	0.00015	0.0003	0.000867	0.0009	0.002	0.0095	0.017

Site=22, Chemical=Nickel

Oneway Analysis of Result (mg/l) By Population

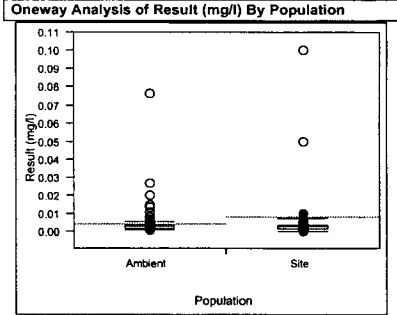


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0007	0.00269	0.0093	0.0113	0.0132	0.0132	0.151
Site	0.0013	0.00404	0.0085	0.0113	0.02	0.39788	1.1

Site=22, Chemical=Thallium

Oneway Analysis of Result (mg/l) By Population



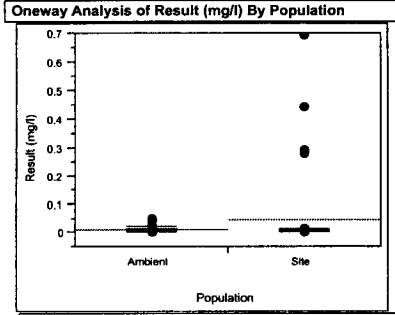
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0009	0.0017	0.0017	0.0027	0.0035	0.00496	0.076
Site	0.000056	0.0009	0.0014	0.0029	0.0038	0.042	0.1

FIGURE A-10 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 22 GROUNDWATER

Site=22, Chemical=Vanadium

Oneway Analysis of Result (mg/l) By Population

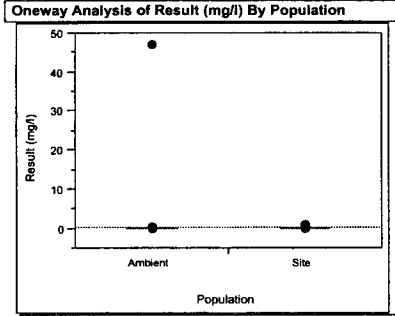


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00368	0.0042	0.007	0.010525	0.01843	0.0508
Site	0.00043	0.00198	0.0042	0.0071	0.0094	0.22648	0.69

Site=22, Chemical=Zinc

Oneway Analysis of Result (mg/l) By Population



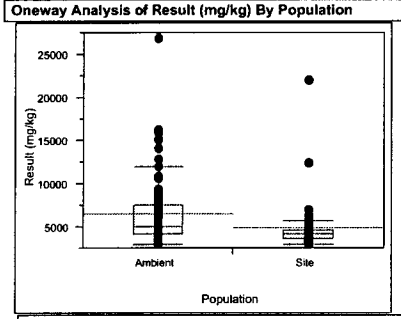
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.00319	0.0046	0.00775	0.0131	0.02075	46.8
Site	0.0014	0.0053	0.0067	0.0114	0.0215	0.237	0.68

FIGURE A-11
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 SOIL

Site=Site 23 (0-8 feet bgs), Chemical=Aluminum

Oneway Analysis of Result (mg/kg) By Population

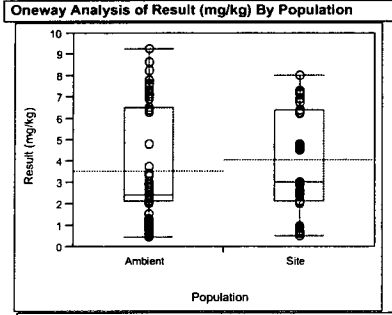


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	2880	3363	4122.5	4965	7520	14100	26800
Site	2880	3145	3650	4195	4555	6056	21900

Site=Site 23 (0-8 feet bgs), Chemical=Antimony

Oneway Analysis of Result (mg/kg) By Population

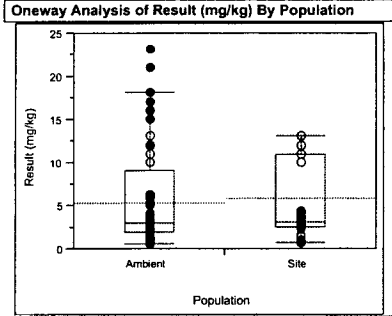


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.46	0.689	2.1	2.4	6.475	7.32	9.2
Site	0.52	0.785	2.1	3	6.4	7.17	8

Site=Site 23 (0-8 feet bgs), Chemical=Arsenic

Oneway Analysis of Result (mg/kg) By Population

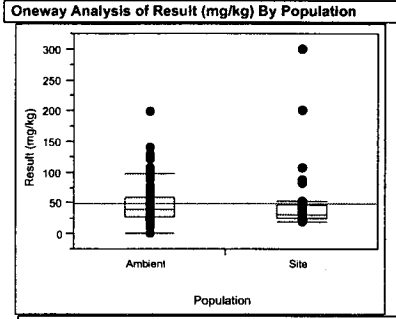


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.61	0.799	1.925	2.9	9.05	12.1	23
Site	0.71	1.092	2.5	3.05	11	12	13

Site=Site 23 (0-8 feet bgs), Chemical=Barium

Oneway Analysis of Result (mg/kg) By Population

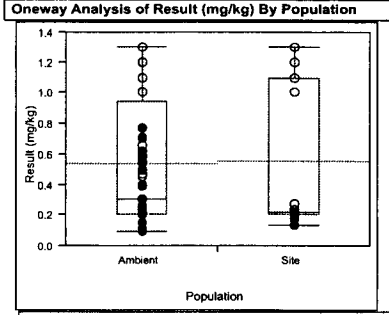


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.3	22.28	27.55	38.75	58.45	98.98	198
Site	18.8	20.96	24.6	32.15	46.775	90	300

Site=Site 23 (0-8 feet bgs), Chemical=Beryllium

Oneway Analysis of Result (mg/kg) By Population

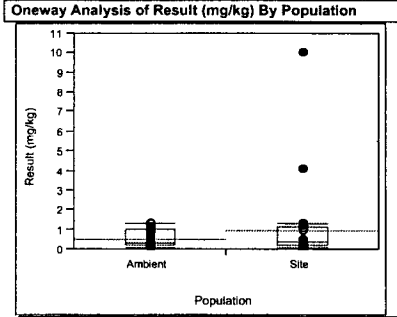


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.092	0.2	0.2	0.3	0.9425	1.2	1.3
Site	0.13	0.2	0.2	0.215	1.1	1.2	1.3

Site=Site 23 (0-8 feet bgs), Chemical=Cadmium

Oneway Analysis of Result (mg/kg) By Population



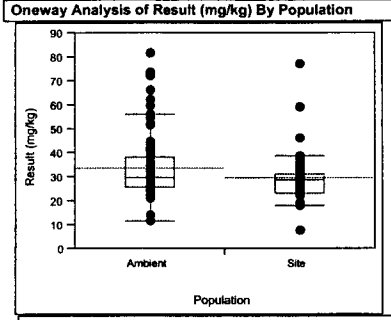
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.06	0.09	0.2	0.3	0.98925	1.2	1.3
Site	0.06	0.11	0.2	0.35	1.1	1.2	10

FIGURE A-11 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 SOIL

Site=Site 23 (0-8 feet bgs), Chemical=Chromium

Oneway Analysis of Result (mg/kg) By Population

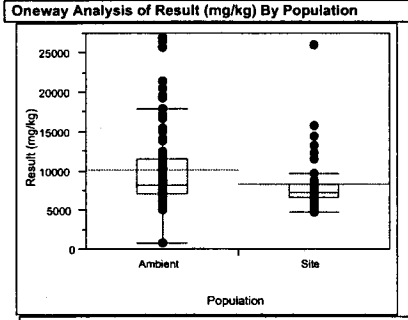


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.4	22.88	25.725	29.5	38.075	54.83	81.7
Site	7.3	20.16	23	28.4	31	37.9	76.9

Site=Site 23 (0-8 feet bgs), Chemical=Iron

Oneway Analysis of Result (mg/kg) By Population

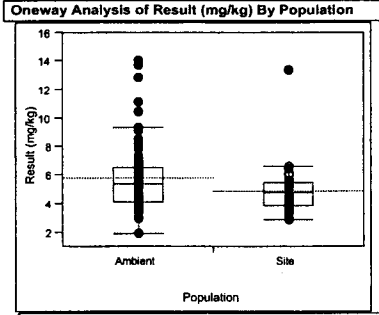


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	760	5689	6970	8140	11525	19310	26900
Site	4690	5474	6527.5	7190	8215	12830	25900

Site=Site 23 (0-8 feet bgs), Chemical=Cobalt

Oneway Analysis of Result (mg/kg) By Population

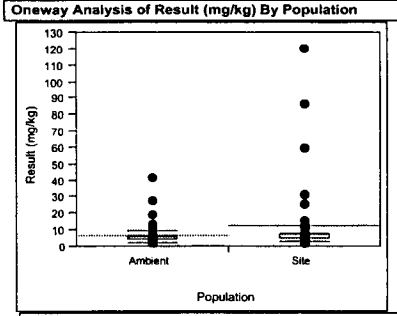


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.9	3.4	4.1	5.35	6.475	9.1	14
Site	2.8	3.2	3.875	4.75	5.425	6.1	13.3

Site=Site 23 (0-8 feet bgs), Chemical=Lead

Oneway Analysis of Result (mg/kg) By Population

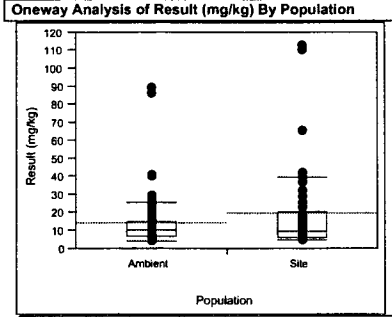


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	1.3	1.69	4.575	5.9	6.45	9.82	41
Site	1.3	2.84	5.2	5.4	7.5	27.4	120

Site=Site 23 (0-8 feet bgs), Chemical=Copper

Oneway Analysis of Result (mg/kg) By Population

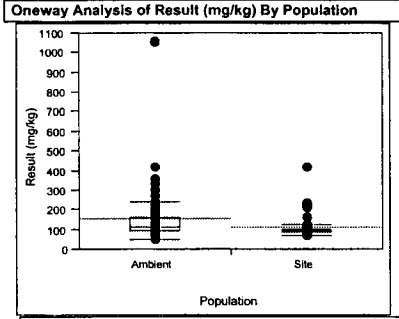


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	4.2	5.377	6.5	9.7	14.85	25.83	89.4
Site	4.5	5.3	6.05	9.05	20	41.13	113

Site=Site 23 (0-8 feet bgs), Chemical=Manganese

Oneway Analysis of Result (mg/kg) By Population



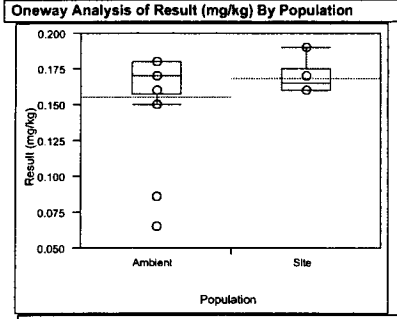
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	50	78.75	89.65	108.5	159.5	222.1	1060
Site	69.8	75.3	82.75	92.8	100.5	212.1	414

FIGURE A-11 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 SOIL

Site=Site 23 (0-8 feet bgs), Chemical=Mercury

Oneway Analysis of Result (mg/kg) By Population

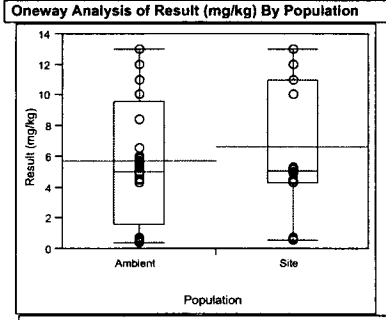


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.065	0.0713	0.1575	0.17	0.18	0.18	0.18
Site	0.16	0.16	0.16	0.165	0.175	0.19	0.19

Site=Site 23 (0-8 feet bgs), Chemical=Selenium

Oneway Analysis of Result (mg/kg) By Population

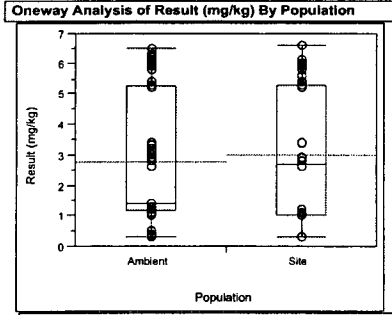


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.425	0.589	1.5925	5	9.6	12	13
Site	0.55	0.67	4.3	5.05	11	12	13

Site=Site 23 (0-8 feet bgs), Chemical=Molybdenum

Oneway Analysis of Result (mg/kg) By Population

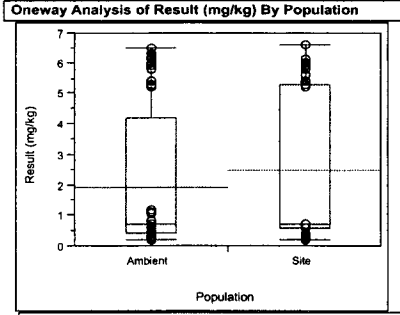


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.31	1	1.15	1.4	5.25	6.04	6.5
Site	0.31	1	1	2.7	5.3	5.97	6.6

Site=Site 23 (0-8 feet bgs), Chemical=Silver

Oneway Analysis of Result (mg/kg) By Population

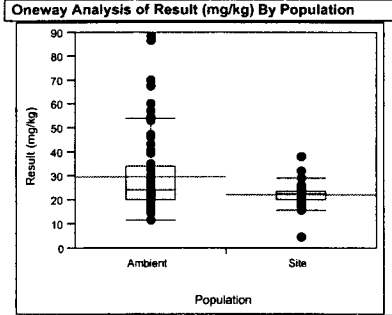


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.18	0.21	0.4325	0.7	4.195	6.01	6.5
Site	0.18	0.296	0.6	0.7	5.3	5.97	6.6

Site=Site 23 (0-8 feet bgs), Chemical=Nickel

Oneway Analysis of Result (mg/kg) By Population

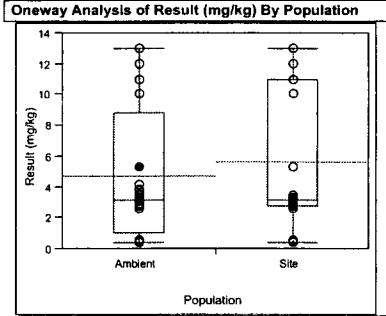


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	11.6	18.24	20.225	23.8	33.85	53.12	88.5
Site	4.7	17.45	20	22.4	23.75	25.63	38

Site=Site 23 (0-8 feet bgs), Chemical=Thallium

Oneway Analysis of Result (mg/kg) By Population



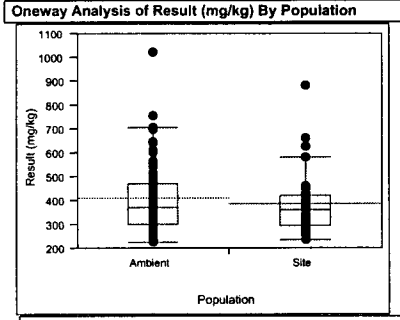
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.361	0.439	1.0475	3.1	8.825	12	13
Site	0.4	0.506	2.7	3.1	11	12	13

FIGURE A-11 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 SOIL

Site=Site 23 (0-8 feet bgs), Chemical=Titanium

Oneway Analysis of Result (mg/kg) By Population

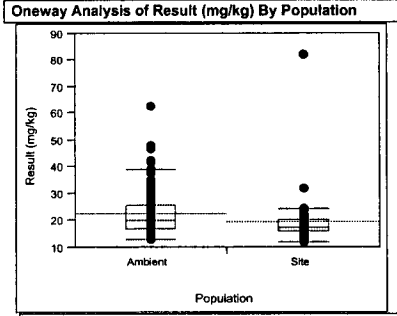


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	223	269.7	300	372.5	467.75	618.3	1020
Site	234	271.5	294.25	360	418.75	594.8	879

Site=Site 23 (0-8 feet bgs), Chemical=Vanadium

Oneway Analysis of Result (mg/kg) By Population

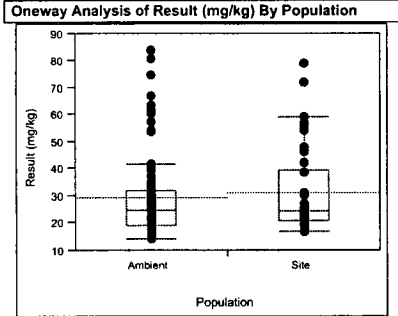


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	12.8	14	16.775	20	25.75	34.11	62.3
Site	12	13.86	15.6	17	20.25	23.12	82

Site=Site 23 (0-8 feet bgs), Chemical=Zinc

Oneway Analysis of Result (mg/kg) By Population



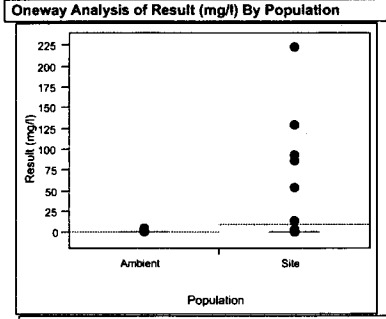
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	14	17.19	19	24.85	31.95	54.47	84
Site	16.6	17	20.5	24.05	39.425	56.42	79

FIGURE A-12
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 GROUNDWATER

Site=23, Chemical=Aluminum

Oneway Analysis of Result (mg/l) By Population

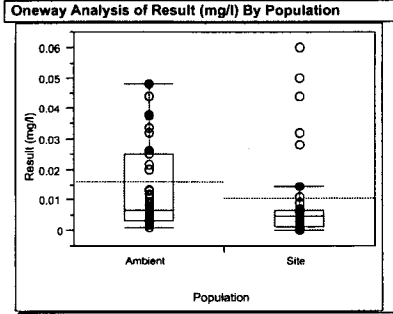


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.003	0.0207	0.0282	0.04075	0.066675	0.2545	4.53
Site	0.0049	0.01675	0.025375	0.03845	0.05065	4.737	223

Site=23, Chemical=Antimony

Oneway Analysis of Result (mg/l) By Population

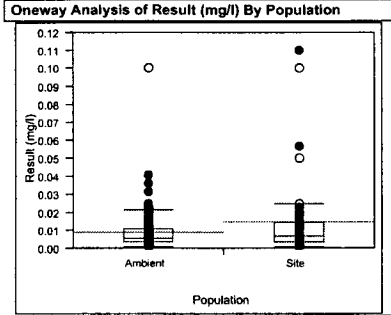


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00065	0.002	0.0033	0.0065	0.0251	0.0375	0.0478
Site	0.000063	0.000193	0.001275	0.0049	0.00655	0.0446	0.06

Site=23, Chemical=Arsenic

Oneway Analysis of Result (mg/l) By Population

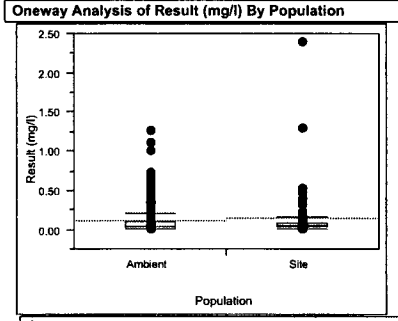


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.001	0.00259	0.0034	0.00525	0.010525	0.01681	0.1
Site	0.0008	0.0021	0.00345	0.00655	0.014675	0.05	0.11

Site=23, Chemical=Barium

Oneway Analysis of Result (mg/l) By Population

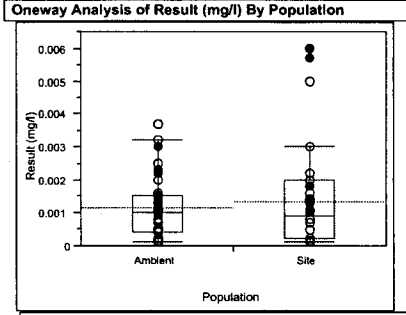


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0023	0.00875	0.0151	0.0425	0.10625	0.389	1.26
Site	0.0043	0.02572	0.0379	0.0598	0.089625	0.3538	2.4

Site=23, Chemical=Beryllium

Oneway Analysis of Result (mg/l) By Population

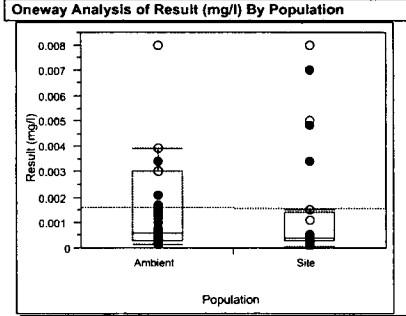


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.000407	0.001	0.001525	0.0025	0.0037
Site	0.0001	0.0001	0.000205	0.0009	0.002	0.0032	0.006

Site=23, Chemical=Cadmium

Oneway Analysis of Result (mg/l) By Population



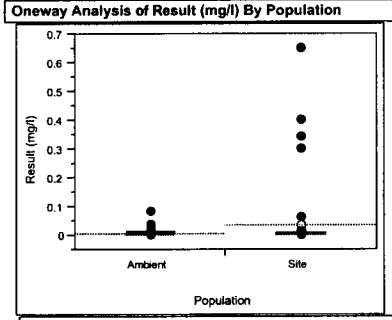
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.0003	0.0003	0.000555	0.003	0.0039	0.008
Site	0.000066	0.000159	0.0003	0.0004	0.0014	0.005	0.008

FIGURE A-12 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 GROUNDWATER

Site=23, Chemical=Chromium

Oneway Analysis of Result (mg/l) By Population

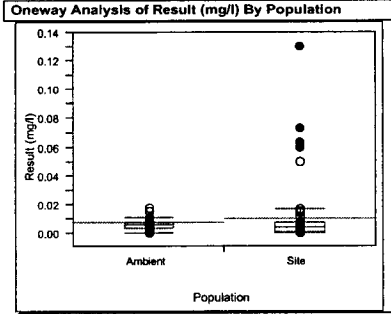


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0002	0.0007	0.001	0.0023	0.0063	0.0063	0.0828
Site	0.00016	0.0004	0.00085	0.0017	0.004975	0.03485	0.65

Site=23, Chemical=Cobalt

Oneway Analysis of Result (mg/l) By Population

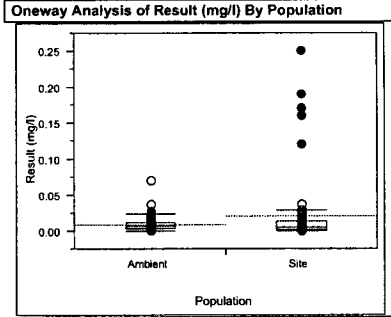


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00195	0.0038	0.0061	0.0077	0.0172	0.0172
Site	0.000033	0.000309	0.001325	0.0046	0.0077	0.01553	0.13

Site=23, Chemical=Copper

Oneway Analysis of Result (mg/l) By Population

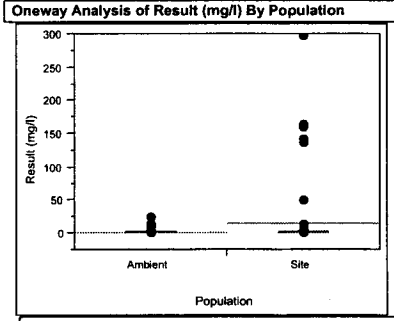


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00035	0.002	0.003725	0.00685	0.012	0.019	0.0697
Site	0.00031	0.000646	0.002125	0.00515	0.012525	0.02937	0.25

Site=23, Chemical=Iron

Oneway Analysis of Result (mg/l) By Population

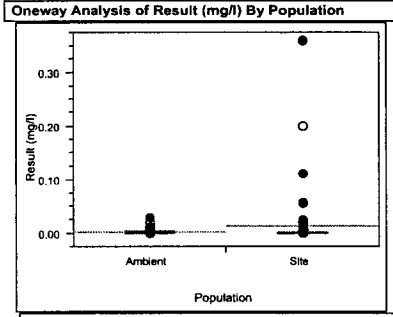


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0048	0.01047	0.031375	0.1305	0.5555	3.736	24.4
Site	0.0032	0.00552	0.0134	0.0487	0.9285	16.39	296

Site=23, Chemical=Lead

Oneway Analysis of Result (mg/l) By Population

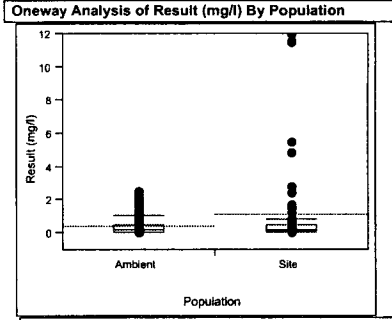


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.0008	0.0011	0.0013	0.002	0.0025	0.0284
Site	0.000029	0.00031	0.001	0.0012	0.0015	0.02039	0.36

Site=23, Chemical=Manganese

Oneway Analysis of Result (mg/l) By Population



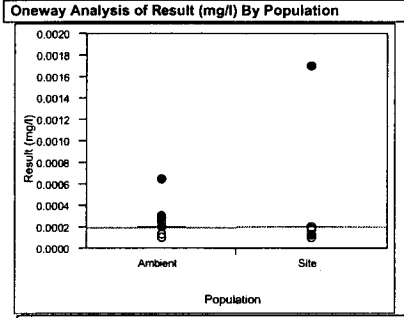
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00078	0.00438	0.021525	0.1315	0.435	1.203	2.48
Site	0.0009	0.00995	0.066725	0.156	0.416	2.956	11.9

FIGURE A-12 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 GROUNDWATER

Site=23, Chemical=Mercury

Oneway Analysis of Result (mg/l) By Population

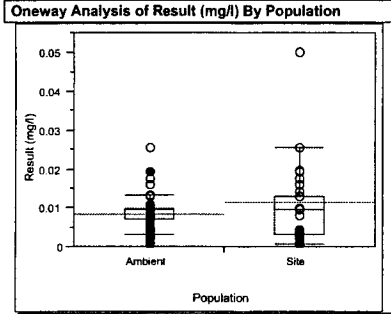


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.00064
Site	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0017

Site=23, Chemical=Molybdenum

Oneway Analysis of Result (mg/l) By Population

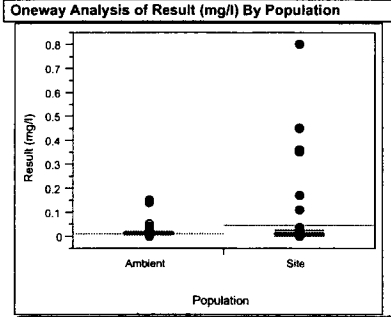


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.002	0.007	0.0096	0.0098	0.0127	0.0254
Site	0.00062	0.000995	0.00295	0.0096	0.0127	0.02018	0.05

Site=23, Chemical=Nickel

Oneway Analysis of Result (mg/l) By Population

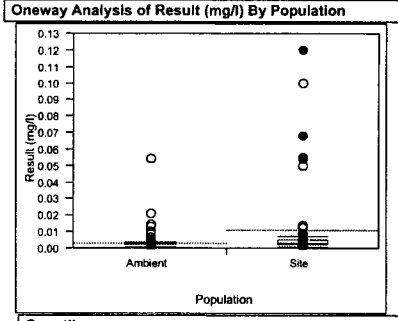


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0007	0.00269	0.0093	0.0113	0.0132	0.0132	0.151
Site	0.00042	0.002	0.0075	0.0093	0.0163	0.04072	0.8

Site=23, Chemical=Selenium

Oneway Analysis of Result (mg/l) By Population

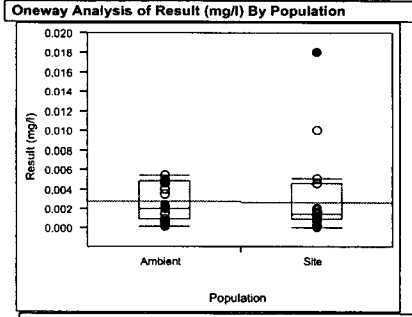


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0008	0.002	0.002	0.0024	0.0027	0.003	0.054
Site	0.00049	0.001	0.0024	0.0027	0.005	0.0516	0.12

Site=23, Chemical=Silver

Oneway Analysis of Result (mg/l) By Population

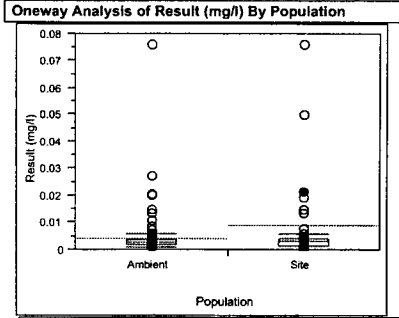


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00015	0.00035	0.0009	0.002	0.0048	0.0049	0.0054
Site	0.000019	0.0003	0.0009	0.0014	0.0045	0.0065	0.018

Site=23, Chemical=Thallium

Oneway Analysis of Result (mg/l) By Population



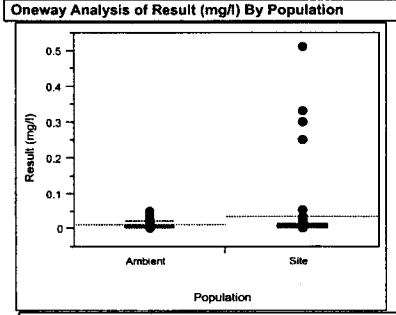
Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0009	0.0017	0.0017	0.0027	0.0035	0.00496	0.076
Site	0.00018	0.0009	0.00155	0.0029	0.0038	0.05	0.076

FIGURE A-12 (CONTINUED)
QUANTILE TABLES AND BOX-PLOT COMPARISONS OF CHEMICAL CONCENTRATIONS IN AMBIENT AND SITE 23 GROUNDWATER

Site=23, Chemical=Vanadium

Oneway Analysis of Result (mg/l) By Population

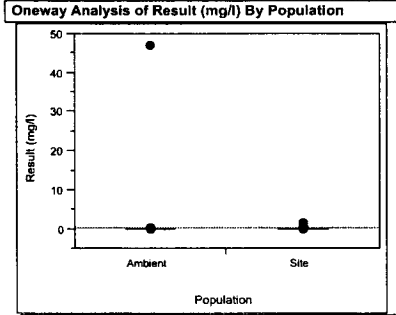


Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.00025	0.00368	0.0042	0.007	0.010525	0.01843	0.0508
Site	0.00021	0.00211	0.0042	0.007	0.009925	0.03645	0.51

Site=23, Chemical=Zinc

Oneway Analysis of Result (mg/l) By Population



Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Ambient	0.0005	0.00319	0.0046	0.00775	0.0131	0.02075	46.8
Site	0.0017	0.00428	0.00665	0.0131	0.024425	0.1774	1.38

TABLES

Table A-1: Summary Statistics for Background Soil Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Analyte Group	Chemical	Distribution[a]	SUMMARY STATISTICS												
			Sample Size		Detection Frequency (Percent)	Censored Data		Detected Data		Detected & Censored Data					
			Detected	Total		Min	Max	Min	Max	Median[b]	Q95[b]	Mean[c]	SD[c]	CV	UCL_{95}[d]
Total Metals	Aluminum	Unknown[b]	88	88	100	N/A	N/A	2,880.00	26,800.00	4,965.00	16,000.00	6,417.49	352.02	0.05	7,073.70
	Antimony	Not Tested	2	88	2	0.46	9.20	0.89	1.00	2.40	7.71	2.16	0.39	0.18	2.90
	Arsenic	Not Tested	33	88	38	0.61	13.00	0.74	23.00	2.90	16.55	4.59	0.95	0.21	6.39
	Barium	Unknown[b]	85	88	97	24.00	25.00	0.30	198.00	38.75	114.60	53.01	5.04	0.10	63.26
	Beryllium	Not Tested	25	88	28	0.20	1.30	0.09	0.77	0.30	1.20	0.37	0.06	0.15	0.49
	Cadmium	Not Tested	29	88	33	0.06	1.30	0.10	0.82	0.30	1.20	0.40	0.08	0.19	0.49
	Calcium	Unknown[b]	88	88	100	N/A	N/A	1,360.00	19,200.00	2,600.00	14,165.00	3,683.74	267.39	0.07	4,201.93
	Chromium	Unknown[b]	88	88	100	N/A	N/A	11.40	81.70	29.50	64.26	33.50	1.25	0.04	35.74
	Cobalt	Lognormal	66	88	75	3.94	6.80	1.90	14.00	5.35	12.04	5.37	0.45	0.08	6.45
	Copper	Unknown[b]	83	88	94	5.80	6.30	4.20	89.40	9.70	40.35	13.12	1.07	0.08	15.23
	Iron	Unknown[b]	88	88	100	N/A	N/A	760.00	26,900.00	8,140.00	20,995.00	10,072.09	548.13	0.05	11,092.99
	Lead	Not Tested	27	88	31	1.40	6.80	1.30	41.00	5.90	13.01	5.31	0.88	0.17	7.54
	Magnesium	Unknown[b]	88	88	100	N/A	N/A	1,510.00	42,400.00	2,240.00	6,503.00	2,867.67	154.94	0.05	3,156.01
	Manganese	Unknown[b]	88	88	100	N/A	N/A	50.00	1,060.00	108.50	340.75	143.63	8.45	0.06	159.52
	Mercury	Not Tested	0	22	0	0.07	0.18	N/A	N/A	0.17	0.18	N/A	N/A	N/A	N/A
	Molybdenum	Not Tested	0	85	0	0.31	6.50	N/A	N/A	1.40	6.20	N/A	N/A	N/A	N/A
	Nickel	Unknown[b]	88	88	100	N/A	N/A	11.60	88.50	23.80	64.13	29.17	1.35	0.05	31.64
	Potassium	Unknown[b]	87	88	99	610.00	610.00	310.00	6,382.00	769.50	2,310.00	902.98	50.21	0.06	996.73
	Selenium	Not Tested	1	88	1	0.43	13.00	5.70	5.70	5.00	12.00	4.05	0.97	0.24	4.67
	Silver	Not Tested	2	88	2	0.18	6.50	0.44	0.61	0.70	6.20	1.07	0.27	0.25	1.88
	Sodium	Unknown[b]	68	88	77	288.00	650.00	88.10	3,510.00	340.00	1,544.50	422.62	47.51	0.11	718.20
	Thallium	Not Tested	1	88	1	0.36	13.00	5.30	5.30	3.10	12.00	3.20	0.83	0.26	4.16
	Titanium	Lognormal	66	66	100	N/A	N/A	223.00	1,020.00	372.50	701.20	407.10	16.33	0.04	436.76
	Vanadium	Unknown[b]	88	88	100	N/A	N/A	12.80	62.30	20.00	41.78	22.23	0.81	0.04	23.68
	Zinc	Unknown[b]	88	88	100	N/A	N/A	14.00	84.00	24.85	65.38	28.55	1.30	0.05	30.93

Notes:

Concentration units are mg/kg.
For samples with less than 15 percent censored data, one half the reporting limit is substituted for each non-detect measurement in all calculations.
For higher frequencies of censored data, all calculations were performed using stochastic modeling, following the "bounding" approach from EPA (2002), as described below under notes c and d.
No calculations of the mean, SD, CV, or UCL95 are peformed for sample sizes less than 3 or detection frequencies of zero.

a For all cases with at least 5 detected samples and a detection frequency greater than or equal to 50 percent, tested using the Shapiro-Wilk W test (alpha equal to 0.05).
Distributions confirmed as normal or lognormal are listed as "Normal" or "Lognormal." For cases where distribution testing was not conducted, the distribution is listed as "Not Tested."
For cases in which distributions could not be confirmed using the Shipiro-Wilk W test, distributions were estimated using probability plots, box plots, and frequency histograms.
Distributions estimated to be normal or lognormal are listed as Unknown[a] or Unknown[b], respectively.

b Estimated for all samples using a nonparametric approach, based on rank ordering of the data (reported values used for all censored data).

c For all samples with at least one detection, calculated using distribution-dependent formulae.
For confirmed or estimated normal distributions with fewer than 15 percent censored data, calculated using equations 4.3 (mean) and 4.4 (standard deviation) in Gilbert (1987).
For confirmed or estimated lognormal distributions with fewer than 15 percent censored data, these are the minimum variance unbiased (MVU) estimators, following equations 13.3 (mean) and 13.5 (standard deviation) in Gilbert (1987).
All other calculations use the median values generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002) [see conceptual model in Figure X-X and text in methods section for more details].

d For confirmed or estimated normal distributions with fewer than 15 percent censored data, calculated using equation 11.6 in Gilbert (1987).
For confirmed or estimated lognormal distributions with fewer than 15 percent censored data, calculated using Land's method (EPA 1992, Gilbert 1987).
Calculations for all cases with greater than 15 percent censored data use the 95th percentile generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002) [see conceptual model in Figure X-X and text in methods section for more details]. Calculations are based on either normal or lognormal (nonparametric Chebyshev inequality) model equations.

CV Coefficient of variation (SD/mean)
Min Minimum concentration reported
Max Maximum concentration reported
N/A Not applicable
Q95 95th percentile (quantile)
SD Standard deviation
UCL_{95} The one-sided 95 percent upper confidence limit of the mean
Unknown[Distribution assumed to be normal based on examination of probability plots and outlier box plots
Unknown[Distribution assumed to be lognormal based on examination of probability plots and outlier box plots

References

Gilbert, R. O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc., New York, NY.

U.S. Environmental Protection Agency (EPA). 1992. "Supplemental Guidance to RAGS: Calculating the Concentration Term". Intermittent Bulletin, Volume 1, Number 1. Publication 9285.7-081.

EPA. 2002. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Washington, D.C. December.

Table A-2: Summary Statistics for Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Analyte Group	Chemical	Distribution[a]	SUMMARY STATISTICS												
			Sample Size		Detection Frequency (Percent)	Censored Data		Detected Data		Detected & Censored Data					
			Detected	Total		Min	Max	Min	Max	Median[b]	Q95[b]	Mean[c]	SD[c]	CV	UCL_{95}[d]
Dissolved Metals	Aluminum	Not Tested	194	56	29	8.10	286.00	3.00	4,530.00	40.75	1,070.00	114.88	31.09	0.27	401.94
	Antimony	Not Tested	28	1	4	0.66	37.50	4.20	4.20	5.60	37.50	7.87	2.98	0.38	16.51
	Arsenic	Lognormal	198	101	51	1.00	100.00	1.40	40.70	5.00	20.72	7.49	0.96	0.13	9.34
	Barium	Unknown[b]	194	164	85	4.30	340.00	2.30	1,260.00	48.10	569.50	129.15	24.78	0.19	172.67
	Beryllium	Not Tested	194	17	9	0.10	3.70	0.94	3.00	1.00	2.50	0.95	0.20	0.21	0.92
	Chromium	Not Tested	194	33	17	0.20	32.00	0.55	82.80	2.30	12.45	3.53	0.71	0.20	5.61
	Copper	Not Tested	194	59	30	0.35	69.70	1.80	27.30	5.45	24.03	7.88	1.45	0.18	8.54
	Iron	Unknown[b]	198	132	67	4.80	363.00	7.20	24,400.00	136.00	6,585.50	2,129.09	1,237.47	0.58	1,920.36
	Lead	Not Tested	29	3	10	0.50	20.00	1.70	2.90	1.50	11.45	1.19	0.30	0.25	4.25
	Manganese	Unknown[b]	198	187	94	0.78	12.30	1.10	2,480.00	126.50	1,741.00	763.92	332.74	0.44	1,292.25
	Selenium	Not Tested	193	1	1	0.80	54.00	2.50	2.50	2.40	8.58	1.74	0.19	0.11	3.00
	Thallium	Not Tested	193	3	2	0.90	76.00	3.60	5.20	2.70	16.15	2.23	0.27	0.12	4.13
	Vanadium	Not Tested	198	72	36	0.25	19.50	2.00	50.80	7.00	26.27	9.49	1.59	0.17	10.40
	Zinc	Not Tested	198	64	32	0.50	81.80	2.80	46,800.00	7.55	36.39	13.45	2.75	0.20	1,277.23

Notes:

Concentration units are µg/l
For samples with less than 15 percent censored data, one half the reporting limit is substituted for each non-detect measurement in all calculations.
For higher frequencies of censored data, all calculations were performed using stochastic modeling, following the "bounding" approach from EPA (2002), as described below under notes c and d.
No calculations of the mean, SD, CV, or UCL95 are peformed for sample sizes less than 3 or detection frequencies of zero.

a For all cases with at least 5 detected samples and a detection frequency greater than or equal to 50 percent, tested using the Shapiro-Wilk W test (alpha equal to 0.05).
Distributions confirmed as normal or lognormal are listed as "Normal" or "Lognormal." For cases where distribution testing was not conducted, the distribution is listed as "Not Tested."
For cases in which distributions could not be confirmed using the Shipiro-Wilk W test, distributions were estimated using probability plots, box plots, and frequency histograms.
Distributions estimated to be normal or lognormal are listed as Unknown[a] or Unknown[b], respectively.

b Estimated for all samples using a nonparametric approach, based on rank ordering of the data (reported values used for all censored data).

c For all samples with at least one detection, calculated using distribution-dependent formulae.
For confirmed or estimated normal distributions with fewer than 15 percent censored data, calculated using equations 4.3 (mean) and 4.4 (standard deviation) in Gilbert (1987).
For confirmed or estimated lognormal distributions with fewer than 15 percent censored data, these are the minimum variance unbiased (MVU) estimators, following equations 13.3 (mean) and 13.5 (standard deviation) in Gilbert (1987).
All other calculations use the median values generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002) [see conceptual model in Figure X-X and text in methods section for more details].

d For confirmed or estimated normal distributions with fewer than 15 percent censored data, calculated using equation 11.6 in Gilbert (1987).
For confirmed or estimated lognormal distributions with fewer than 15 percent censored data, calculated using Land's method (EPA 1992, Gilbert 1987).
Calculations for all cases with greater than 15 percent censored data use the 95th percentile generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002) [see conceptual model in Figure X-X and text in methods section for more details]. Calculations are based on either normal or lognormal (nonparametric Chebyshev inequality) model equations.

CV Coefficient of variation (SD/mean)
Min Minimum concentration reported
Max Maximum concentration reported
N/A Not applicable
Q95 95th percentile (quantile)
SD Standard deviation
UCL_{95} The one-sided 95 percent upper confidence limit of the mean
Unknown[Distribution assumed to be normal based on examination of probability plots and outlier box plots
Unknown[Distribution assumed to be lognormal based on examination of probability plots and outlier box plots

References

Gilbert, R. O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc., New York, NY.

U.S. Environmental Protection Agency (EPA). 1992. "Supplemental Guidance to RAGS: Calculating the Concentration Term". Intermittent Bulletin, Volume 1, Number 1. Publication 9285.7-081.

EPA. 2002. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Washington, D.C. December.

Table A-3: Site 9 - Summary Statistics for Comparison to Background Soil Data Set

Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 9 (0-8 ft bgs)			Ambient (Blue Set)			Statistical Test[a] (WRS, GT, or TP)	Prob[b]	QT Conclusion[c]	Site > Ambient? (YES or NO)	Notes
	Sample Size		Detection Frequency	Sample Size		Detection Frequency					
	Detected	Total		Detected	Total						
Aluminum	42	42	100	88	88	100	WRS	>0.999	Site ≤ Ambient	NO	
Antimony	2	42	5	2	88	2	TP	0.389	2	NO	
Arsenic	13	42	31	33	88	38	TP	0.822	Site ≤ Ambient	NO	
Barium	42	42	100	85	88	97	GT	0.519	Site > Ambient	YES	
Beryllium	26	42	62	25	88	28	TP	<0.001	2	YES	1
Cadmium	11	42	26	29	88	33	TP	0.837	2	NO	
Chromium	42	42	100	88	88	100	WRS	0.891	Site ≤ Ambient	NO	
Cobalt	19	42	45	66	88	75	TP	>0.999	Site ≤ Ambient	NO	
Copper	38	42	90	83	88	94	GT	0.998	Site ≤ Ambient	NO	
Iron	42	42	100	88	88	100	WRS	>0.999	Site ≤ Ambient	NO	
Lead	21	42	50	27	88	31	TP	0.027	Site ≤ Ambient	YES	1
Manganese	42	42	100	88	88	100	WRS	>0.999	Site ≤ Ambient	NO	
Mercury	0	21	0	0	22	0	TP	1.000	2	NO	
Molybdenum	0	42	0	0	85	0	TP	1.000	2	NO	
Nickel	42	42	100	88	88	100	WRS	>0.999	Site ≤ Ambient	NO	
Selenium	0	42	0	1	88	1	TP	1.000	2	NO	
Silver	0	42	0	2	88	2	TP	1.000	2	NO	
Thallium	0	42	0	1	88	1	TP	1.000	2	NO	
Titanium	21	21	100	66	66	100	WRS	0.992	Site ≤ Ambient	NO	
Vanadium	42	42	100	88	88	100	WRS	0.996	Site ≤ Ambient	NO	
Zinc	42	42	100	88	88	100	WRS	0.994	Site ≤ Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test

b Calculated significance level for individual statistical tests. Reject H_0 if Prob < 0.05.

c QT= quantile test

> Greater than

≤ Less than or equal to

H_0 Null hypothesis

N/A Not applicable

1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concen

2 The quantile test could not be run because at least one of the largest r measurements was a censored value.

Table A-4: Site 9 - Summary Statistics for Comparison to Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 9			Ambient			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	12	55	22	56	194	29	TP	0.888	Site > Ambient	YES	
Antimony	5	55	9	1	28	4	TP	0.335	2	NO	
Arsenic	25	55	45	101	198	51	TP	0.811	2	NO	
Barium	52	55	95	164	194	85	GT	<0.001	N/A	YES	
Beryllium	6	55	11	17	194	9	TP	0.398	2	NO	
Cadmium	15	55	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Calcium	53	55	96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Chromium	18	55	33	33	194	17	TP	0.011	Site > Ambient	YES	
Cobalt	19	55	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Copper	15	55	27	59	194	30	TP	0.728	Site > Ambient	YES	
Iron	26	55	47	132	198	67	TP	0.997	Site > Ambient	YES	
Lead	7	55	13	3	29	10	TP	0.525	2	NO	
Magnesium	54	55	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Manganese	52	55	95	187	198	94	GT	0.001	N/A	YES	
Mercury	0	52	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Molybdenum	7	55	13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Nickel	20	55	36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Potassium	54	55	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Selenium	3	54	6	1	193	1	TP	0.034	2	YES	1
Silver	4	54	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Sodium	55	55	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Thallium	1	55	2	3	193	2	TP	0.636	2	NO	
Titanium	3	3	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Vanadium	16	55	29	72	198	36	TP	0.878	Site > Ambient	YES	
Zinc	23	55	42	64	198	32	TP	0.125	Site < Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test
H_0= site $\leq$ ambient

b Calculated significance level for individual statistical tests. Reject H_0 if Prob $\leq$ 0.05.

c QT= quantile test

> Greater than
$\leq$ Less than or equal to
H_0 Null hypothesis
N/A Not applicable
1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concentrations.
2 The quantile test could not be run because at least one of the largest r measurements was a censored value.
3 There is no ambient data set for this chemical

Table A-5: Site 13 - Summary Statistics for Comparison to Background Soil Data Set

Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 13 (0-8 ft bgs)			Ambient (Blue Set)			Statistical Test[a] (WRS, GT, or TP)	Prob[b]	QT Conclusion[c]	Site > Ambient? (YES or NO)	Notes
	Sample Size		Detection Frequency	Sample Size		Detection Frequency					
	Detected	Total		Detected	Total						
Aluminum	107	107	100	88	88	100	WRS	0.674	Site ≤ Ambient	NO	
Antimony	29	107	27	2	88	2	TP	<0.001	2	YES	1
Arsenic	66	107	62	33	88	38	TP	<0.001	Site ≤ Ambient	YES	1
Barium	102	107	95	85	88	97	GT	0.200	Site ≤ Ambient	NO	
Beryllium	36	107	34	25	88	28	TP	0.265	Site > Ambient	YES	
Cadmium	43	107	40	29	88	33	TP	0.186	2	NO	
Chromium	107	107	100	88	88	100	WRS	0.894	Site ≤ Ambient	NO	
Cobalt	80	107	75	66	88	75	GT	0.632	2	NO	
Copper	92	107	86	83	88	94	GT	0.696	Site ≤ Ambient	NO	
Iron	107	107	100	88	88	100	WRS	0.571	Site > Ambient	YES	
Lead	103	149	69	27	88	31	TP	<0.001	Site > Ambient	YES	
Manganese	107	107	100	88	88	100	WRS	0.886	Site ≤ Ambient	NO	
Mercury	15	57	26	0	22	0	TP	0.004	2	YES	1
Molybdenum	2	107	2	0	85	0	TP	0.309	2	NO	
Nickel	105	107	98	88	88	100	GT	0.398	Site ≤ Ambient	NO	
Selenium	25	107	23	1	88	1	TP	<0.001	2	YES	1
Silver	4	107	4	2	88	2	TP	0.438	2	NO	
Thallium	1	107	1	1	88	1	TP	0.798	2	NO	
Titanium	50	50	100	66	66	100	WRS	0.741	Site ≤ Ambient	NO	
Vanadium	107	107	100	88	88	100	WRS	0.337	Site ≤ Ambient	NO	
Zinc	107	107	100	88	88	100	WRS	0.873	Site > Ambient	YES	

Notes:

a	GT= Gehan-Wilcoxon rank sum test TP= test of proportions (implemented using the Fisher exact test) WRS= Wilcoxon rank sum test
b	Calculated significance level for individual statistical tests. Reject H_0 if Prob < 0.05.
c	QT= quantile test
>	Greater than
≤	Less than or equal to
H_0	Null hypothesis
N/A	Not applicable
1	The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concen
2	The quantile test could not be run because at least one of the largest r measurements was a censored value.

Table A-6: Site 13 - Summary Statistics for Comparison to Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 13			Ambient			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	23	84	27	56	194	29	TP	0.652	Site ≤ Ambient	NO	
Antimony	16	77	21	1	28	4	TP	0.026	2	YES	1
Arsenic	38	77	49	101	198	51	TP	0.649	2	NO	
Barium	74	84	88	164	194	85	GT	0.005	N/A	YES	
Beryllium	15	77	19	17	194	9	TP	0.014	2	YES	1
Cadmium	11	77	14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Calcium	83	84	99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Chromium	24	77	31	33	194	17	TP	0.009	Site ≤ Ambient	YES	1
Cobalt	20	77	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Copper	20	84	24	59	194	30	TP	0.898	2	NO	
Iron	46	84	55	132	198	67	TP	0.978	Site > Ambient	YES	
Lead	7	77	9	3	29	10	TP	0.725	2	NO	
Magnesium	83	84	99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Manganese	81	84	96	187	198	94	GT	<0.001	N/A	YES	
Mercury	3	75	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Molybdenum	14	77	18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Nickel	15	77	19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Potassium	79	84	94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Selenium	9	76	12	1	193	1	TP	<0.001	2	YES	1
Silver	4	76	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Sodium	84	84	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Thallium	2	77	3	3	193	2	TP	0.442	2	NO	
Titanium	2	2	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Vanadium	24	77	31	72	198	36	TP	0.829	Site ≤ Ambient	NO	
Zinc	24	84	29	64	198	32	TP	0.776	Site < Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test
H_0= site ≤ ambient

b Calculated significance level for individual statistical tests. Reject H_0 if Prob ≤ 0.05.

c QT= quantile test

> Greater than
≤ Less than or equal to
H_0 Null hypothesis
N/A Not applicable
1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concentrations.
2 The quantile test could not be run because at least one of the largest r measurements was a censored value.
3 There is no ambient data set for this chemical

Table A-7: Site 19 - Summary Statistics for Comparison to Background Soil Data Set

Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 19 (0-8 ft bgs)			Ambient (Blue Set)			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	33	33	100	88	88	100	WRS	0.728	Site ≤ Ambient	NO	
Antimony	0	33	0	2	88	2	TP	1.000	2	NO	
Arsenic	7	33	21	33	88	38	TP	0.975	Site ≤ Ambient	NO	
Barium	30	33	91	85	88	97	GT	0.992	Site ≤ Ambient	NO	
Beryllium	4	33	12	25	88	28	TP	0.986	2	NO	
Cadmium	8	33	24	29	88	33	TP	0.876	2	NO	
Chromium	32	33	97	88	88	100	WRS	0.971	Site ≤ Ambient	NO	
Cobalt	14	33	42	66	88	75	TP	>0.999	Site ≤ Ambient	NO	
Copper	29	33	88	83	88	94	GT	0.066	Site > Ambient	YES	
Iron	33	33	100	88	88	100	WRS	0.749	Site > Ambient	YES	
Lead	10	33	30	27	88	31	TP	0.598	Site > Ambient	YES	
Manganese	33	33	100	88	88	100	WRS	0.506	Site ≤ Ambient	NO	
Mercury	0	2	0	0	22	0	TP	1.000	2	NO	
Molybdenum	1	33	3	0	85	0	TP	0.280	2	NO	
Nickel	32	33	97	88	88	100	WRS	0.628	Site ≤ Ambient	NO	
Selenium	0	33	0	1	88	1	TP	1.000	2	NO	
Silver	2	33	6	2	88	2	TP	0.299	2	NO	
Thallium	1	33	3	1	88	1	TP	0.473	2	NO	
Titanium	31	31	100	66	66	100	WRS	0.498	Site ≤ Ambient	NO	
Vanadium	33	33	100	88	88	100	WRS	0.866	Site ≤ Ambient	NO	
Zinc	33	33	100	88	88	100	WRS	0.634	Site > Ambient	YES	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test

b Calculated significance level for individual statistical tests. Reject H_0 if Prob < 0.05.

c QT= quantile test

> Greater than

≤ Less than or equal to

H_0 Null hypothesis

N/A Not applicable

1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concen

2 The quantile test could not be run because at least one of the largest r measurements was a censored value.

Table A-8: Site 19 - Summary Statistics for Comparison to Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 19			Ambient			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	11	44	25	56	194	29	TP	0.755	Site > Ambient	YES	
Antimony	5	44	11	1	28	4	TP	0.240	2	NO	
Arsenic	11	44	25	101	198	51	TP	>0.999	2	NO	
Barium	35	44	80	164	194	85	GT	0.212	Site > Ambient	YES	
Beryllium	3	44	7	17	194	9	TP	0.755	2	NO	
Cadmium	11	44	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Calcium	43	44	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Chromium	14	44	32	33	194	17	TP	0.025	Site > Ambient	YES	
Cobalt	12	44	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Copper	9	44	20	59	194	30	TP	0.937	Site > Ambient	YES	
Iron	19	44	43	132	198	67	TP	0.999	Site > Ambient	YES	
Lead	6	44	14	3	29	10	TP	0.486	2	NO	
Magnesium	38	44	86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Manganese	39	44	89	187	198	94	GT	0.004	N/A	YES	
Mercury	0	40	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Molybdenum	7	44	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Nickel	22	44	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Potassium	43	44	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Selenium	10	42	24	1	193	1	TP	<0.001	Site > Ambient	YES	
Silver	1	43	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Sodium	44	44	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Thallium	2	44	5	3	193	2	TP	0.232	2	NO	
Titanium	4	4	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Vanadium	11	44	25	72	198	36	TP	0.949	Site > Ambient	YES	
Zinc	17	44	39	64	198	32	TP	0.263	Site ≤ Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test
H_0= site ≤ ambient

b Calculated significance level for individual statistical tests. Reject H_0 if Prob ≤ 0.05.

c QT= quantile test

> Greater than
≤ Less than or equal to
H_0 Null hypothesis
N/A Not applicable
1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concentrations.
2 The quantile test could not be run because at least one of the largest r measurements was a censored value.
3 There is no ambient data set for this chemical

Table A-9: Site 22 - Summary Statistics for Comparison to Background Soil Data Set

Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 22 (0-8 ft bgs)			Ambient (Blue Set)			Statistical Test[a] (WRS, GT, or TP)	Prob[b]	QT Conclusion[c]	Site > Ambient? (YES or NO)	Notes
	Sample Size		Detection Frequency	Sample Size		Detection Frequency					
	Detected	Total		Detected	Total						
Aluminum	47	47	100	88	88	100	WRS	0.078	Site ≤ Ambient	NO	
Antimony	0	47	0	2	88	2	TP	1.000	2	NO	
Arsenic	17	47	36	33	88	38	TP	0.631	Site ≤ Ambient	NO	
Barium	47	47	100	85	88	97	GT	0.004	N/A	YES	
Beryllium	21	47	45	25	88	28	TP	0.044	2	YES	1
Cadmium	20	47	43	29	88	33	TP	0.179	2	NO	
Chromium	47	47	100	88	88	100	WRS	0.300	Site ≤ Ambient	NO	
Cobalt	30	47	64	66	88	75	GT	0.251	Site ≤ Ambient	NO	
Copper	47	47	100	83	88	94	GT	0.068	Site ≤ Ambient	NO	
Iron	47	47	100	88	88	100	WRS	0.081	Site ≤ Ambient	NO	
Lead	44	60	73	27	88	31	TP	<0.001	Site > Ambient	YES	
Manganese	47	47	100	88	88	100	WRS	0.006	N/A	YES	
Mercury	1	16	6	0	22	0	TP	0.421	2	NO	
Molybdenum	0	47	0	0	85	0	TP	1.000	2	NO	
Nickel	45	47	96	88	88	100	GT	0.447	Site ≤ Ambient	NO	
Selenium	5	47	11	1	88	1	TP	0.019	2	YES	1
Silver	1	47	2	2	88	2	TP	0.726	2	NO	
Thallium	0	47	0	1	88	1	TP	1.000	2	NO	
Titanium	31	31	100	66	66	100	WRS	0.224	Site ≤ Ambient	NO	
Vanadium	47	47	100	88	88	100	WRS	0.031	N/A	YES	
Zinc	47	47	100	88	88	100	WRS	0.133	Site > Ambient	YES	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test

b Calculated significance level for individual statistical tests. Reject H_0 if Prob < 0.05.

c QT= quantile test

> Greater than

≤ Less than or equal to

H_0 Null hypothesis

N/A Not applicable

1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concen

2 The quantile test could not be run because at least one of the largest r measurements was a censored value.

Table A-10: Site 22 - Summary Statistics for Comparison to Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 22			Ambient			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	14	51	27	56	194	29	TP	0.641	Site > Ambient	YES	
Antimony	6	51	12	1	28	4	TP	0.214	2	NO	
Arsenic	36	51	71	101	198	51	TP	0.009	2	YES	1
Barium	49	51	96	164	194	85	GT	<0.001	N/A	YES	
Beryllium	9	51	18	17	194	9	TP	0.062	2	NO	
Cadmium	11	51	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Calcium	51	51	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Chromium	10	51	20	33	194	17	TP	0.401	Site > Ambient	YES	
Cobalt	19	51	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Copper	15	51	29	59	194	30	TP	0.617	Site > Ambient	YES	
Iron	25	51	49	132	198	67	TP	0.993	Site > Ambient	YES	
Lead	6	61	10	3	29	10	TP	0.684	2	NO	
Magnesium	51	51	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Manganese	50	51	98	187	198	94	GT	<0.001	N/A	YES	
Mercury	1	46	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Molybdenum	11	51	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Nickel	20	51	39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Potassium	49	51	96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Selenium	6	48	12	1	193	1	TP	<0.001	Site > Ambient	YES	
Silver	3	50	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Sodium	51	51	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Thallium	4	51	8	3	193	2	TP	0.036	2	YES	1
Titanium	5	5	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Vanadium	15	51	29	72	198	36	TP	0.863	Site > Ambient	YES	
Zinc	18	51	35	64	198	32	TP	0.403	Site ≤ Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test
H_0= site ≤ ambient

b Calculated significance level for individual statistical tests. Reject H_0 if Prob ≤ 0.05.

c QT= quantile test

> Greater than
≤ Less than or equal to
H_0 Null hypothesis
N/A Not applicable
1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concentrations.
2 The quantile test could not be run because at least one of the largest r measurements was a censored value.
3 There is no ambient data set for this chemical

Table A-11: Site 23 - Summary Statistics for Comparison to Background Soil Data Set

Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 23 (0-8 ft bgs)			Ambient (Blue Set)			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	42	42	100	88	88	100	WRS	>0.999	Site ≤ Ambient	NO	
Antimony	9	42	21	2	88	2	TP	<0.001	2	YES	1
Arsenic	9	42	21	33	88	38	TP	0.981	Site ≤ Ambient	NO	
Barium	35	38	92	85	88	97	GT	0.935	Site ≤ Ambient	NO	
Beryllium	4	42	10	25	88	28	TP	0.997	2	NO	
Cadmium	18	42	43	29	88	33	TP	0.183	2	NO	
Chromium	43	43	100	88	88	100	WRS	0.969	Site ≤ Ambient	NO	
Cobalt	25	42	60	66	88	75	TP	0.976	Site ≤ Ambient	NO	
Copper	38	42	90	83	88	94	GT	0.348	Site > Ambient	YES	
Iron	42	42	100	88	88	100	WRS	0.996	Site ≤ Ambient	NO	
Lead	17	45	38	27	88	31	TP	0.264	Site > Ambient	YES	
Manganese	42	42	100	88	88	100	WRS	0.996	Site ≤ Ambient	NO	
Mercury	0	6	0	0	22	0	TP	1.000	2	NO	
Molybdenum	0	42	0	0	85	0	TP	1.000	2	NO	
Nickel	42	42	100	88	88	100	WRS	0.987	Site ≤ Ambient	NO	
Selenium	0	42	0	1	88	1	TP	1.000	2	NO	
Silver	1	42	2	2	88	2	TP	0.693	2	NO	
Thallium	2	42	5	1	88	1	TP	0.244	2	NO	
Titanium	36	36	100	66	66	100	WRS	0.806	Site ≤ Ambient	NO	
Vanadium	42	42	100	88	88	100	WRS	0.998	Site ≤ Ambient	NO	
Zinc	41	42	98	88	88	100	WRS	0.308	Site ≤ Ambient	NO	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test

b Calculated significance level for individual statistical tests. Reject H_0 if Prob < 0.05.

c QT= quantile test

> Greater than

≤ Less than or equal to

H_0 Null hypothesis

N/A Not applicable

1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concen

2 The quantile test could not be run because at least one of the largest r measurements was a censored value.

Table A-12: Site 23 - Summary Statistics for Comparison to Background Groundwater Data Set
Appendix A, RI Report for Sites 9, 13, 19, 22, and 23, Alameda Point, Alameda, California

Chemical	Site 23			Ambient			Statistical Test[a]	Prob[b]	QT Conclusion[c]	Site > Ambient?	Notes
	Sample Size		Detection	Sample Size		Detection					
	Detected	Total	Frequency	Detected	Total	Frequency	(WRS, GT, or TP)			(YES or NO)	
Aluminum	13	68	19	56	194	29	TP	0.961	Site > Ambient	YES	
Antimony	5	68	7	1	28	4	TP	0.433	2	NO	
Arsenic	28	68	41	101	198	51	TP	0.939	2	NO	
Barium	57	68	84	164	194	85	GT	0.056	Site ≤ Ambient	NO	
Beryllium	10	68	15	17	194	9	TP	0.125	2	NO	
Cadmium	12	68	18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Calcium	68	68	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Chromium	22	68	32	33	194	17	TP	0.007	Site > Ambient	YES	
Cobalt	20	68	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Copper	18	68	26	59	194	30	TP	0.778	Site > Ambient	YES	
Iron	26	68	38	132	198	67	TP	1.000	Site > Ambient	YES	
Lead	10	68	15	3	29	10	TP	0.414	2	NO	
Magnesium	68	68	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Manganese	62	68	91	187	198	94	GT	0.064	Site > Ambient	YES	
Mercury	2	63	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Molybdenum	12	68	18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Nickel	18	68	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Potassium	68	68	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Selenium	9	65	14	1	193	1	TP	<0.001	2	YES	1
Silver	2	66	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Sodium	68	68	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Thallium	2	68	3	3	193	2	TP	0.390	2	NO	
Titanium	5	5	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Vanadium	20	68	29	72	198	36	TP	0.883	Site > Ambient	YES	
Zinc	23	68	34	64	198	32	TP	0.466	Site > Ambient	YES	

Notes:

a GT= Gehan-Wilcoxon rank sum test
TP= test of proportions (implemented using the Fisher exact test)
WRS= Wilcoxon rank sum test
H_0= site ≤ ambient

b Calculated significance level for individual statistical tests. Reject H_0 if Prob ≤ 0.05.

c QT= quantile test

> Greater than
≤ Less than or equal to
H_0 Null hypothesis
N/A Not applicable
1 The conclusion that the site exceeds ambient is based only on the comparison of detection frequencies, rather than the magnitude of chemical concentrations.
2 The quantile test could not be run because at least one of the largest r measurements was a censored value.
3 There is no ambient data set for this chemical

APPENDIX B
SOIL BORING AND CONE PENETROMETER LOGS

Site 9

SITE 9 SOIL BORING AND CONE PENETROMETER LOGS

Remedial Investigation Report for OU-2A, Alameda Point, Alameda, California

Boring ID	Date Drilled	Investigation
MW410-1	7/11/1990	Phase 1 & 2A
MW410-2	7/16/1990	Phase 1 & 2A
MW410-3	7/12/1990	Phase 1 & 2A
MW410-4	7/12/1990	Phase 1 & 2A
B410-5	7/11/1990	Phase 1 & 2A
B410-6	7/11/1990	Phase 1 & 2A
B410-7	7/12/1990	Phase 1 & 2A
B410-8	7/11/1990	Phase 1 & 2A
B410-9	7/12/1990	Phase 1 & 2A
D09-01	11/3/1994	Follow On Investigation 1994
CPT-S09-01	7/13/1994	Follow On Investigation 1994
CPT-S09-02	7/14/1996	Follow On Investigation 1994
CPT-S09-04	8/19/1994	Follow On Investigation 1994
CPT-S09-05	8/19/1994	Follow On Investigation 1994
CPT-S09-06	9/2/1994	Follow On Investigation 1994
CPT-S09-07	9/2/1994	Follow On Investigation 1994
CPT-S09-08	9/2/1994	Follow On Investigation 1994
CPT-S09-09	9/2/1994	Follow On Investigation 1994
CPT-S09-10	9/6/1994	Follow On Investigation 1994
CPT-S09-11	8/19/1994	Follow On Investigation 1994
CPT-S09-12	8/19/1994	Follow On Investigation 1994
M09-06	11/5/1994	Follow On Investigation 1994
S09-DGS-DP02	7/28/2001	Data Gap Sampling 2001
S09-DGS-DP03	7/26/2001	Data Gap Sampling 2001
S09-DGS-DP04	7/25/2001	Data Gap Sampling 2001
S09-DGS-DP06	8/14/2001	Data Gap Sampling 2001
S09-DGS-SG01	7/11/2001	Data Gap Sampling 2001
S09-DGS-SG02	7/11/2001	Data Gap Sampling 2001
S09-DGS-VE01	8/7/2001	Data Gap Sampling 2001
S09-DGS-DP01 (HP)	7/18/2001	Data Gap Sampling 2001
S09-DGS-DP04 (HP)	7/18/2001	Data Gap Sampling 2001
S09-DGS-DP05 (HP)	8/3/2001	Data Gap Sampling 2001
S09-DGS-DP07 (HP)	8/9/2001	Data Gap Sampling 2001
S09-DGS-DP08 (HP)	8/15/2001	Data Gap Sampling 2001
S09-DGS-DP09 (HP)	8/17/2001	Data Gap Sampling 2001
S09-DGS-DP10 (HP)	8/22/2001	Data Gap Sampling 2001
S09-DGS-DP11 (HP)	8/30/2001	Data Gap Sampling 2001
S09-DGS-DP12 (HP)	9/11/2001	Data Gap Sampling 2001
C3S009B001	unknown	PAH Study
C3S009B002	unknown	PAH Study
C3S009B003	unknown	PAH Study
C3S009B004	unknown	PAH Study
C3S009B005	unknown	PAH Study
C3S009B006	unknown	PAH Study
C3S009B008	8/6/2003	PAH Study
C3S009B009	unknown	PAH Study
C3S009B010	8/7/2003	PAH Study
C3S009B011	unknown	PAH Study
C3S009B012	unknown	PAH Study
C3S009B013	unknown	PAH Study

(HP) - Hydropunch boring

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW410-1
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: North side of Building 410 SURFACE ELEV. 114.75 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	8	10	9	14	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	5	5	6	17	SM					
	3	CS	3.0	4.5	4	4	3	15	SM				becomes loose at 3.0 feet.	
5														
	4	CS	4.5	6.0	2	3	2	14	SM					X
	5	CS	6.0	7.5	2	2	2	14	SM				saturated below 6.0 feet.	X
													color change to gray at 6.5 feet.	X
	6	CS	7.5	9.0	2	1	3	14	SM					X
10	7	CS	9.0	10.5	3	3	2	12	SM		Fill			X
														X
	8	CS	10.5	12.0	1	1	3	12	CL		65	11.0	Soft, dark gray, silty clay, some fine sand, saturated. (Bay Mud)	X
	9	CS	12.0	13.5	3	5	6	12	CL					X
													tiny round shell fragments at 12.5 feet.	X
15	10	CS	13.5	15.0	4	6	4	12	SM			13.5	Loose, dark gray, silty fine sand,	X
												15.0	saturated, trace of clay.	
													Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 10 ppm at 12.5 feet.	
40														

Canonie Environmental

Canonie

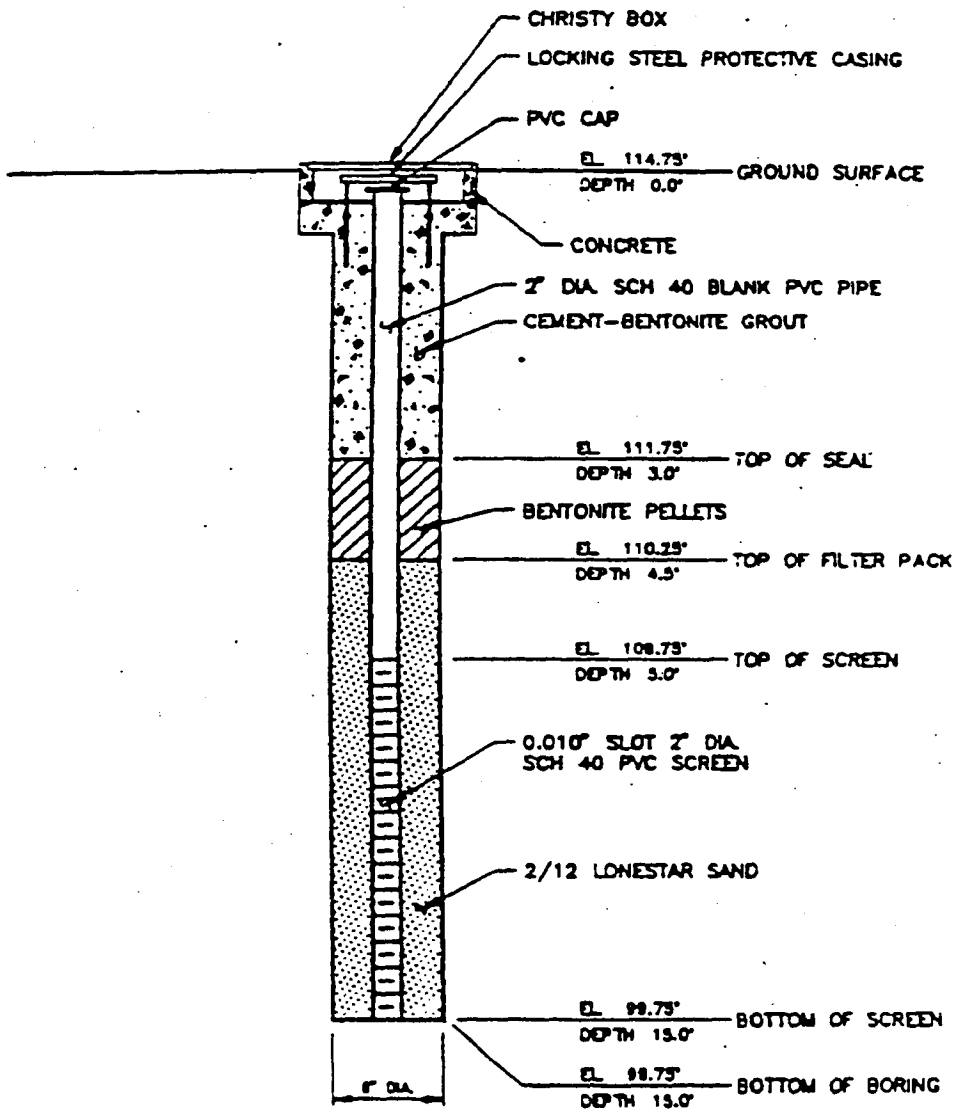
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, NORTH SIDE DATE 7-11-90 BY 98



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MW410-2
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West side of Building 410 SURFACE ELEV. 115.47 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt concrete (Fill)	
	1	CS	1.0	2.5	6	4	10	16	SM			1.0	Medium dense, light brown, silty fine sand, moist, with scattered shell fragments.	
	2	CS	2.5	4.0	5	5	6	14	SM					
5	3	CS	4.0	5.5	8	12	21	12	SM				becomes dense at 5.0 feet.	
	4	CS	5.5	7.0	15	20	15	15	SM				saturated below 7.0 feet. becomes medium dense at 7.0 feet.	x
	5	CS	7.0	8.5	5	10	6	16	SM					x
	6	CS	8.5	10.0	8	7	7	15	SM			8.5	Loose, brown gray, silty fine sand, saturated, some small shells.	x
10	7	CS	10.0	11.5	4	4	6	15	SM					x
	8	CS	11.5	13.0	2	4	9	14	SM					x
	9	CS	13.0	14.5	3	4	5	15	SM		Fill			x
15	10	CS	14.5	16.0	5	6	7	15	SC		BS	14.5	Medium dense, dark gray, silty clayey sand, saturated.	x
												16.0	Bottom of Boring at 16.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 7.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings were found during drilling.

CanonieEnvironmental

Canonie

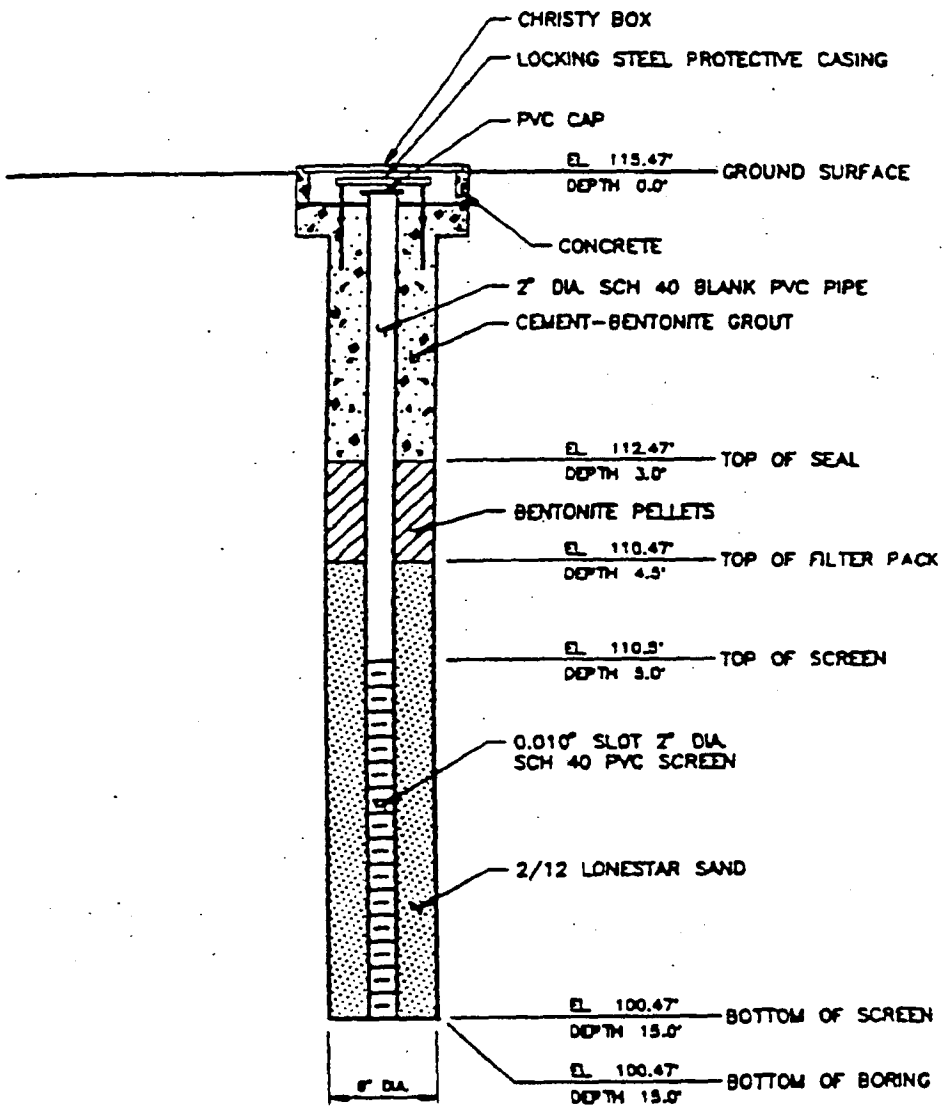
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, WEST SIDE DATE 7-16-90 BY RMO



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MW410-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South side of Building 410 SURFACE ELEV. 113.98 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	CONTAMINATION
													Asphalt. (Fill)	
	1	CS	0.5	2.0	22	20	22	14	SM			0.5	Dense, light brown, silty fine sand, moist.	
	2	CS	2.0	3.5	11	18	19	11	SM					
5	3	CS	3.5	5.0	10	18	19	15	SM			4.0	Dense, gray, silty fine sand, moist, with shell fragments.	
	4	CS	5.0	6.5	15	14	17	13	SM				saturated below 5.5 feet.	X
	5	CS	6.5	8.0	10	14	12	16	SM				becomes medium dense at 6.5 feet.	X
	6	CS	8.0	9.5	4	6	8	16	SM				lost shell fragments at 8.0 feet.	X
10														X
	7	CS	9.5	11.0	5	5	4	15	SM				becomes loose at 9.5 feet.	X
	8	CS	11.0	12.5	1	5	10	15	SM					X
														X
	9	CS	12.5	14.0	1	4	3	16	SM		Fill	13.8	Loose, dark gray, silty medium sand,	X
15	10	CS	14.0	15.5	5	5	7	17	SM		BS		saturated, with small white shells and	X
												15.5	pockets of clay.	
													Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings were found during drilling.

Canonie Environmental

Canonie

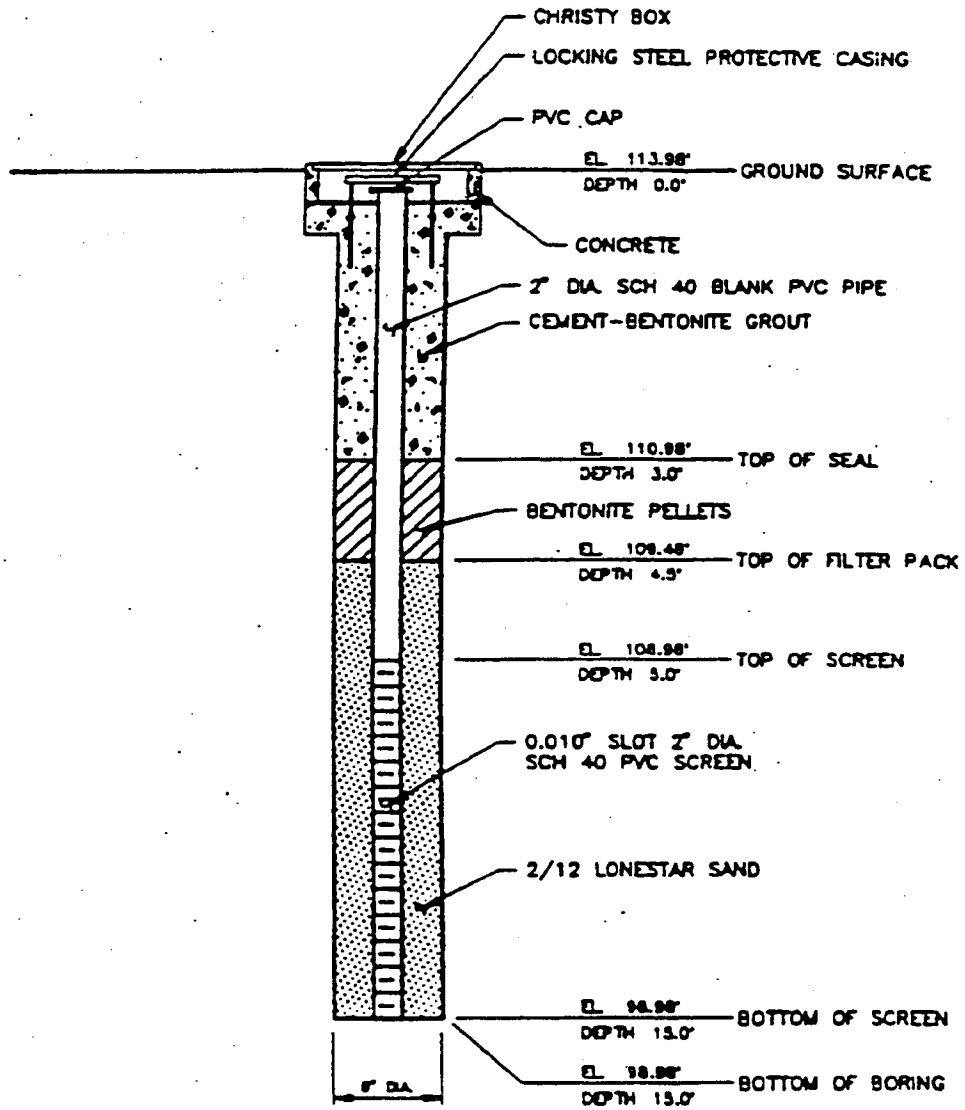
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, SOUTH SIDE DATE 7-12-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MW410-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 410 in fenced area SURFACE ELEV. 114 64 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LOAY DEPTH	SOIL DESCRIPTION AND REMARKS	PID (ppm)
													Asphalt. (Fill)	
	1	CS	0.5	2.0	40	45	25	14	SM			0.5	Very dense, brown, gravelly silty sand, moist. (Fill)	
	2	CS	2.0	3.5	20	16	14	13	SM			1.5	Dense, light brown, silty fine sand, moist, with shell fragments.	
5	3	CS	3.5	5.0	7	6	10	15	SM				becomes medium dense at 3.5 feet.	
	4	CS	5.0	6.5	6	6	7	14	SM					X
														X
	5	CS	6.5	8.0	5	7	6	15	SM				saturated below 6.5 feet.	X
	6	CS	8.0	9.5	6	6	5	15	SM					X
10														X
	7	CS	9.5	11.0	5	6	8	15	SM				color change to gray at 11.0 feet.	X
	8	CS	11.0	12.5	8	3	4	15	SM				becomes loose at 11.0 feet.	X
											Fill			X
	9	CS	12.5	14.0	3	2	3	15	SC			12.8	Loose, dark gray, clayey sand,	X
15	10	CS	14.0	15.5	2	1	3	14	SC		BS		saturated, with pockets of silty clay	X
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 2-5 ppm at 12.5 feet.
   b) 5-10 ppm at 14.0 feet.

Canonie Environmental

Canonie

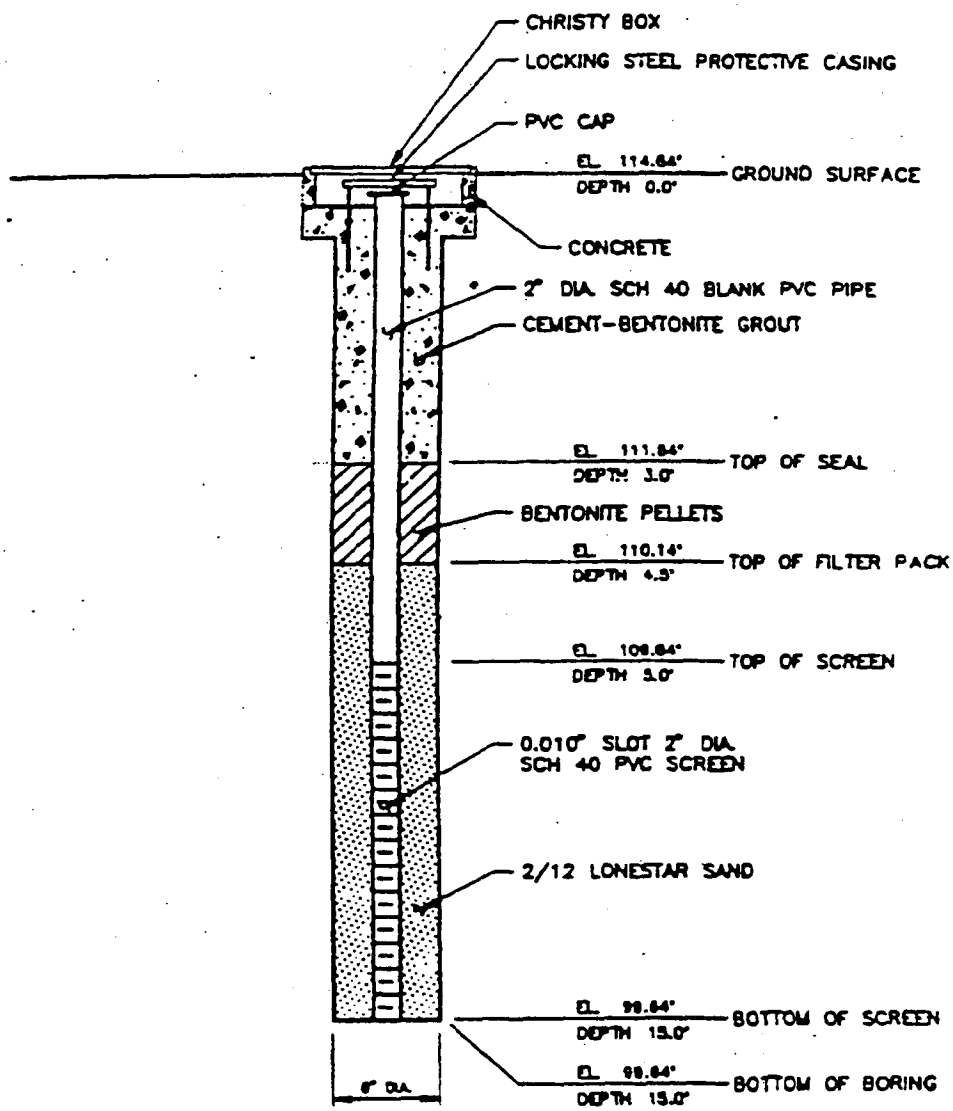
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF BUILDING 410 IN FENCED AREA DATE 7-12-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-5
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northwest corner of Building 410 SURFACE ELEV. 114.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS	PID (ppm)
	1	CS	0.0	1.5	25	25	20	14	SM			0.3		Asphalt. (Fill)	
														Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	16	19	20	15	SM						
	3	CS	3.0	4.5	10	11	13	15	SM					becomes medium dense at 3.0 feet.	
5															
	4	CS	4.5	6.0	10	11	8	15	SM						
	5	CS	6.0	7.5	7	7	5	13	SM					saturated below 6.0 feet.	
	6	CS	7.5	9.0	5	8	9	12	SM					becomes loose at 9.0 feet.	
10	7	CS	9.0	10.5	3	1	4	14	SM					color change to brown gray and	
											Fill			increase in clay content at 9.0 feet.	
	8	CS	10.5	12.0	3	5	7	18	CL			10.5		Medium stiff, black to dark gray,	
	9	CS	12.0	13.5	3	5	8	6	SC		BS	13.0		silty clay, saturated.	
														Loose, dark gray, clayey fine sand,	
15	10	CS	13.5	15.0	3	5	10	12	SC					saturated, some silt.	
												15.0		Bottom of Boring at 15.0 feet.	
20															
25															
30															
35															
40															

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-6
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast of Building 410 SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	25	18	14	SM			0.3	Asphalt. (Fill)	
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	15	20	13	14	SM					
	3	CS	3.0	4.5	10	10	14	15	SM					
5													becomes medium dense at 3.0 feet.	
	4	CS	4.5	6.0	8	9	11	15	SM					
	5	CS	6.0	7.5	7	9	7	15	SM				saturated below 6.0 feet.	
	6	CS	7.5	9.0	5	4	6	13	SM				becomes loose at 8.0 feet.	
10	7	CS	9.0	10.5	3	2	3	12	SM					
	8	CS	10.5	12.0	2	3	2	15	SM		Fill			
	9	CS	12.0	13.5	1	2	4	13	CL		ES	12.0	Soft, black, silty clay, saturated. (Bay Mud)	
15	10	CS	13.5	15.0	6	16	15	6	SM		MS	13.5	Dense, light brown, silty fine sand, saturated.	
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. B410-7
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of northeast corner of Building 410 SURFACE ELEV. 114.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt (Fill)	
	1	CS	0.5	2.0	41	15	20	12	SM			0.5	Dense, light brown, silty fine sand, moist, some gravel. (Fill)	
	2	CS	2.0	3.5	10	10	10	14	SM				becomes medium dense at 2.0 feet.	
5	3	CS	3.5	5.0	3	6	6	12	CL			4.3	Medium stiff, brown gray, sandy clay, moist, with pockets of silty sand.	
	4	CS	5.0	6.5	5	6	7	12	CL				saturated below 7.0 feet.	
	5	CS	6.5	8.0	4	7	5	12	CL				becomes loose at 8.0 feet.	
	6	CS	8.0	9.5	1	2	3	15	CL		Fill	9.0	Stiff, mottled brown dark gray, silty clay, saturated, moderate odor.	
10											BS		black oily discoloration at 9.5 feet.	
	7	CS	9.5	11.0	1	1	4	18	CL				lenses of clayey sand below 11.0 feet.	
	8	CS	11.0	12.5	2	3	4	14	CL					
	9	CS	12.5	14.0	4	3	4	18	SC			13.8	Medium dense, dark gray, clayey sand, saturated, with tiny round shells.	
15	10	CS	14.0	15.5	5	9	13	18	SC					
												15.0	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 7.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-8
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East side of Building 410 SURFACE ELEV. 115.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	10	15	25	16	SM			0.5	Dense, dark brown, silty fine sand, moist.	
	2	CS	2.0	3.5	20	25	15	16	SM				trace of shell fragments at 2.5 feet.	
5	3	CS	3.5	5.0	8	5	5	15	SM				becomes medium dense at 3.5 feet.	
	4	CS	5.0	6.5	4	8	10	17	SM				thin lens of clay at 6.5 feet.	
	5	CS	6.5	8.0	25	15	16	17	SM				saturated below 7.0 feet.	
	6	CS	8.0	9.5	50			12	SM				color change to gray at 8.5 feet.	
10											Fill	9.5	Bottom of Boring at 9.5 feet.	
15													(encountered an obstruction at 9.5 feet which kicked the auger sideways. relocated 10 feet east and encountered a similar obstruction at 5.0 feet. relocated in alignment with B410-7 and B410-9; an obstruction was encountered at 5.0 feet.)	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 7.0 feet during drilling.	
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
35													4. Boring was backfilled with cement/bentonite grout upon completion of drilling. In addition, abandoned boreholes were also backfilled.	
40													5. OVA readings: a) 2 ppm at 7.0 feet.	

CanonieEnvironmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-9
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of southeast corner of Building 410 SURFACE ELEV 115.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0" 6"	6" 12"	12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	30	15	10	12	SM			1.0	Dense, light brown, silty fine sand, moist.	
	2	CS	2.0	3.5	20	25	15	14	SM				trace of shell fragments below 2.5 feet.	
5	3	CS	3.5	5.0	15	14	9	16	SM				medium dense below 4.0 feet.	
	4	CS	5.0	6.5	7	5	8	18	SM				becomes saturated at 4.5 feet.	
	5	CS	6.5	8.0	2	3	3	15	SM				becomes loose at 6.5 feet.	
	6	CS	8.0	9.5	2	3	5	14	SM					
10	7	CS	9.5	11.0	2	3	4	16	SM					
	8	CS	11.0	12.5	2	1	4	13	SM				running sands below 11.0 feet.	
	9	CS	12.5	14.0	4	4	5	12	SM		Fill	12.5	Loose, gray, silty fine sand, saturated,	
15	10	CS	14.0	15.5	2	3	3	18	SM		BS		with pockets of silty clay.	
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D09-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA					3 inches asphalt over 10 inches concrete over sand and gravel base FILL
							SP	
5				58				sand (SP), light olive brown (2.5Y5/4), fine sand, medium dense, dry
10				37				Same as above, but moist Same as above with abundant shells
15				6				Same as above, but very dark gray (2.5YN3), loose, no shells Same as above, but light olive brown (2.5Y5/4)
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 9
JOB NUMBER 044-0280
LOGGED BY JEV
DATE DRILLED 11-3-94
DRILLER Tonto Drilling Services Ca
DRILL METHOD Mud Rotary

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION 15.12 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 61 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D09-01

MERRITT SAND

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				27			SP	Same as above, but yellowish brown (10YR 5/8), dense, wet Same as above, but olive brown, abundant shells
25/15				67				Same as above, but moist
30/10				74				Same as above
35/15				77				Same as above, but yellowish brown (10YR 5/6),
40/20								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

WATER LEVEL

WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D09-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				80			SP	Same as above
45				36				Same as above
50				90				Same as above
55				90				Same as above, but grayish brown (10YR 5/2)
60								

Water Level	PROJECT	SAMPLING METHOD
	LOCATION	GROUND ELEVATION
Split Spoon	JOB NUMBER 044-	TOC ELEVATION
	LOGGED BY	BORING DIAMETER
Sample Collected	DATE DRILLED	TOTAL DEPTH OF HOLE
	DRILLER	WATER LEVEL
	DRILL METHOD	WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				38/6 50/6	X			Same as above
								TD = 61 Feet bgs
5								
10								
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

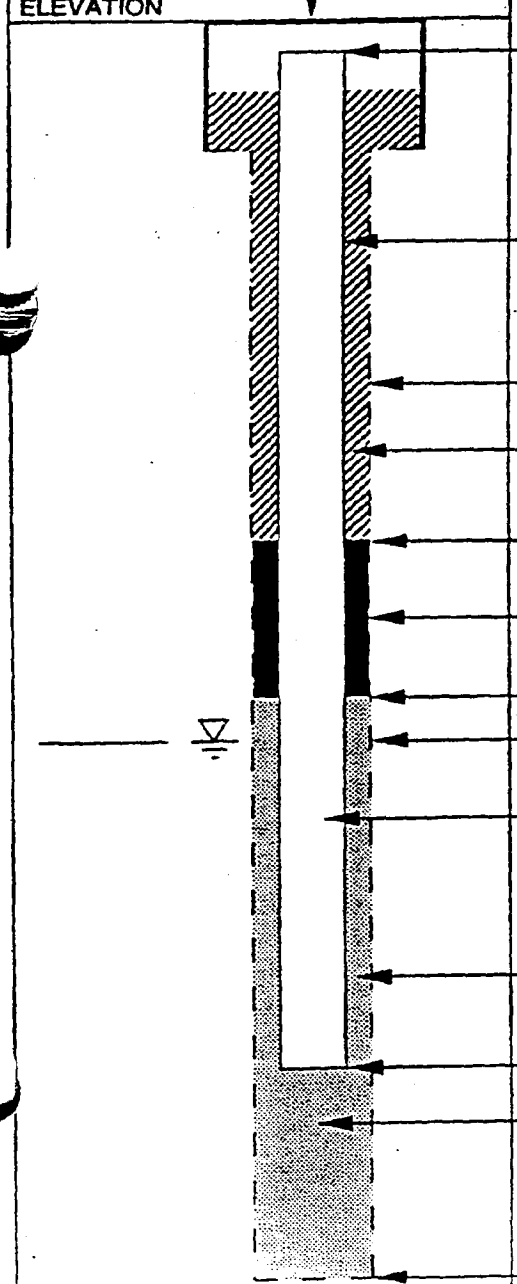
WATER LEVEL

WELL INSTALLED? (Y/N)

WELL ~~BORING~~ NO. DØ9-Ø1

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Tonto Drilling Services Co.
PROJECT NO. Ø44 Ø28Ø	BORING DØ9-Ø1	DRILLING METHOD Mud Rotary
~~ELEVATION~~ SITE 9	DATE 11-3-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST JEV		



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 15.12

RISER PIPE I.D.: 3 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 44.3

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 46.6

DEPTH TOP OF SCREEN (feet bgs) 50.0

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 60.0

DEPTH BOTTOM OF SAND PACK 61.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE (feet bgs) 61.0

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery
On Site Loc:CPT-S09-01
Job No. :2738.1236
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/13/94 11:15
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.40	-0.05	-13.00	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	13.60	0.03	0.24	0.07	sandy silt to clayey silt	UNDFND	UNDFD	5	1.3
0.75	2.46	26.80	0.16	0.58	0.12	silty sand to sandy silt	50-60	44-46	9	UNDEFINED
1.00	3.28	46.20	0.28	0.60	0.17	silty sand to sandy silt	70-80	44-46	15	UNDEFINED
1.25	4.10	53.20	0.31	0.58	0.21	sand to silty sand	70-80	44-46	13	UNDEFINED
1.50	4.92	54.00	0.31	0.58	0.26	sand to silty sand	60-70	44-46	13	UNDEFINED
1.75	5.74	66.20	0.40	0.60	0.31	sand to silty sand	70-80	44-46	16	UNDEFINED
2.00	6.56	70.60	0.42	0.60	0.35	sand to silty sand	70-80	44-46	17	UNDEFINED
2.25	7.38	70.80	0.42	0.59	0.40	sand to silty sand	60-70	42-44	17	UNDEFINED
2.50	8.20	62.40	0.41	0.65	0.45	sand to silty sand	60-70	42-44	15	UNDEFINED
2.75	9.02	38.80	0.31	0.80	0.50	silty sand to sandy silt	40-50	38-40	12	UNDEFINED
3.00	9.84	18.00	0.31	1.73	0.54	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
3.25	10.66	4.60	-0.03	-0.65	0.58	undefined	UNDFND	UNDFD	UDF	UNDEFINED
3.50	11.48	9.60	0.10	1.02	0.60	clayey silt to silty clay	UNDFND	UNDFD	5	.8
3.75	12.30	17.80	0.15	0.87	0.62	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
4.00	13.12	28.20	0.21	0.74	0.64	silty sand to sandy silt	<40	36-38	9	UNDEFINED
4.25	13.94	72.20	0.60	0.84	0.66	sand to silty sand	60-70	40-42	17	UNDEFINED
4.50	14.76	173.00	2.08	1.20	0.68	sand to silty sand	80-90	44-46	41	UNDEFINED
4.75	15.58	47.80	0.28	0.58	0.71	sand to silty sand	50-60	38-40	11	UNDEFINED
5.00	16.40	133.00	1.79	1.34	0.73	sand to silty sand	70-80	42-44	32	UNDEFINED
5.25	17.22	144.00	3.70	2.57	0.75	silty sand to sandy silt	80-90	42-44	46	UNDEFINED
5.50	18.04	168.60	4.60	2.73	0.77	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.75	18.86	194.20	3.88	2.00	0.79	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.00	19.69	220.20	2.70	1.23	0.81	sand	>90	44-46	42	UNDEFINED
6.25	20.51	267.80	2.93	1.09	0.84	sand	>90	44-46	>50	UNDEFINED
6.50	21.33	265.40	3.10	1.17	0.86	sand	>90	44-46	>50	UNDEFINED
6.75	22.15	250.00	2.90	1.16	0.88	sand	>90	44-46	48	UNDEFINED
7.00	22.97	292.60	3.47	1.19	0.90	sand	>90	46-48	>50	UNDEFINED
7.25	23.79	279.20	2.14	0.77	0.92	sand	>90	44-46	>50	UNDEFINED
7.50	24.61	353.20	2.72	0.77	0.94	sand	>90	46-48	>50	UNDEFINED
7.75	25.43	322.20	4.25	1.32	0.96	sand	>90	46-48	>50	UNDEFINED
8.00	26.25	304.20	4.90	1.61	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	325.00	4.92	1.51	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	260.60	3.96	1.52	1.03	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	249.00	3.34	1.34	1.05	sand	>90	44-46	48	UNDEFINED
9.00	29.53	211.60	1.99	0.94	1.07	sand	80-90	44-46	41	UNDEFINED
9.25	30.35	206.40	2.07	1.00	1.09	sand	80-90	42-44	40	UNDEFINED
9.50	31.17	209.80	2.18	1.04	1.12	sand	80-90	42-44	40	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery On Site Loc:CPT-S09-01 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	250.00	2.67	1.07	1.14	sand	>90	44-46	48	UNDEFINED
10.00	32.81	244.80	3.71	1.51	1.16	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	311.60	4.05	1.30	1.18	sand	>90	44-46	>50	UNDEFINED
10.50	34.45	310.80	5.39	1.74	1.20	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	350.60	5.18	1.48	1.22	sand to silty sand	>90	44-46	>50	UNDEFINED
11.00	36.09	300.00	3.41	1.14	1.24	sand	>90	44-46	>50	UNDEFINED
11.25	36.91	307.20	2.98	0.97	1.27	sand	>90	44-46	>50	UNDEFINED
11.50	37.73	286.80	3.31	1.15	1.29	sand	>90	44-46	>50	UNDEFINED
11.75	38.55	282.40	3.40	1.20	1.31	sand	>90	44-46	>50	UNDEFINED
12.00	39.37	82.20	2.57	3.13	1.33	sandy silt to clayey silt	UNDFND	UNDFD	31	7.9
12.25	40.19	157.20	3.82	2.43	1.35	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
12.50	41.01	163.20	4.01	2.46	1.37	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
12.75	41.83	73.80	0.99	1.34	1.40	silty sand to sandy silt	50-60	36-38	24	UNDEFINED
13.00	42.65	83.00	4.66	5.61	1.42	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.25	43.47	176.00	7.39	4.20	1.44	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.50	44.29	210.20	7.95	3.78	1.46	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) **

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watson
On Site Loc:CPT-S09-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 14:18
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	1.44	0.03	2.10	0.02	sensitive fine grained	UNDFND	UNDFD	1	.1
0.50	1.64	1.82	0.02	1.21	0.07	sensitive fine grained	UNDFND	UNDFD	1	.1
0.75	2.46	7.54	0.03	0.44	0.12	sensitive fine grained	UNDFND	UNDFD	4	.7
1.00	3.28	17.48	0.07	0.39	0.17	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
1.25	4.10	55.98	0.53	0.94	0.21	silty sand to sandy silt	70-80	44-46	18	UNDEFINED
1.50	4.92	126.66	0.78	0.62	0.26	sand	>90	46-48	24	UNDEFINED
1.75	5.74	131.98	0.62	0.47	0.31	sand	>90	46-48	25	UNDEFINED
2.00	6.56	124.60	0.62	0.50	0.35	sand	80-90	46-48	24	UNDEFINED
2.25	7.38	123.76	0.61	0.50	0.40	sand	80-90	44-46	24	UNDEFINED
2.50	8.20	118.96	0.65	0.55	0.45	sand	80-90	44-46	23	UNDEFINED
2.75	9.02	119.06	0.66	0.56	0.50	sand	80-90	44-46	23	UNDEFINED
3.00	9.84	125.56	0.66	0.53	0.54	sand	80-90	44-46	24	UNDEFINED
3.25	10.66	124.70	0.73	0.59	0.58	sand	80-90	44-46	24	UNDEFINED
3.50	11.48	104.82	0.63	0.60	0.60	sand to silty sand	70-80	42-44	25	UNDEFINED
3.75	12.30	116.60	0.70	0.60	0.62	sand	70-80	42-44	22	UNDEFINED
4.00	13.12	112.54	0.71	0.63	0.64	sand to silty sand	70-80	42-44	27	UNDEFINED
4.25	13.94	40.96	0.40	0.99	0.66	silty sand to sandy silt	40-50	38-40	13	UNDEFINED
4.50	14.76	52.58	0.38	0.72	0.68	silty sand to sandy silt	50-60	38-40	17	UNDEFINED
4.75	15.58	26.66	0.27	1.02	0.71	sandy silt to clayey silt	UNDFND	UNDFD	10	2.5
5.00	16.40	25.54	0.42	1.63	0.73	sandy silt to clayey silt	UNDFND	UNDFD	10	2.4
5.25	17.22	35.88	0.18	0.50	0.75	silty sand to sandy silt	40-50	36-38	11	UNDEFINED
5.50	18.04	51.20	0.26	0.50	0.77	sand to silty sand	50-60	38-40	12	UNDEFINED
5.75	18.86	66.00	0.24	0.36	0.79	sand to silty sand	50-60	40-42	16	UNDEFINED
6.00	19.69	89.20	0.43	0.48	0.81	sand to silty sand	60-70	40-42	21	UNDEFINED
6.25	20.51	117.88	0.55	0.47	0.84	sand	70-80	42-44	23	UNDEFINED
6.50	21.33	141.72	1.71	1.20	0.86	sand to silty sand	70-80	42-44	34	UNDEFINED
6.75	22.15	169.34	3.07	1.81	0.88	sand to silty sand	80-90	42-44	41	UNDEFINED
7.00	22.97	236.54	3.79	1.60	0.90	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	294.78	5.35	1.81	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	342.12	7.89	2.31	0.94	sand to silty sand	>90	46-48	>50	UNDEFINED
7.75	25.43	347.50	6.21	1.79	0.96	sand to silty sand	>90	46-48	>50	UNDEFINED
8.00	26.25	294.80	4.44	1.51	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	211.16	4.15	1.97	1.01	sand to silty sand	80-90	44-46	>50	UNDEFINED
8.50	27.89	197.84	2.96	1.49	1.03	sand to silty sand	80-90	42-44	47	UNDEFINED
8.75	28.71	208.54	3.98	1.91	1.05	sand to silty sand	80-90	44-46	50	UNDEFINED
9.00	29.53	266.44	5.34	2.01	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
9.25	30.35	250.76	5.25	2.09	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
9.50	31.17	266.28	5.70	2.14	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

*** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ***

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watsn On Site Loc:CPT-S09-02 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	309.20	3.74	1.21	1.14	sand	>90	44-46	>50	UNDEFINED
10.00	32.81	272.10	4.32	1.59	1.16	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	208.46	2.48	1.19	1.18	sand	80-90	42-44	40	UNDEFINED
10.50	34.45	289.20	4.29	1.48	1.20	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	207.30	2.08	1.01	1.22	sand	80-90	42-44	40	UNDEFINED
11.00	36.09	282.28	3.98	1.41	1.24	sand to silty sand	>90	44-46	>50	UNDEFINED
11.25	36.91	305.98	4.81	1.57	1.27	sand to silty sand	>90	44-46	>50	UNDEFINED
11.50	37.73	297.00	3.96	1.33	1.29	sand	>90	44-46	>50	UNDEFINED
11.75	38.55	288.94	4.27	1.48	1.31	sand to silty sand	>90	44-46	>50	UNDEFINED
12.00	39.37	248.26	2.81	1.13	1.33	sand	80-90	42-44	48	UNDEFINED
12.25	40.19	255.52	3.29	1.29	1.35	sand	80-90	42-44	49	UNDEFINED
12.50	41.01	279.98	4.37	1.56	1.37	sand to silty sand	>90	44-46	>50	UNDEFINED
12.75	41.83	311.98	4.32	1.38	1.40	sand	>90	44-46	>50	UNDEFINED
13.00	42.65	283.38	3.49	1.23	1.42	sand	>90	44-46	>50	UNDEFINED
13.25	43.47	215.18	2.85	1.32	1.44	sand to silty sand	80-90	42-44	>50	UNDEFINED
13.50	44.29	181.02	4.64	2.56	1.46	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
13.75	45.11	206.92	4.42	2.14	1.48	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
14.00	45.93	202.82	3.86	1.90	1.50	sand to silty sand	80-90	42-44	49	UNDEFINED
14.25	46.75	105.40	2.05	1.95	1.52	silty sand to sandy silt	60-70	38-40	34	UNDEFINED
14.50	47.57	50.18	1.11	2.22	1.55	sandy silt to clayey silt	UNDFND	UNDFD	19	4.7
14.75	48.39	197.44	3.07	1.56	1.57	sand to silty sand	70-80	40-42	47	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson
On Site Loc:CPT-S09-04
Job No. :27381402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/19/94 13:30
Cone Used :465
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	6.16	0.00	0.05	0.02	sensitive fine grained	UNDFND	UNDFD	3	.6
0.50	1.64	2.34	0.01	0.27	0.07	sensitive fine grained	UNDFND	UNDFD	1	.2
0.75	2.46	2.58	-0.01	-0.40	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	10.08	-0.03	-0.30	0.17	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.25	4.10	21.54	0.05	0.22	0.21	silty sand to sandy silt	40-50	40-42	7	UNDEFINED
1.50	4.92	66.44	0.40	0.60	0.26	sand to silty sand	70-80	44-46	16	UNDEFINED
1.75	5.74	95.00	0.46	0.49	0.31	sand to silty sand	80-90	44-46	23	UNDEFINED
2.00	6.56	90.26	0.49	0.54	0.35	sand to silty sand	70-80	44-46	22	UNDEFINED
2.25	7.38	85.50	0.47	0.55	0.40	sand to silty sand	70-80	44-46	20	UNDEFINED
2.50	8.20	75.64	0.41	0.54	0.45	sand to silty sand	70-80	42-44	18	UNDEFINED
2.75	9.02	65.04	0.36	0.55	0.50	sand to silty sand	60-70	42-44	16	UNDEFINED
3.00	9.84	54.84	0.29	0.53	0.54	sand to silty sand	50-60	40-42	13	UNDEFINED
3.25	10.66	47.42	0.28	0.59	0.58	silty sand to sandy silt	50-60	40-42	15	UNDEFINED
3.50	11.48	35.80	0.33	0.93	0.60	silty sand to sandy silt	40-50	38-40	11	UNDEFINED
3.75	12.30	44.72	0.12	0.26	0.62	sand to silty sand	50-60	38-40	11	UNDEFINED
4.00	13.12	35.88	0.16	0.45	0.64	silty sand to sandy silt	40-50	38-40	11	UNDEFINED
4.25	13.94	13.76	0.22	1.56	0.66	clayey silt to silty clay	UNDFND	UNDFD	7	1.2
4.50	14.76	8.90	0.04	0.50	0.68	sensitive fine grained	UNDFND	UNDFD	4	.8
4.75	15.58	12.46	0.04	0.33	0.71	sandy silt to clayey silt	UNDFND	UNDFD	5	1.1
5.00	16.40	20.66	0.01	0.05	0.73	silty sand to sandy silt	<40	34-36	7	UNDEFINED
5.25	17.22	37.98	0.47	1.24	0.75	silty sand to sandy silt	40-50	36-38	12	UNDEFINED
5.50	18.04	129.12	2.53	1.96	0.77	silty sand to sandy silt	70-80	42-44	41	UNDEFINED
5.75	18.86	171.80	5.29	3.08	0.79	sandy silt to clayey silt	UNDFND	UNDFD	>50	17.0
6.00	19.69	214.06	4.97	2.32	0.81	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.25	20.51	229.22	6.20	2.70	0.84	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.50	21.33	174.26	7.52	4.32	0.86	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
6.75	22.15	197.74	11.83	5.98	0.88	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
7.00	22.97	317.10	10.68	3.37	0.90	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	360.78	10.97	3.04	0.92	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.50	24.61	374.48	10.14	2.71	0.94	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.75	25.43	348.10	8.98	2.58	0.96	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
8.00	26.25	282.88	5.82	2.06	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	279.64	7.55	2.70	1.01	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.50	27.89	268.88	5.41	2.01	1.03	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	272.58	5.48	2.01	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
9.00	29.53	232.82	5.51	2.37	1.07	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
9.25	30.35	291.28	8.10	2.78	1.09	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
9.50	31.17	230.40	7.54	3.27	1.12	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson On Site Loc:CPT-S09-04 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	196.32	7.31	3.72	1.14	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
10.00	32.81	150.10	5.13	3.42	1.16	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.8
10.25	33.63	217.38	6.51	3.00	1.18	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.50	34.45	240.48	6.85	2.85	1.20	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
10.75	35.27	209.94	3.37	1.60	1.22	sand to silty sand	80-90	42-44	>50	UNDEFINED
11.00	36.09	125.44	2.36	1.88	1.24	silty sand to sandy silt	70-80	40-42	40	UNDEFINED
11.25	36.91	177.80	5.67	3.19	1.27	sandy silt to clayey silt	UNDFND	UNDFD	>50	17.5
11.50	37.73	262.76	8.78	3.34	1.29	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
11.75	38.55	239.04	11.09	4.64	1.31	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.00	39.37	279.32	7.41	2.65	1.33	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
12.25	40.19	288.32	8.09	2.81	1.35	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
12.50	41.01	374.80	8.97	2.39	1.37	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	387.12	9.48	2.45	1.40	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
13.00	42.65	299.36	5.66	1.89	1.42	sand to silty sand	>90	44-46	>50	UNDEFINED
13.25	43.47	445.26	9.16	2.06	1.44	sand to silty sand	>90	44-46	>50	UNDEFINED
13.50	44.29	147.28	10.00	6.79	1.46	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.75	45.11	201.52	10.10	5.01	1.48	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
14.00	45.93	276.98	7.04	2.54	1.50	silty sand to sandy silt	>90	42-44	>50	UNDEFINED
14.25	46.75	268.60	5.43	2.02	1.52	sand to silty sand	80-90	42-44	>50	UNDEFINED
14.50	47.57	86.22	1.76	2.04	1.55	silty sand to sandy silt	50-60	38-40	28	UNDEFINED
14.75	48.39	92.16	5.51	5.97	1.57	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
15.00	49.21	213.82	19.18	8.97	1.59	undefined	UNDFND	UNDFD	UDF	UNDEFIN
15.25	50.03	198.96	9.78	4.91	1.61	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFIN

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson
On Site Loc:CPT-S09-05
Job No. :27381402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/19/94 11:30
Cone Used :465
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	1.06	-0.01	-0.60	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	1.38	-0.02	-1.41	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	2.84	-0.02	-0.82	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	3.86	-0.02	-0.62	0.17	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.25	4.10	3.46	-0.01	-0.35	0.21	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.50	4.92	3.22	-0.02	-0.54	0.26	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.75	5.74	10.00	0.03	0.27	0.31	sandy silt to clayey silt	UNDFND	UNDFD	4	.9
2.00	6.56	6.94	0.03	0.43	0.35	sensitive fine grained	UNDFND	UNDFD	3	.6
2.25	7.38	6.04	0.03	0.47	0.40	sensitive fine grained	UNDFND	UNDFD	3	.5
2.50	8.20	4.20	0.02	0.36	0.45	sensitive fine grained	UNDFND	UNDFD	2	.3
2.75	9.02	4.22	0.01	0.20	0.50	sensitive fine grained	UNDFND	UNDFD	2	.3
3.00	9.84	4.80	0.01	0.24	0.54	sensitive fine grained	UNDFND	UNDFD	2	.4
3.25	10.66	4.40	-0.01	-0.13	0.58	undefined	UNDFND	UNDFD	UDF	UNDEFINED
3.50	11.48	12.00	0.00	0.04	0.60	sandy silt to clayey silt	UNDFND	UNDFD	5	1.1
3.75	12.30	5.52	-0.00	-0.04	0.62	undefined	UNDFND	UNDFD	UDF	UNDEFINED
4.00	13.12	4.16	0.00	0.10	0.64	sensitive fine grained	UNDFND	UNDFD	2	.3
4.25	13.94	17.16	0.00	0.02	0.66	silty sand to sandy silt	<40	32-34	5	UNDEFINED
4.50	14.76	10.58	0.01	0.11	0.68	sandy silt to clayey silt	UNDFND	UNDFD	4	.9
4.75	15.58	30.64	0.04	0.13	0.71	silty sand to sandy silt	<40	36-38	10	UNDEFINED
5.00	16.40	56.78	0.16	0.28	0.73	sand to silty sand	50-60	38-40	14	UNDEFINED
5.25	17.22	140.20	1.35	0.96	0.75	sand to silty sand	80-90	42-44	34	UNDEFINED
5.50	18.04	134.50	1.43	1.07	0.77	sand to silty sand	70-80	42-44	32	UNDEFINED
5.75	18.86	123.44	1.66	1.34	0.79	sand to silty sand	70-80	42-44	30	UNDEFINED
6.00	19.69	217.64	2.65	1.22	0.81	sand	>90	44-46	42	UNDEFINED
6.25	20.51	172.30	4.64	2.69	0.84	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.50	21.33	180.54	3.85	2.13	0.86	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.75	22.15	273.68	4.79	1.75	0.88	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	344.68	5.26	1.53	0.90	sand to silty sand	>90	46-48	>50	UNDEFINED
7.25	23.79	342.96	6.11	1.78	0.92	sand to silty sand	>90	46-48	>50	UNDEFINED
7.50	24.61	310.30	2.97	0.96	0.94	sand	>90	46-48	>50	UNDEFINED
7.75	25.43	332.96	2.94	0.88	0.96	sand	>90	46-48	>50	UNDEFINED
8.00	26.25	262.64	2.60	0.99	0.99	sand	>90	44-46	>50	UNDEFINED
8.25	27.07	242.02	2.36	0.98	1.01	sand	>90	44-46	46	UNDEFINED
8.50	27.89	205.38	1.82	0.89	1.03	sand	80-90	44-46	39	UNDEFINED
8.75	28.71	224.54	3.33	1.48	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.00	29.53	281.14	3.10	1.10	1.07	sand	>90	44-46	>50	UNDEFINED
9.25	30.35	374.06	3.68	0.98	1.09	sand	>90	46-48	>50	UNDEFINED
9.50	31.17	329.16	4.22	1.28	1.12	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

erator :Montgmry Watson On Site Loc:CPT-509-05 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	321.08	2.89	0.90	1.14	sand	>90	44-46	>50	UNDEFINED
10.00	32.81	315.24	2.93	0.93	1.16	sand	>90	44-46	>50	UNDEFINED
10.25	33.63	262.08	3.00	1.15	1.18	sand	>90	44-46	>50	UNDEFINED
10.50	34.45	133.24	1.93	1.45	1.20	sand to silty sand	70-80	40-42	32	UNDEFINED
10.75	35.27	133.78	1.53	1.14	1.22	sand to silty sand	70-80	40-42	32	UNDEFINED
11.00	36.09	185.84	2.77	1.49	1.24	sand to silty sand	80-90	42-44	45	UNDEFINED
11.25	36.91	288.54	5.32	1.84	1.27	sand to silty sand	>90	44-46	>50	UNDEFINED
11.50	37.73	249.48	2.31	0.93	1.29	sand	80-90	42-44	48	UNDEFINED
11.75	38.55	214.78	2.44	1.13	1.31	sand	80-90	42-44	41	UNDEFINED
12.00	39.37	216.40	2.41	1.12	1.33	sand	80-90	42-44	41	UNDEFINED
12.25	40.19	287.30	2.77	0.96	1.35	sand	>90	44-46	>50	UNDEFINED
12.50	41.01	303.12	2.40	0.79	1.37	sand	>90	44-46	>50	UNDEFINED
12.75	41.83	199.56	1.80	0.90	1.40	sand	80-90	42-44	38	UNDEFINED
13.00	42.65	164.88	3.87	2.35	1.42	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
13.25	43.47	139.60	3.51	2.51	1.44	silty sand to sandy silt	70-80	40-42	45	UNDEFINED
13.50	44.29	214.52	4.19	1.95	1.46	sand to silty sand	80-90	42-44	>50	UNDEFINED
13.75	45.11	260.06	2.49	0.96	1.48	sand	80-90	42-44	50	UNDEFINED
14.00	45.93	96.50	2.32	2.41	1.50	silty sand to sandy silt	50-60	38-40	31	UNDEFINED
14.25	46.75	187.36	9.36	4.99	1.52	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
14.50	47.57	211.96	8.71	4.11	1.55	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
14.75	48.39	126.24	5.80	4.59	1.57	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
15.00	49.21	183.40	7.92	4.32	1.59	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
15.25	50.03	265.22	3.93	1.48	1.61	sand to silty sand	80-90	42-44	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson
On Site Loc:CPT-S09-06
Job No. : 2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :09/02/94 09:15 M
Cone Used : 392
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.40	0.00	0.50	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	2.20	0.01	0.36	0.07	sensitive fine grained	UNDFND	UNDFD	1	.1
0.75	2.46	3.60	-0.00	-0.06	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	7.50	0.03	0.39	0.17	sensitive fine grained	UNDFND	UNDFD	4	.4
1.25	4.10	23.80	0.08	0.35	0.21	silty sand to sandy silt	40-50	40-42	8	UNDEFINED
1.50	4.92	34.80	0.15	0.42	0.26	silty sand to sandy silt	50-60	42-44	11	UNDEFINED
1.75	5.74	78.20	0.41	0.52	0.31	sand to silty sand	70-80	44-46	17	UNDEFINED
2.00	6.56	93.80	0.53	0.57	0.35	sand to silty sand	70-80	44-46	22	UNDEFINED
2.25	7.38	98.50	0.48	0.49	0.40	sand to silty sand	70-80	44-46	24	UNDEFINED
2.50	8.20	90.20	0.46	0.51	0.45	sand to silty sand	70-80	44-46	22	UNDEFINED
2.75	9.02	66.20	0.37	0.55	0.50	sand to silty sand	60-70	42-44	16	UNDEFINED
3.00	9.84	37.20	0.36	0.96	0.54	silty sand to sandy silt	40-50	38-40	12	UNDEFINED
3.25	10.66	11.00	0.21	1.89	0.59	clayey silt to silty clay	UNDFND	UNDFD	5	.6
3.50	11.48	8.20	0.11	1.37	0.64	clayey silt to silty clay	UNDFND	UNDFD	4	.5
3.75	12.30	6.80	0.09	1.35	0.68	sensitive fine grained	UNDFND	UNDFD	3	.4
4.00	13.12	7.40	0.10	1.38	0.73	clayey silt to silty clay	UNDFND	UNDFD	4	.4
4.25	13.94	5.80	0.18	1.66	0.77	sensitive fine grained	UNDFND	UNDFD	3	.3
4.50	14.76	5.80	0.16	2.69	0.79	clay	UNDFND	UNDFD	6	.3
4.75	15.58	12.20	0.21	1.75	0.82	clayey silt to silty clay	UNDFND	UNDFD	6	.7
5.00	16.40	15.20	0.16	1.03	0.83	sandy silt to clayey silt	UNDFND	UNDFD	6	.9
5.25	17.22	44.60	0.66	1.48	0.85	silty sand to sandy silt	40-50	36-38	14	UNDEFINED
5.50	18.04	95.40	0.95	0.99	0.87	sand to silty sand	60-70	40-42	23	UNDEFINED
5.75	18.86	133.20	1.15	0.87	0.89	sand to silty sand	70-80	42-44	32	UNDEFINED
6.00	19.69	177.80	1.36	0.76	0.92	sand	80-90	42-44	34	UNDEFINED
6.25	20.51	226.50	2.01	0.89	0.94	sand	>90	44-46	43	UNDEFINED
6.50	21.33	181.40	3.04	1.67	0.96	sand to silty sand	80-90	42-44	43	UNDEFINED
6.75	22.15	165.40	4.91	2.97	0.98	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
7.00	22.97	184.20	3.13	1.66	1.00	sand to silty sand	80-90	42-44	46	UNDEFINED
7.25	23.79	229.20	3.73	1.63	1.02	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	302.60	4.05	1.31	1.05	sand	>90	44-46	>50	UNDEFINED
7.75	25.43	352.20	5.92	1.68	1.07	sand to silty sand	>90	46-48	>50	UNDEFINED
8.00	26.25	276.00	3.46	1.25	1.09	sand	>90	44-46	>50	UNDEFINED
8.25	27.07	317.80	4.55	1.43	1.11	sand	>90	44-46	>50	UNDEFINED
8.50	27.89	275.20	3.38	1.23	1.13	sand	>90	44-46	>50	UNDEFINED
8.75	28.71	247.60	2.63	1.06	1.15	sand	>90	44-46	47	UNDEFINED
9.00	29.53	358.80	3.48	0.97	1.17	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson
On Site Loc:CPT-S09-07
Job No. : 2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :09/02/94 11:25 M
Cone Used : 392
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.00	0.00	0.00	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	0.00	0.00	0.50	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	2.00	0.01	0.70	0.12	sensitive fine grained	UNDFND	UNDFD	1	.1
1.00	3.28	5.60	0.03	0.61	0.17	sensitive fine grained	UNDFND	UNDFD	3	.3
1.25	4.10	13.20	0.09	0.68	0.21	sandy silt to clayey silt	UNDFND	UNDFD	5	.8
1.50	4.92	66.20	0.60	1.02	0.26	silty sand to sandy silt	70-80	44-46	21	UNDEFINED
1.75	5.74	115.60	0.88	0.76	0.31	sand to silty sand	80-90	46-48	28	UNDEFINED
2.00	6.56	98.20	0.58	0.62	0.35	sand to silty sand	70-80	44-46	23	UNDEFINED
2.25	7.38	80.80	0.45	0.56	0.40	sand to silty sand	70-80	44-46	19	UNDEFINED
2.50	8.20	70.40	0.41	0.59	0.45	sand to silty sand	60-70	42-44	17	UNDEFINED
2.75	9.02	48.80	0.28	0.57	0.50	sand to silty sand	50-60	40-42	12	UNDEFINED
3.00	9.84	39.20	0.31	0.82	0.54	silty sand to sandy silt	40-50	38-40	12	UNDEFINED
3.25	10.66	11.40	0.20	1.79	0.59	clayey silt to silty clay	UNDFND	UNDFD	5	.7
3.50	11.48	3.20	0.04	1.12	0.64	sensitive fine grained	UNDFND	UNDFD	2	.1
3.75	12.30	16.80	0.12	0.73	0.68	sandy silt to clayey silt	UNDFND	UNDFD	6	1.0
4.00	13.12	58.80	0.29	0.57	0.73	sand to silty sand	50-60	38-40	12	UNDEFINED
4.25	13.94	44.60	0.31	0.70	0.77	silty sand to sandy silt	40-50	38-40	14	UNDEFINED
4.50	14.76	8.60	0.24	2.79	0.79	silty clay to clay	UNDFND	UNDFD	5	.5
4.75	15.58	8.80	0.17	1.89	0.81	clayey silt to silty clay	UNDFND	UNDFD	4	.5
5.00	16.40	24.20	0.20	0.83	0.83	sandy silt to clayey silt	UNDFND	UNDFD	9	1.5
5.25	17.22	30.20	0.27	0.89	0.85	silty sand to sandy silt	<40	34-36	10	UNDEFINED
5.50	18.04	20.80	0.21	1.03	0.87	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
5.75	18.86	61.40	0.33	0.54	0.89	sand to silty sand	50-60	38-40	15	UNDEFINED
6.00	19.69	66.60	0.52	0.78	0.92	sand to silty sand	50-60	38-40	16	UNDEFINED
6.25	20.51	122.00	0.84	0.69	0.94	sand to silty sand	70-80	42-44	29	UNDEFINED
6.50	21.33	87.80	0.52	0.59	0.96	sand to silty sand	60-70	40-42	21	UNDEFINED
6.75	22.15	173.00	3.18	1.84	0.98	sand to silty sand	80-90	42-44	41	UNDEFINED
7.00	22.97	224.80	4.67	2.04	1.00	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	258.40	5.40	2.15	1.02	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
7.50	24.61	248.60	5.05	2.03	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	305.80	4.74	1.55	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	258.20	4.54	1.76	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	301.00	4.53	1.50	1.11	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	258.80	3.58	1.38	1.13	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	294.00	4.32	1.47	1.15	sand to silty sand	>90	44-46	>50	UNDEFINED
9.00	29.53	267.60	3.44	1.29	1.17	sand	>90	44-46	>50	UNDEFINED
9.25	30.35	260.60	6.52	2.50	1.20	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
9.50	31.17	339.00	3.62	1.07	1.22	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson On Site Loc:CPT-SOS-07 Page No. 2

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	RF (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr - Dr (%)	PHI deg.	SPT N	Su tsf

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTRI (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson
On Site Loc:CPT-S09-08
Job No. : 2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :09/02/94 10:10 R
Cone Used : 392
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Rq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	1.00	0.00	0.00	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	4.60	0.00	0.09	0.07	sensitive fine grained	UNDFND	UNDFD	2	.3
0.75	2.46	5.20	-0.02	-0.35	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	10.20	-0.07	-0.65	0.17	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.25	4.10	20.80	-0.04	-0.18	0.21	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.50	4.92	10.40	0.10	0.96	0.26	clayey silt to silty clay	UNDFND	UNDFD	5	.6
1.75	5.74	20.60	0.69	3.35	0.31	clayey silt to silty clay	UNDFND	UNDFD	10	1.3
2.00	6.56	18.60	0.52	2.78	0.35	clayey silt to silty clay	UNDFND	UNDFD	9	1.2
2.25	7.38	37.20	0.24	0.66	0.40	silty sand to sandy silt	50-60	40-42	12	UNDEFINED
2.50	8.20	27.80	0.17	0.63	0.45	silty sand to sandy silt	40-50	38-40	9	UNDEFINED
2.75	9.02	43.40	0.28	0.65	0.50	silty sand to sandy silt	50-60	40-42	14	UNDEFINED
3.00	9.84	38.80	0.21	0.57	0.54	silty sand to sandy silt	40-50	38-40	12	UNDEFINED
3.25	10.66	29.60	0.15	0.51	0.59	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.50	11.48	27.20	0.12	0.46	0.64	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.75	12.30	41.40	0.49	1.18	0.68	silty sand to sandy silt	40-50	38-40	13	UNDEFINED
4.00	13.12	32.80	0.22	0.66	0.73	silty sand to sandy silt	<40	36-38	10	UNDEFINED
4.25	13.94	29.00	0.16	0.54	0.77	silty sand to sandy silt	<40	36-38	9	UNDEFINED
4.50	14.76	25.60	0.28	1.09	0.79	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6
4.75	15.58	21.20	0.29	1.35	0.81	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
5.00	16.40	32.20	0.23	0.71	0.83	silty sand to sandy silt	<40	36-38	10	UNDEFINED
5.25	17.22	38.20	0.29	0.80	0.85	silty sand to sandy silt	<40	36-38	12	UNDEFINED
5.50	18.04	39.00	0.65	1.68	0.87	sandy silt to clayey silt	UNDFND	UNDFD	15	2.5
5.75	18.86	50.00	0.33	0.65	0.89	silty sand to sandy silt	40-50	38-40	16	UNDEFINED
6.00	19.69	167.00	0.98	0.58	0.92	sand	80-90	42-44	32	UNDEFINED
6.25	20.51	195.00	1.29	0.66	0.94	sand	80-90	44-46	37	UNDEFINED
6.50	21.33	228.60	1.57	1.63	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	253.00	1.62	1.01	0.98	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.00	22.97	328.20	3.94	1.83	1.00	sand to silty sand	>90	46-48	>50	UNDEFINED
7.25	23.79	333.40	5.12	1.54	1.02	sand to silty sand	>90	46-48	>50	UNDEFINED
7.50	24.62	309.60	4.98	1.61	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	345.00	3.73	0.97	1.07	sand	>90	46-48	>50	UNDEFINED
8.00	26.25	285.60	5.78	2.02	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	312.80	5.11	1.63	1.11	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	268.20	4.42	1.65	1.13	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	261.40	2.70	1.03	1.15	sand	>90	44-46	>50	UNDEFINED
9.00	29.53	258.20	1.76	0.68	1.17	sand	>90	44-46	49	UNDEFINED
9.25	30.35	317.20	3.19	0.69	1.20	sand	>90	44-46	>50	UNDEFINED
9.50	31.17	251.80	4.00	1.59	1.22	sand to silty sand	>90	44-45	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTRI (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson On Site Loc:CPT-509-08 Page No. 2

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	257.00	5.53	2.15	1.24	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	195.20	3.53	1.81	1.25	sand to silty sand	80-90	42-44	47	UNDEFINED
10.25	33.63	246.80	4.39	1.78	1.28	sand to silty sand	80-90	42-44	>50	UNDEFINED
10.50	34.45	271.60	3.64	1.34	1.30	sand	>90	44-46	>50	UNDEFINED
10.75	35.27	226.60	2.90	1.28	1.33	sand	80-90	42-44	43	UNDEFINED
11.00	36.09	113.00	1.39	1.23	1.35	sand to silty sand	60-70	40-42	27	UNDEFINED
11.25	36.91	97.00	1.82	1.87	1.37	silty sand to sandy silt	60-70	38-40	31	UNDEFINED
11.50	37.73	177.20	4.65	2.62	1.39	silty sand to sandy silt	70-80	42-44	>50	UNDEFINED
11.75	38.55	211.00	4.43	2.10	1.41	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson
On Site Loc:CPT-S09-03
Job No. : 2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :09/02/94 2:05
Cone Used :392
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	1.40	0.00	0.14	0.02	sensitive fine grained	UNDFND	UNDFD	1	.0
0.50	1.64	3.20	0.00	0.06	0.07	sensitive fine grained	UNDFND	UNDFD	2	.2
0.75	2.46	3.40	0.00	0.06	0.12	sensitive fine grained	UNDFND	UNDFD	2	.2
1.00	3.28	7.60	0.03	0.37	0.17	sensitive fine grained	UNDFND	UNDFD	4	.4
1.25	4.10	21.00	0.12	0.59	0.21	sandy silt to clayey silt	UNDFND	UNDFD	4	1.3
1.50	4.92	75.80	0.59	0.78	0.26	sand to silty sand	70-80	44-46	18	UNDEFINED
1.75	5.74	134.00	1.10	0.82	0.31	sand to silty sand	>90	46-48	32	UNDEFINED
2.00	6.56	116.40	0.94	0.80	0.35	sand to silty sand	80-90	46-48	28	UNDEFINED
2.25	7.38	79.40	0.66	0.83	0.40	sand to silty sand	70-80	44-46	19	UNDEFINED
2.50	8.20	63.80	0.49	0.79	0.45	sand to silty sand	60-70	42-44	15	UNDEFINED
2.75	9.02	108.50	0.62	0.58	0.50	sand to silty sand	70-80	44-46	26	UNDEFINED
3.00	9.84	110.00	0.56	0.60	0.54	sand to silty sand	70-80	44-46	26	UNDEFINED
3.25	10.66	122.80	0.80	0.65	0.59	sand	70-80	44-46	23	UNDEFINED
3.50	11.48	153.60	1.05	0.69	0.64	sand	80-90	44-46	29	UNDEFINED
3.75	12.30	155.40	1.16	0.75	0.68	sand	80-90	44-46	30	UNDEFINED
4.00	13.12	69.20	0.65	0.95	0.73	sand to silty sand	60-70	40-42	17	UNDEFINED
4.25	13.94	19.80	0.23	1.07	0.77	sandy silt to clayey silt	UNDFND	UNDFD	8	1.2
4.50	14.76	35.80	0.33	0.92	0.79	silty sand to sandy silt	40-50	36-38	11	UNDEFINED
4.75	15.58	23.60	0.31	1.35	0.81	sandy silt to clayey silt	UNDFND	UNDFD	9	1.4
5.00	16.40	48.80	0.37	0.76	0.83	silty sand to sandy silt	40-50	38-40	16	UNDEFINED
5.25	17.22	45.60	0.45	0.98	0.85	silty sand to sandy silt	40-50	36-38	15	UNDEFINED
5.50	18.04	43.40	0.28	0.65	0.87	silty sand to sandy silt	40-50	36-38	14	UNDEFINED
5.75	18.86	131.20	1.77	1.35	0.89	sand to silty sand	70-80	42-44	31	UNDEFINED
6.00	19.68	192.00	2.42	1.26	0.92	sand to silty sand	80-90	44-46	46	UNDEFINED
6.25	20.51	155.60	2.62	1.68	0.94	sand to silty sand	80-90	42-44	37	UNDEFINED
6.50	21.33	116.60	2.15	1.85	0.96	silty sand to sandy silt	70-80	40-42	37	UNDEFINED
6.75	22.15	253.00	4.18	1.65	0.98	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	309.00	5.55	1.79	1.00	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	237.40	3.51	1.48	1.02	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	349.60	6.31	1.80	1.05	sand to silty sand	>90	46-48	>50	UNDEFINED
7.75	25.43	293.80	4.19	1.43	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	249.40	4.87	1.95	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	219.80	2.80	1.28	1.11	sand	80-90	44-46	42	UNDEFINED
8.50	27.89	220.40	2.89	1.31	1.13	sand	80-90	42-44	42	UNDEFINED
8.75	28.71	179.50	2.46	1.37	1.15	sand to silty sand	80-90	42-44	43	UNDEFINED
9.00	29.53	233.20	5.02	2.15	1.17	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
9.25	30.35	214.20	5.30	2.48	1.20	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
9.50	31.17	222.00	4.45	2.00	1.22	sand to silty sand	80-90	42-44	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINT21 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watson On Site Loc:CPT-309-09 Page No. 2

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	224.60	4.52	2.01	1.24	sand to silty sand	80-90	42-44	>50	UNDEFINED
10.00	32.81	305.00	6.09	2.00	1.26	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	259.40	4.39	1.69	1.28	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	274.20	4.09	1.49	1.30	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	237.20	3.39	1.43	1.33	sand to silty sand	80-90	42-44	>50	UNDEFINED
11.00	36.09	292.80	4.91	1.68	1.35	sand to silty sand	>90	44-46	>50	UNDEFINED
11.25	36.91	272.20	3.86	1.42	1.37	sand to silty sand	>90	44-46	>50	UNDEFINED
11.50	37.73	252.60	3.50	1.39	1.39	sand to silty sand	80-90	42-44	>50	UNDEFINED
11.75	38.55	256.20	3.99	1.55	1.41	sand to silty sand	80-90	42-44	>50	UNDEFINED
12.00	39.37	212.40	2.83	1.33	1.43	sand to silty sand	80-90	42-44	>50	UNDEFINED
12.25	40.19	234.20	3.75	1.17	1.45	sand	80-90	42-44	45	UNDEFINED
12.50	41.01	283.20	3.76	1.33	1.48	sand	>90	42-44	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Sn: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery/Watson
On Site Loc:CPT-S09-10
Job No. : 2738.14D2
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :09/06/94 8:50
Cone Used : 392
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Rq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.10	0.00	0.00	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	1.20	-0.01	-0.19	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	1.00	-0.04	-0.45	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	10.00	-0.06	-0.64	0.17	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.25	4.10	16.30	-0.05	-0.32	0.21	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.50	4.92	30.10	0.01	0.02	0.26	sand to silty sand	50-60	40-42	7	UNDEFINED
1.75	5.74	87.00	0.55	0.64	0.31	sand to silty sand	70-80	44-46	21	UNDEFINED
2.00	6.56	98.10	0.65	0.66	0.35	sand to silty sand	80-90	44-46	24	UNDEFINED
2.25	7.38	85.00	0.58	0.68	0.40	sand to silty sand	70-80	44-46	20	UNDEFINED
2.50	8.20	76.00	0.47	0.61	0.45	sand to silty sand	70-80	42-44	18	UNDEFINED
2.75	9.02	77.30	0.49	0.63	0.50	sand to silty sand	60-70	42-44	19	UNDEFINED
3.00	9.84	77.40	0.51	0.66	0.54	sand to silty sand	60-70	42-44	19	UNDEFINED
3.25	10.66	72.60	0.47	0.66	0.59	sand to silty sand	60-70	40-42	17	UNDEFINED
3.50	11.48	58.80	0.48	0.73	0.64	sand to silty sand	50-70	40-42	16	UNDEFINED
3.75	12.30	31.40	0.22	0.69	0.68	silty sand to sandy silt	<40	36-38	10	UNDEFINED
4.00	13.12	15.40	0.21	1.39	0.73	sandy silt to clayey silt	UNDFND	UNDFD	5	.9
4.25	13.94	23.40	0.23	0.97	0.77	sandy silt to clayey silt	UNDFND	UNDFD	9	1.5
4.50	14.76	28.20	0.20	1.16	0.79	sandy silt to clayey silt	UNDFND	UNDFD	9	1.5
4.75	15.58	46.80	0.33	0.71	0.81	silty sand to sandy silt	40-50	38-40	15	UNDEFINED
5.00	16.40	16.40	0.20	1.23	0.83	sandy silt to clayey silt	UNDFND	UNDFD	6	1.0
5.25	17.22	29.80	0.28	0.94	0.85	silty sand to sandy silt	<40	34-36	10	UNDEFINED
5.50	18.04	54.80	0.18	0.33	0.87	sand to silty sand	50-60	38-40	13	UNDEFINED
5.75	18.86	86.60	0.56	0.65	0.89	sand to silty sand	60-70	40-42	21	UNDEFINED
6.00	19.69	188.40	1.72	0.91	0.92	sand	80-90	44-46	36	UNDEFINED
6.25	20.51	203.80	1.26	0.62	0.94	sand	80-90	44-46	39	UNDEFINED
6.50	21.33	203.20	1.55	0.76	0.96	sand	80-90	44-46	39	UNDEFINED
6.75	22.15	150.40	3.25	2.16	0.98	silty sand to sandy silt	70-80	42-44	48	UNDEFINED
7.00	22.97	128.20	3.03	2.37	1.00	silty sand to sandy silt	70-80	42-44	41	UNDEFINED
7.25	23.79	183.20	4.01	2.19	1.02	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
7.50	24.61	268.80	4.42	1.67	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	291.20	5.43	1.86	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	229.50	5.14	2.24	1.09	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
8.25	27.07	299.40	4.89	1.67	1.11	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	312.60	5.33	1.71	1.13	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	295.30	5.56	1.88	1.15	sand to silty sand	>90	44-46	>50	UNDEFINED
9.00	29.53	182.20	3.32	1.82	1.17	sand to silty sand	80-90	42-44	44	UNDEFINED
9.25	30.35	207.20	3.74	1.80	1.20	sand to silty sand	80-90	42-44	50	UNDEFINED
9.50	31.17	233.80	5.69	2.45	1.22	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson
On Site Loc:CPT-S09-11
Job No. :McCLELLAN
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/19/94 9:25
Cone Used :465
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	2.72	0.02	0.69	0.02	sensitive fine grained	UNDFND	UNDFD	1	.2
0.50	1.64	2.44	0.03	1.36	0.07	sensitive fine grained	UNDFND	UNDFD	1	.2
0.75	2.46	3.80	0.04	1.01	0.12	sensitive fine grained	UNDFND	UNDFD	2	.3
1.00	3.28	6.66	0.17	2.51	0.17	silty clay to clay	UNDFND	UNDFD	4	.6
1.25	4.10	27.22	0.71	2.61	0.21	clayey silt to silty clay	UNDFND	UNDFD	13	2.7
1.50	4.92	37.52	0.81	2.16	0.26	sandy silt to clayey silt	UNDFND	UNDFD	14	3.7
1.75	5.74	12.48	0.44	3.57	0.31	silty clay to clay	UNDFND	UNDFD	8	1.2
2.00	6.56	20.14	0.48	2.38	0.35	clayey silt to silty clay	UNDFND	UNDFD	10	1.9
2.25	7.38	26.66	1.10	4.12	0.40	silty clay to clay	UNDFND	UNDFD	17	2.6
2.50	8.20	25.78	0.71	2.77	0.45	clayey silt to silty clay	UNDFND	UNDFD	12	2.5
2.75	9.02	7.34	0.24	3.26	0.50	clay	UNDFND	UNDFD	7	.6
3.00	9.84	4.90	0.13	2.56	0.54	clay	UNDFND	UNDFD	5	.4
3.25	10.66	4.10	0.14	3.30	0.58	clay	UNDFND	UNDFD	4	.3
3.50	11.48	6.58	0.17	2.61	0.60	silty clay to clay	UNDFND	UNDFD	4	.5
3.75	12.30	5.20	0.08	1.45	0.62	sensitive fine grained	UNDFND	UNDFD	2	.4
4.00	13.12	18.16	0.60	5.94	0.64	clay	UNDFND	UNDFD	10	.9
4.25	13.94	62.06	1.47	2.37	0.66	sandy silt to clayey silt	UNDFND	UNDFD	24	6.1
4.50	14.76	70.66	1.32	1.87	0.68	silty sand to sandy silt	60-70	40-42	23	UNDEFIN
4.75	15.58	53.78	1.08	2.00	0.71	sandy silt to clayey silt	UNDFND	UNDFD	21	
5.00	16.40	104.76	1.32	1.26	0.73	sand to silty sand	70-80	42-44	25	UNDEF
5.25	17.22	181.20	2.52	1.39	0.75	sand to silty sand	80-90	44-46	43	UNDEFINED
5.50	18.04	233.88	3.94	1.68	0.77	sand to silty sand	>90	44-46	>50	UNDEFINED
5.75	18.86	285.16	7.97	2.79	0.79	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
6.00	19.69	223.24	10.60	4.75	0.81	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
6.25	20.51	269.74	8.40	3.11	0.84	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
6.50	21.33	349.66	9.98	2.86	0.86	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
6.75	22.15	351.42	6.85	1.95	0.88	sand to silty sand	>90	46-48	>50	UNDEFINED
7.00	22.97	309.76	11.28	3.64	0.90	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	234.14	4.28	1.83	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	332.58	7.43	2.23	0.94	sand to silty sand	>90	46-48	>50	UNDEFINED
7.75	25.43	270.44	5.78	2.14	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	217.32	4.58	2.11	0.99	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
8.25	27.07	253.22	8.29	3.27	1.01	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
8.50	27.89	339.64	9.54	2.81	1.03	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
8.75	28.71	257.86	10.99	4.26	1.05	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
9.00	29.53	232.28	6.71	2.89	1.07	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
9.25	30.35	244.52	6.45	2.64	1.09	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
9.50	31.17	281.64	5.45	1.94	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04)

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson On Site Loc:CPT-S09-11 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Sr tsf
9.75	31.99	288.94	6.74	2.33	1.14	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
10.00	32.81	190.10	4.70	2.47	1.16	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.25	33.63	197.62	4.02	2.03	1.18	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.50	34.45	169.74	5.61	3.30	1.20	sandy silt to clayey silt	UNDFND	UNDFD	>50	16.7
10.75	35.27	243.16	7.22	2.97	1.22	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
11.00	36.09	269.38	9.32	3.46	1.24	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
11.25	36.91	244.94	5.51	2.25	1.27	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.50	37.73	254.46	5.85	2.30	1.29	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
11.75	38.55	283.34	7.74	2.73	1.31	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
12.00	39.37	301.06	6.11	2.03	1.33	sand to silty sand	>90	44-46	>50	UNDEFINED
12.25	40.19	328.18	5.01	1.53	1.35	sand to silty sand	>90	44-46	>50	UNDEFINED
12.50	41.01	124.52	3.47	2.79	1.37	sandy silt to clayey silt	UNDFND	UNDFD	48	12.2
12.75	41.83	156.70	9.19	5.87	1.40	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.00	42.65	305.92	8.62	2.82	1.42	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
13.25	43.47	288.32	7.30	2.53	1.44	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
13.50	44.29	76.62	2.26	2.95	1.46	sandy silt to clayey silt	UNDFND	UNDFD	29	7.4
13.75	45.11	80.44	4.69	5.83	1.48	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
14.00	45.93	165.18	16.04	9.71	1.50	undefined	UNDFND	UNDFD	UDF	UNDEFINED
14.25	46.75	205.98	11.72	5.69	1.52	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
14.50	47.57	270.38	14.58	5.39	1.55	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson
On Site Loc:CPT-S09-12
Job No. :27381402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/19/94 10:40
Cone Used :465
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	2.30	-0.01	-0.40	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	3.78	-0.10	-2.60	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	25.38	-0.21	-0.81	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	18.76	-0.01	-0.04	0.17	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.25	4.10	5.18	-0.05	-1.00	0.21	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.50	4.92	23.36	0.46	1.97	0.26	sandy silt to clayey silt	UNDFND	UNDFD	9	2.3
1.75	5.74	31.72	0.67	2.10	0.31	sandy silt to clayey silt	UNDFND	UNDFD	12	3.1
2.00	6.56	34.20	0.48	1.39	0.35	silty sand to sandy silt	50-60	40-42	11	UNDEFINED
2.25	7.38	7.30	0.05	0.74	0.40	sensitive fine grained	UNDFND	UNDFD	3	.6
2.50	8.20	7.16	0.05	0.66	0.45	sensitive fine grained	UNDFND	UNDFD	3	.6
2.75	9.02	11.16	0.07	0.60	0.50	sandy silt to clayey silt	UNDFND	UNDFD	4	1.0
3.00	9.84	17.02	0.05	0.27	0.54	sandy silt to clayey silt	UNDFND	UNDFD	7	1.6
3.25	10.66	27.48	0.37	1.35	0.58	sandy silt to clayey silt	UNDFND	UNDFD	11	2.6
3.50	11.48	20.36	0.20	1.00	0.60	sandy silt to clayey silt	UNDFND	UNDFD	8	1.9
3.75	12.30	31.60	0.12	0.38	0.62	silty sand to sandy silt	40-50	36-38	10	UNDEFINED
4.00	13.12	30.88	0.26	0.83	0.64	silty sand to sandy silt	<40	36-38	10	UNDEFINED
4.25	13.94	17.98	0.22	1.21	0.66	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
4.50	14.76	8.42	0.07	0.84	0.68	clayey silt to silty clay	UNDFND	UNDFD	4	.7
4.75	15.58	30.96	0.02	0.05	0.71	silty sand to sandy silt	<40	36-38	10	UNDEFINED
[illegible]0	16.40	42.08	0.12	0.29	0.73	sand to silty sand	40-50	38-40	10	UNDEFINED
[illegible]25	17.22	44.40	0.39	0.88	0.75	silty sand to sandy silt	40-50	38-40	14	UNDEFINED
[illegible]0	18.04	77.80	0.68	0.87	0.77	sand to silty sand	60-70	40-42	19	UNDEFINED
[illegible]75	18.86	137.84	1.37	1.00	0.79	sand to silty sand	70-80	42-44	33	UNDEFINED
6.00	19.69	158.50	3.51	2.22	0.81	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
6.25	20.51	193.26	2.43	1.26	0.84	sand to silty sand	80-90	44-46	46	UNDEFINED
6.50	21.33	184.50	5.64	3.05	0.86	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.75	22.15	185.38	7.69	4.15	0.88	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
7.00	22.97	290.52	8.33	2.87	0.90	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	293.78	7.18	2.44	0.92	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
7.50	24.61	281.92	8.23	2.92	0.94	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.75	25.43	282.46	5.77	2.04	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	303.00	6.82	2.25	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	345.10	7.42	2.15	1.01	sand to silty sand	>90	46-48	>50	UNDEFINED
8.50	27.89	260.70	5.98	2.30	1.03	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.75	28.71	212.80	3.39	1.59	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.00	29.53	316.18	8.15	2.58	1.07	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
9.25	30.35	291.52	7.67	2.63	1.09	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
9.50	31.17	242.32	8.81	3.64	1.12	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

*** [illegible]te: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ***

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson On Site Loc:CPT-S09-12 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	212.74	5.34	2.51	1.14	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.00	32.81	282.32	5.34	1.89	1.16	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	287.66	4.91	1.71	1.18	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	325.92	6.95	2.13	1.20	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	221.78	6.49	2.93	1.22	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.00	36.09	204.12	4.96	2.43	1.24	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.25	36.91	201.40	7.16	3.56	1.27	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
11.50	37.73	298.14	8.89	2.98	1.29	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
11.75	38.55	350.64	6.22	1.77	1.31	sand to silty sand	>90	44-46	>50	UNDEFINED
12.00	39.37	331.66	5.46	1.65	1.33	sand to silty sand	>90	44-46	>50	UNDEFINED
12.25	40.19	351.14	8.07	2.30	1.35	sand to silty sand	>90	44-46	>50	UNDEFINED
12.50	41.01	421.22	9.70	2.30	1.37	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	263.40	4.34	1.65	1.40	sand to silty sand	80-90	42-44	>50	UNDEFINED
13.00	42.65	280.68	3.93	1.40	1.42	sand to silty sand	>90	44-46	>50	UNDEFINED
13.25	43.47	137.18	8.53	6.21	1.44	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.50	44.29	177.04	9.96	5.63	1.46	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.75	45.11	335.00	7.64	2.28	1.48	sand to silty sand	>90	44-46	>50	UNDEFINED
14.00	45.93	296.94	6.65	2.24	1.50	sand to silty sand	>90	44-46	>50	UNDEFINED
14.25	46.75	103.08	2.96	2.87	1.52	sandy silt to clayey silt	UNDFND	UNDFD	39	10.0
14.50	47.57	91.64	8.77	9.57	1.55	undefined	UNDFND	UNDFD	UDF	UNDEFINED
4.75	48.39	254.00	20.29	7.99	1.57	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
15.00	49.21	204.38	15.08	7.38	1.59	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF MONITORING WELL M09-06

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
0			NA				AS	5 inches asphalt over sand and gravel base.
							SP	FILL
	CHEMICAL	280-S09-167		31				Sand (SP), light olive brown (2.5Y 5/4), fine sand, dense, moist, shells common.
	CHEMICAL	280-S09-168		28				
5	CHEMICAL	280-S09-169		24				Same as above, but light yellowish brown (2.5Y 6/3) to light olive brown (2.5Y 5/4), very fine to fine sand, medium dense, very moist to wet, trace shells.
				15				
10				9				Same as above, but light olive brown (2.5Y 5/4), loose, wet, trace silt.
				10				Same as above, but greenish gray (5GY 5/1), medium dense, no shells.

TD=14 feet bgs.

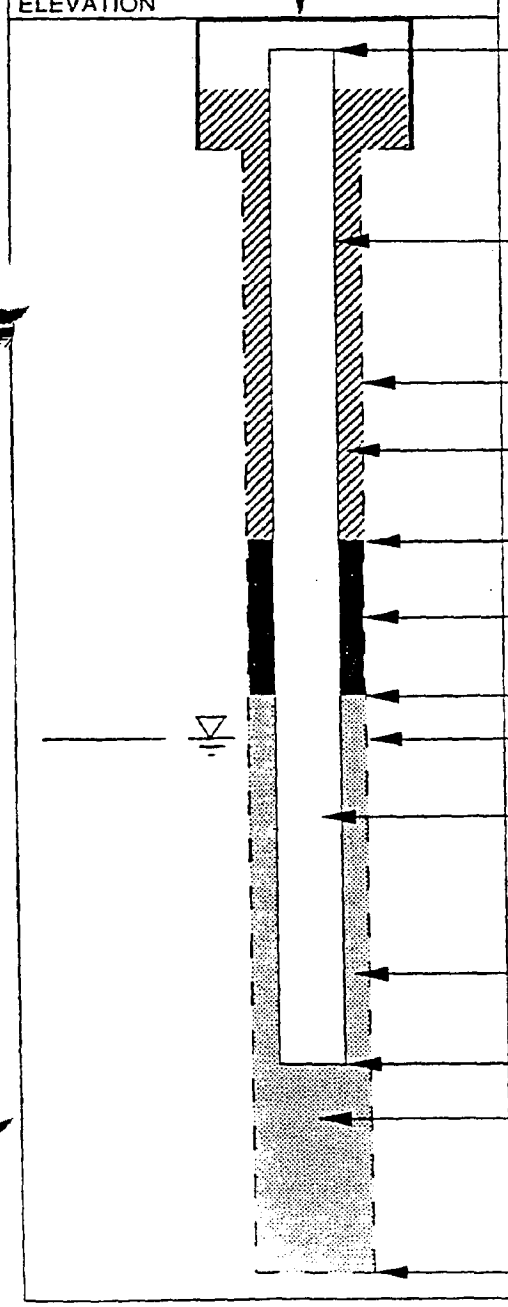
PROJECT	NAS Alameda RI	SAMPLING METHOD/HAMMER WT.	Split Spoon/14 lbs.
LOCATION	Site 9	GROUND ELEVATION	15.19 Feet
JOB NUMBER	044-0280	TOC ELEVATION	14.86 Feet
LOGGED BY	WPW	BORING DIAMETER	8 Inches
DATE DRILLED	11-5-94	TOTAL DEPTH OF HOLE	14 Feet bgs
DRILLER	Woodward Drilling Co.	WATER LEVEL	6.8 Feet bgs
DRILL METHOD	Hollow-Stem Auger	WELL INSTALLED? (Y/N)	Y

WELL ~~BORING~~ NO. MØ9-Ø6

MONITORING WELL SHEET

PROJECT NAS Alameda RI
LOCATION Alameda, California
PROJECT NO. Ø44 Ø28Ø
BORING MØ9-Ø6
SITE 9
DATE 11-5-94
FIELD GEOLOGIST WPW

DRILLER Woodward Drilling Co.
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: 15.19

ELEVATION OF TOP OF WELL CASING: 14.86

RISER PIPE I.D.: 2 inches
TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 2.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 3.5

DEPTH TOP OF SCREEN 4.0

TYPE OF SCREEN: Schedule 4Ø PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 14.0

DEPTH BOTTOM OF SAND PACK 14.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE (feet bgs) 14.0

MF

Boring Logs for DGS Site 09

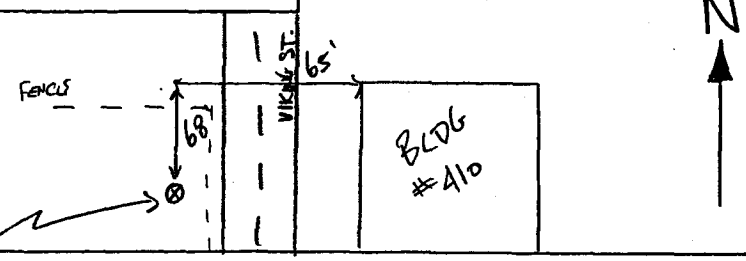
Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings
S09-DGS-DP02	S09-DGS-SG01	S09-DGS-VE01	S09-DGS-DP01
S09-DGS-DP03	S09-DGS-SG02		S09-DGS-DP04
S09-DGS-DP04			S09-DGS-DP05
S09-DGS-DP06			S09-DGS-DP07
			S09-DGS-DP08
			S09-DGS-DP09
			S09-DGS-DP10
			S09-DGS-DP11
			S09-DGS-DP12

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-DP02	Date Started: 7/28/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/28/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 10"	Drilling Subcontractor: BOART LONGYEAR
Inner Diameter of Well Casing:	Driller: DALE
Depth to Water (ft./bgs.) 8'	Location Sketch:



Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
						SILTY SAND; DK YELLOWISH BROWN (10YR 4/4); MOIST; LOOSE; POORLY SORTED; SILT- 20%, SAND- 80%, TRACE GRAVEL/CLAY/SHELL FRAGMENTS	SM		
	4					HYDROPUNCH SAMPLE 385-S09-004 PH- 6.47 DO- 4.59 mg/L TRB- 496 NTU ORP- -102 mV TMP- 19.78 °C CND- 2034 MS/cm			
0815	8			385-S09-004		SILTY CLAY; DK. GREENISH GRAY (5GY 4/1); WET; SOFT; PLASTIC; SILT- 20%, SAND- 10%, CLAY- 70%	CL		
	12					SILTY SAND; YELLOWISH BROWN (10YR 5/6); WET; LOOSE; NON PLASTIC SILT- 15%, SAND- 85%,			
						M. DENSE @ 16-22' - LOCALLY MOTTLED W/ GREEN SANDS, IRON STAINED,	SM ?		
0885	16			385-S09-005		HYDROPUNCH SAMPLE 385-S09-005 PH- 7.70 DO- 3.72 mg/L TRB- 1298 NTU ORP- -30.9 mV TMP- 20.90 °C CND- 1086 µS/cm			
	20								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S09-DGS-DP02

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction	OVM (ppm)
	24								
	28					CLAYEY SAND; YELLOWISH BROWN (10YR 5/4); WET; LOOSE - SLT. DENSE; POORLY SORTED; NON-GRADED; CLAY - 15%, SAND - 85% - F-M. GRAINED; IRON STAINED; MOTTLED W/ GREY SAND; DECREASED MOISTURE, INCREASED DENSITY W/ DEPTH.	SC		
	32					HYDROPUNCH GW SAMPLE 385-S09-006			
1030	36			385-S09-006		DO - 3.70 mg/L TRB - 1293 NTU ORP - -192 mV PH - 7.28 CND - 9894 µS/cm TMP - 21.27 °C			
	40					SILTY SAND; DK. YELLOWISH BROWN (10YR 4/6); WET; LOOSE; NON PLASTIC; POORLY SORTED / GRADED; SAND - 80% - F-M. GRAINED; SILT - 15%.	SM		
	44					SAND W/ CLAY; YELLOWISH BROWN (10YR 5/4); WET; M. DENSE; POORLY SORTED / GRADED; MOTTLED W/ GREY SAND; CLAY - 10%, SAND - 90%.	SP		
1140				385-S09-007		HYDROPUNCH GW SAMPLE 385-S09-007			
	48					DO - 4.81 mg/L TRB - 324 NTU ORP - -265 mV PH - 8.65 CND - 2898 µS/cm TMP - 22.76 °C			
	52								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S09-DGS-DP02

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GW SAMPLE 385-S09-008			
						TMP - 23.29°C CND - 10249 µS/CM DO - 3.02 mg/L			
	56					ORP - -343 mV TRB - 312 NTU PH - 7.52			
1350	60			385-S09-008					
	64					COLOR CHANGE, TO DK. GRAYISH BROWN (2.5Y 4/2)			
	68								
	72					SILTY SAND; OLIVE BROWN (2.5Y 4/4); WET; LOOSE; NON PLASTIC; WEAKLY GRADED; MOD. SORTED; SAND 85% - F-M. GRAINED, 15% - SILT.	SM		
	76								
1525	80			385-S09-009		CLAYEY SAND; DARK GREY (5Y 4/1); WET, LOOSE - M. DENSE; PLASTIC; CLAY - 20%, SAND - F.G. - 80%.			
						HYDROPUNCH GW SAMPLE 385-S09-009			
						DO - 2.15 mg/L TMP - 23.0°C PH - 6.89 TRB 1302 NTU			
						ORP - -379 mV CND - 43349 µS/CM			

TOTAL DEPTH = 80'

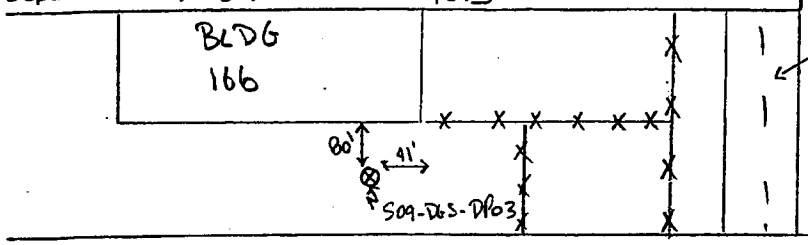
BORING BACKFILLED W/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-DP03	Date Started: 7/26/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/26/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 10"	Drilling Subcontractor: BOART LONGYEAR
Inner Diameter of Well Casing:	Driller: DALE
Depth to Water (ft./bgs.) 10.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
						SAND; OLIVE YELLOW (2.5Y 6/6); MOIST, LOOSE; ↑ MOIST W/ DEPTH; MOD. SORTED; TRACE GRAVEL; SHELL FRAGMENTS - 3%, SAND - 97%	SP		
	8								
0820				385-S09 010		SILTY SAND; OLIVE GREY (5Y 5/2); V. MOIST; LOOSE; POORLY SORTED; WEAKLY GRADED; TR. SHELL FRAGS., SILT - 15%, SAND - 85%, WET @ 10.5' HYDROPUNCH GW SAMPLE 385-S09-010 DO - 1.41 mg/L TMP - 21.0°C CND - 741 mS/cm PH - 8.51 TRB - 1289 NTU ORP - -176 mV	SM		
	16						SP		
0945				385-S09 011	NA	CLAYEY SAND; DK. GREENISH GREY (5GY 4/1); WET; M. DENSE; NON PLASTIC; POORLY SORTED; 15% - CLAY, 85% - SAND HYDRO PUNCH GW SAMPLE 385-S09-012 DO - 0.32 mg/L TRB - 800 NTU ORP - -315 mV PH - 8.83 TMP - 21.62°C CND - 3918 mS/cm		NA	
	24								
	32					LOCAL IRON STAINING @ 30', MOTTLED W/ GRAY SANDS;			
1030				385-S09 012		COLOR CHANGE @ 38' - OLIVE (5Y 5/4).			
	40								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S09-DGS-DP03

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
				385-S09-013	NA	CLAYEY SAND; OLIVE GREY (5Y 5/2); MOIST-WET; DENSE; MOTTLED; DENSE; CLAY-20%, SAND-80%, IRON STAINED; CEMENTED; POSSIBLE BARRIER TO CONTAMINATE MIGRATION.	SC	NA	
	48					HYDROPUNCH GW SAMPLE 385-S09-013 PH-6.51 TMP-22.46°C DO-3.65 mg/L TRB-1297 NTU CND-39686 mS/cm ORP-23.7 mV			
	56								
1345				385-S09-014					
	64					HYDROPUNCH GW SAMPLE 385-S09-014 PH-6.91 TMP-23.53°C DO-0.34 mg/L TRB-988 NTU CND-46913 mS/cm ORP--546 mV	SM		
	72					SILTY SAND; OLIVE (5Y 4/3); MOIST-WET; DENSE; NON PLASTIC; POORLY SORTED; NON GRADED; SILT-15%, SAND-85%, LOOSE @ 68'	SW		
1630				385-S09-015					
	80					SAND; OLIVE (5Y 4/1); WET; LOOSE; NON PLASTIC; WELL SORTED.	MH		
	88					CLAY; DARK GREY (1GLEY N4/); MOIST; STIFF; WELL SORTED; V. PLASTIC			
						HYDROPUNCH GW SAMPLE 385-S09-015 DO-0.18 mg/L TRB-488 NTU CND 40426 mS/cm PH-6.99 ORP--556 mV TMP-20.45°C			
						TOTAL DEPTH = 85'			

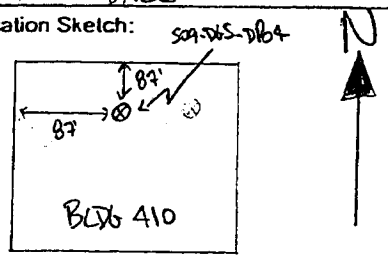
BORING BACKFILLED W/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-D6S-DP04	Date Started: 7/25/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/25/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 10"	Drilling Subcontractor: BOART LONGYEAR
Inner Diameter of Well Casing: 6"	Driller: DALE
Depth to Water (ft./bgs.) 11'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
						SAND; STRONG BROWN (7.5Y 4/6); MOIST; LOOSE; NON PLASTIC; NON SORTED; FINE GRAINED; 95% SAND, 5% ANGULAR GRAVEL, PETROL ODOR	SP		
	8					CLAYEY SAND; OLIVE GREY (5Y 5/2); MOIST; LOOSE; MOD SORTED; NON PLASTIC; SAND-85%, CLAY 15%, TR. GRAVEL & SHELL FRAGMENTS	SC		
	16					WET @ 11.0'			
					N/A	COLOR CHANGE @ 14' - DK. GREENISH GREY (5G 4/1)		N/A	
	24					COLOR CHANGE @ 15' - YELLOWISH BROWN (10YR 5/8) (HERRITT SAND), MOTTLED, ↑ DENSITY, FeSTAINED			
						DECREASED MOISTURE @ 27'			
	32					SAND; DK. GREENISH GREY (5GY 4/1); WET; LOOSE; WEAKLY SORTED; NON GRADED; 5% SHELL FRAGMENTS	SP		
						CLAYEY SAND; OLIVE (5Y 5/3), WET, LOOSE; MOD. SORTED; NON GRADED; SLIGHTLY PLASTIC; CLAY-15% SAND-85%	SC		
	40					COLOR CHANGE @ 38, YELLOWISH BROWN (10YR 5/6); ↑ CLAY TO 30%, M. DENSE			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S09-DGS-DP04

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

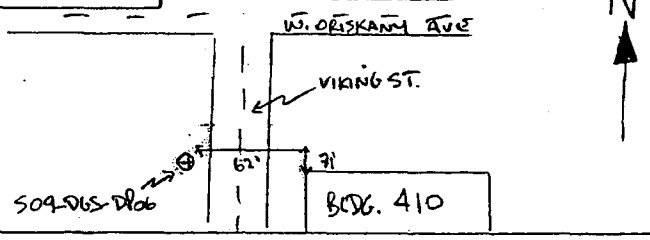
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					NA	COLOR CHANGE @ 40'; OLIVE (5Y 5/4); V. POOR RECOVERY, POSSIBLE ↑ IN SILT TO 30%.		NA	
1430	48			385-S09 019		COLOR CHANGE @ 50', OLIVE (5Y 5/3); IRON STAINED; MOTTLED W/ GREY SAND; WET; SLT. PLASTIC; 15% CLAY; 85% SAND.			
	56								
1620	64			385-S09 020		SAND; OLIVE (5Y 5/4); V. MOIST; M. DENSE; MOD. SORTED; SECTIONS MOTTLED W/ GREY SAND; CLAY 5%, SAND 95% F-M. GRAINED HYDROPUNCH 385-S09-020 DO - 0.17 mg/L TMP - 19.33°C TRB - 539 NTU CND - 18503 µS/cm PH - 6.56 ORP - -560 mV	SP		
	72								
1800	80			385-S09 021		SAND; DARK GREENISH GREY (5G 4/1); V. MOIST; LOOSE; WELL SORTED; NON PLASTIC	SW		
						CLAY; DARK GREY (N4); SLT. MOIST; STIFF; V. PLASTIC;	CH		
						HYDROPUNCH GW SAMPLE 385-S09-021 DO - 1.26 mg/L TMP - 20.82°C TRB 287 NTU PH - 6.55 CND - 27659 µS/cm ORP - -505 mV			
						TOTAL DEPTH = 82' BORING BACKFILLED W/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09- DGS- DP06	Date Started: 8/14/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/14/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
2					SILTY SAND; OLIVE BROWN (2.5Y 4/4); MOIST; LOOSE; NON PLASTIC; SAND- FINE-M. GRAINED- 80%, SILT- 15%, CLAY- 5%	SM		
4					INCREASED CLAY W/ DEPTH WET @ 5.0'			
6					CLAYEY SAND; OLIVE BROWN (2.5Y 4/4); WET; M. DENSE; SLT. PLASTIC SAND (F.-M. GRAINED)- 80%, CLAY- 20%	SC		
8 (1440)			385-S09 D32					
10					SOIL SURFACE MEASURED BELOW 8" OF CONCRETE TOTAL DEPTH = 8.5' BORING BACKFILLED W/ CONCRETE GROUT.			

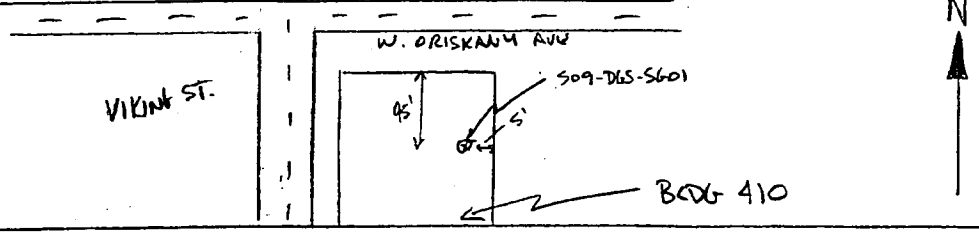
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-SG01	Date Started: 7/11/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/11/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MIKE BARNES
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) NA	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE FLOOR			
1344	1			385-S09-038	NA	SAND w/ SILT; OLIVE BROWN (2.5Y 4/3); MOIST; LOOSE; POORLY GRADED; NON PLASTIC; SAND - 90% - F. GRAINED, SILT - 10%.	SP	NA	
	2					TOTAL DEPTH = 2' BORING BACKFILLED W/ CEMENT GROUT			

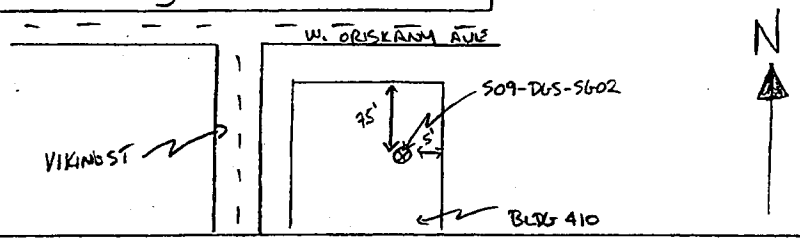
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-SG02	Date Started: 7/11/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/11/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MIKE BARNES
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5'	Location Sketch:



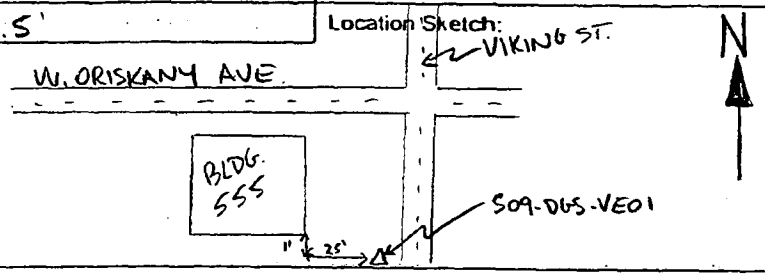
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1356	2			385-S09 039	N/A	SAND W/ SILT; OLIVE BROWN (2.5Y 4/3); MOIST; LOOSE; SAND- 90% - FINE GRAINED; SILT- 10%, NON PLASTIC.	SP	N/A	
	4					SILTY SAND W/ CLAY; DARK BLUISH GRAY (10B 3/1); MOIST; LOOSE; SLT. PLASTIC; POORLY GRADED; SAND- 70% - F. GRAINED; SILT- 20%, CLAY-10%. WET @ 5'	SM		
	6								
	8					CLAYEY SILTY SAND; DARK BLUISH GREY (10B 3/1); WET, LOOSE; SLT. PLASTIC; POORLY GRADED; SAND-50%, CLAY - 35%, SILT-15%.	SC		
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09- DGS- VE01	Date Started: 8/7/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GERIN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.) 8.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
	2				NA	SILTY SAND; OLIVE (5Y 5/3); MOIST; LOOSE; WELL SORTED; NON PLASTIC; SAND - 80% - FINE GRAINED, SILT - 20%	SM		
	4					WET @ 8.5'			
	6					GROUNDWATER SAMPLE PH - 7.61 DO - 4.62 mg/L CND - 0.598 mS/cm TMP - 25.2°C TRB - 278 NTU		NA	
1355	8			385-S09-033		ENCOUNTERED 12" DIAMETER PIPE @ 8.0' BGS			
1400	10			WATER SAMPLE 385 S09 034					

TOTAL DEPTH = 10'
BORING BACKFILLED W/ CLEAN FILL MATERIAL AND FINISHED W/ CONCRETE CAP

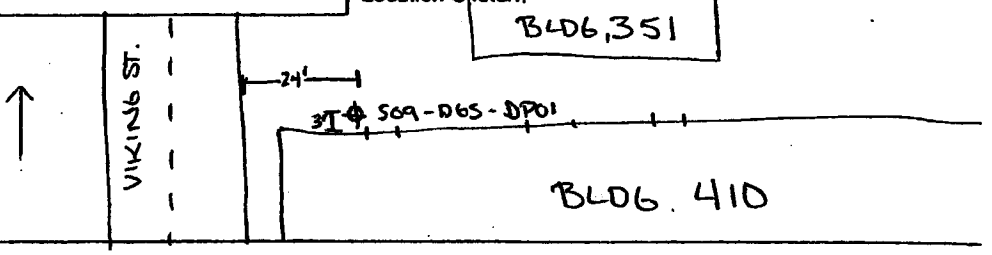
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: SUPPLEMEN REMEDIAL INVESTIGAT DATA GAP SAMPLING

Boring Number: S09-D6S-DP01	Date Started: 7/18/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring:	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.) ~8'-9'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
				385-S09-001		Hydropunch Groundwater Sample ~6" Concrete; Ground surface measured below concrete			0
0945	8					385-S09-001/001A (8-10') PH: 7.04 Temp: 19.57°C Cond.: 1235 uS/cm ORP: -29.5 mV Turb.: 1285.2 NTU DO: 2.55 mg/l GW: DK greenish grey, no sheen, slight odor			
1000				385-S09-002					
	16					385-S09-002/002A (15-17') PH: 8.26 Temp.: 19.14°C Cond: 1949 ms/cm ORP: 24.1 mV Turb.: 1284.8 NTU DO: 2.14 mg/l GW: DK greyish black; no sheen; strong odor			0
	24								
				385-S09-003		385-S09-003/003A (30-32) PH: 7.53 ORP: 9.2 mV Cond: 5181 ms/cm Turb: 325.2 NTU DO: 2.62 mg/L Temp.: 20.64°C GW: Sl. turbid; yellowish-gray; odorless; no sheen			0
1035	32								
	40					Note: Low conductivity layer at 32 ft bgs			

TOTAL DEPTH = 32'
BORING BACKFILLED W/ CEMENT GROUT.

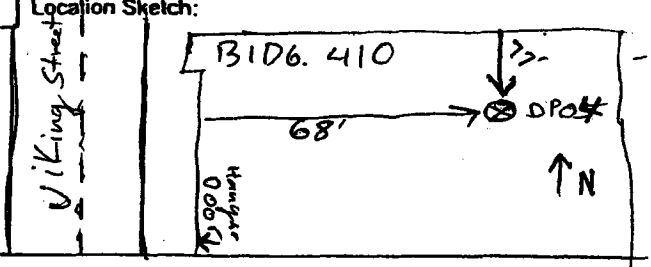
Sheet 1 of

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: SUPPLEMEN REMEDIAL INVESTIGAT DATA GAP SAMPLIN

Boring Number: 509-D6S-~~DP05~~ DP04	Date Started: 7/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring:	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, dia.	Description	USCS soil symbol	Well construction	(ppm)
	0					Hydropunch GroundWater Sample d 6" Concrete; ground surface measured below Concrete			
1140	8			385-509-022		385-509-022 (8'-10') PH: 7.07; Temp.°: 19.16°C; Cond: 7433 ms/cm; ORP: -149.2 mV; DO: 1.13 mg/L; GW: Highly Turbid; no sheen; grey; Turb: 1286.2 NTU; Petroleum odor; changed to clear w/purge			
1210	16				385-509-023	385-509-023 (15'-17') PH: 7.83; DO: .41 mg/l; Turb: 1284.3 NTU; ORP: -82.3 mV; Temp.: 18.74°C; GW: Highly Turbid; dk greenish gray; Cond: 3460 ms/cm; Strong odor; no sheen			
1245	24			385-509-024		385-509-024 (25'-27') PH: 7.43; Temp.: 19.16°C; Turb: 773.1 NTU; ORP: -55.1 mV; Cond: 3231.0 ms/cm; GW: Med. turbidity; no odor; DO: 1.79 mg/l; no sheen; DK. yellowish gray			
	32								
	40					Note: Low conductivity layer at 27 ft bgs			

TOTAL DEPTH = 29'

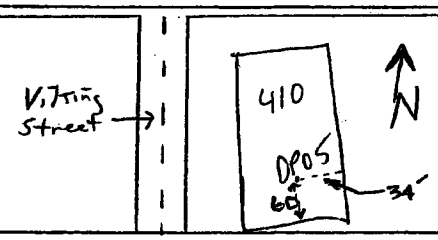
BORING BACK FILLED w/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Bld 410
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: 509- DGS- DP05	Date Started: 8/3/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/3/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.)	Location Sketch: West Oriskany Ave.



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	0					T-9' BGS Description			
	5					Temp 19.69 °C CND 974 µS/cm ph 6.84 Turb 2249 NTU DO 2.07 mg/L ORP -119.7 mV Small petrolium based odor, No sheen, yellow brown smoky color,			
1030			385-509	7-9' 016					
	10					Description Slight sewage odor, No sheen, yellow grey color			
	15			15-17' 385-509 017		15-17' Temp ~~1015~~ 18.01 °C CND 1015 µS/cm pH 7.02 Turb 1708 NTU DO 6.23 mg/L ORP -112.3 mV			
1100									
	20								
	25					25-27' Temp 19.32 °C pH 7.78 ORP -108.7 mV CND 1222 µS/cm Turb 2544 NTU DO 2.81 mg/L			
				385-509 018					

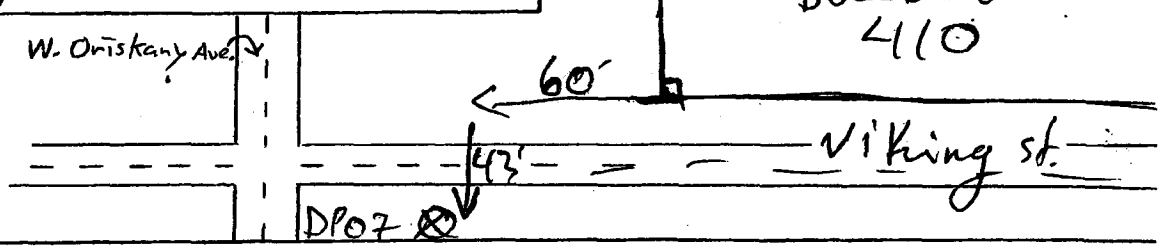
TOTAL DEPTH = 27'
BORING BACKFILLED W/ CEMENT GROUT.

CTO-385
Bldg./Site:
Project Name: SUPPLEMEN REMEDIAL INVESTIGA DATA GAP SAMPLIN

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S09-D6S-DP07	Date Started: 8/9/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring:	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.)	Location Sketch: BUILDING 410



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	(mm)
						Hydro Punch GW Sampler			
						Hydropunch Groundwater Sample 385-S09-043			
						pH 8.21 DO 12.21mg/L (7'-9')			
	4					Cond 447ms/cm ORP -77.4mV			
505		1505	(7'-9')			Turb 2619 NTU GW lt. cloudy brown;			
		385-S09-043				Temp 23.51°C no sheen, no odor, turbid			
	8								
						385-S09-044			
	12					pH 8.58 DO 6.73mg/L			
						Cond 538us/cm ORP -94mV			
				1525		Turb 2608.1NTU GW: sl. odor, greenish			
525	16			385-S09-044	(15'-17')	Temp 21.87°C grey; no sheen; turbid			
						(15'-17')			

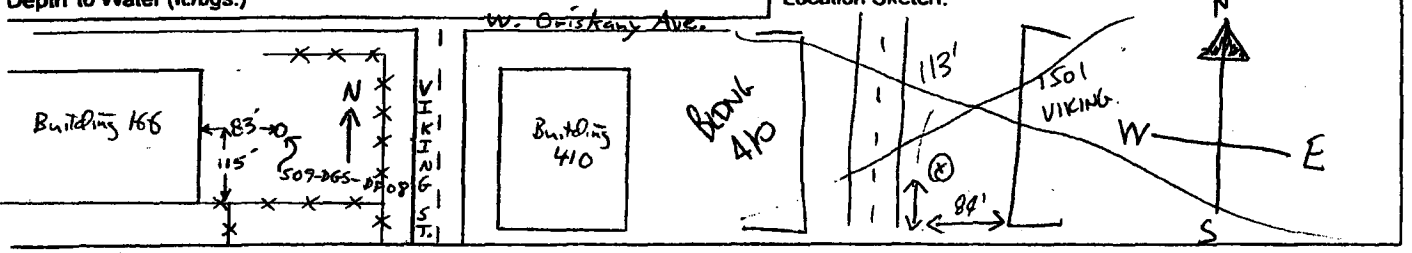
TOTAL DEPTH = 17'
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-D65-DP08	Date Started: 8/15/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTC
Outer Diameter of Boring:	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



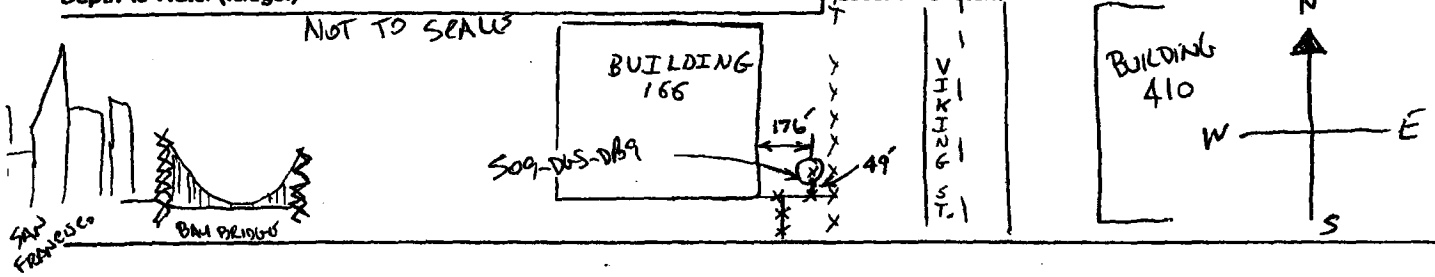
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GROUNDWATER SAMPLE			
1035	12			385-S09-045		HYDROPUNCH GW 385-S09-045 FROM 7.0-9.0' BGS DO 4.76 mg/L TMP 21.84°C PH 7.74 CND 646 µS/cm TRB 1885 NTU ORP -23.0 mV			
1050	24			385-S09-046		HYDROPUNCH GW 385-S09-046 FROM 15.0-17.0' BGS. DO 4.06 mg/L TMP 20.66°C PH 7.94 CND 1080 µS/cm TRB 2123 NTU ORP -47.9 mV			
1115	36			385-S09-047		HYDROPUNCH GW 385-S09-047 FROM 30-32.0' BGS. DO 6.59 mg/L TMP 21.27°C PH 7.60 CND 2406 µS/cm TRB 2603 NTU ORP -48.6 mV			
1205	48			385-S09-048		TOTAL DEPTH = 48' BORING BACKFILLED W/ CEMENT GROUT.			
	60								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: 509- D65- DP09	Date Started: 8/17/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/17/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTC
Outer Diameter of Boring:	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



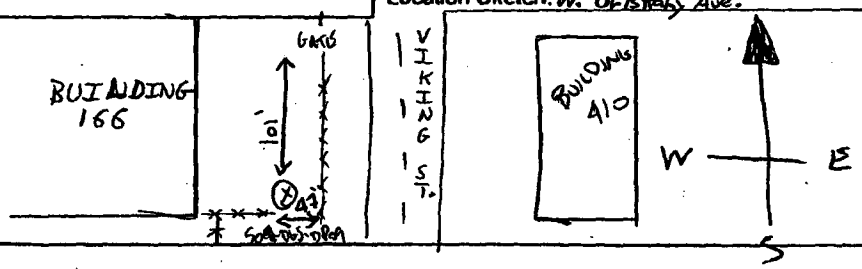
Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	OVM (ppm)
0800	12			385-509-049		HYDROPUNCH SAMPLE 385-509-049 FROM 7.0'-9.0' BGS DO 2.30 mg/L PH 6.68 TRB 65.0 NTU ORP -87.0 mV CND 462 µS/cm TMP 20.87 °C			
0855	24			385-509-050 050A		HYDROPUNCH SAMPLE 385-509-050 FROM 15-17.0' BGS DO 5.03 mg/L PH 8.20 TRB 222 NTU ORP -93.0 mV CND 843 µS/cm TMP 21.24 °C			
0930	36			385-509-051		HYDROPUNCH SAMPLE 385-509-051 FROM 30-32.0' BGS DO - 0.44 mg/L PH 8.09 TRB 109 NTU ORP - 73.2 mV CND 1035 µS/cm TMP 22.72 °C			
1030				385-509-052					
1310	48			385-509-053		BORING REFUSED @ 49.0' BGS HOLE GROUTED W/ CEMENT			
	60								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-DP09	Date Started: 8/22/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/22/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTR
Outer Diameter of Boring:	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch: W. Oriskany Ave.



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GROUNDWATER SAMPLE			
						HYDROPUNCH GW 385-S09-057 FROM 61.0-59.0' BGS			
						DO 4.05 MG/L CND 39946.0 MS/CM ORP 167 mV			
	12					TMP 22.94 °C TRB 952.4 NTU PH 6.87			
						TOTAL DEPTH = 62'			
	24					BORING BACKFILLED W/ CEMENT GROUT.			
	36								
	48								
	60								

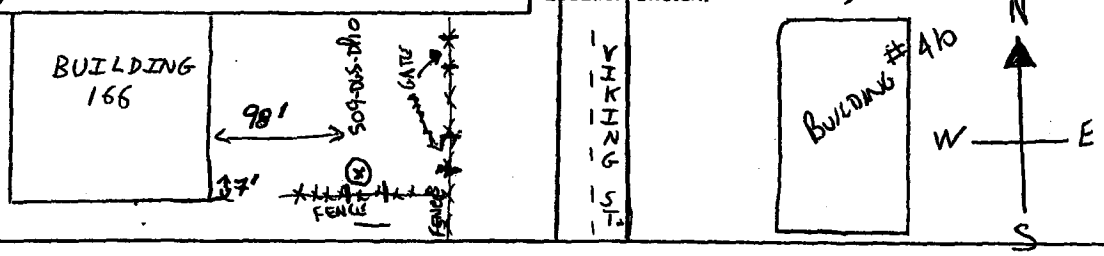
325 385-S09-057

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-DGS-DP10	Date Started: 8/22/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/22/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTC
Outer Diameter of Boring:	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch: W. Oriskany Ave.



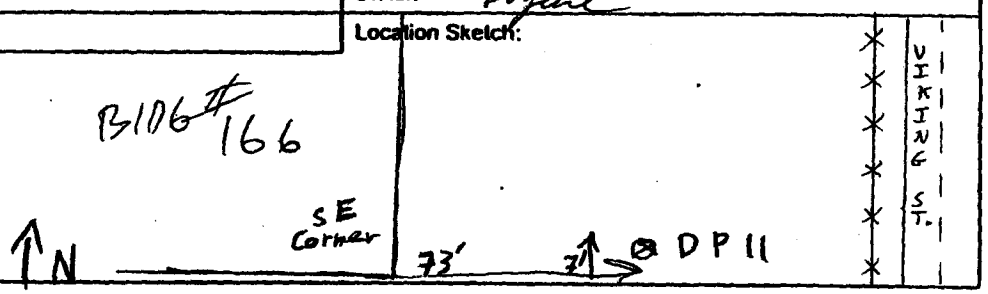
Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GROUNDWATER SAMPLE			
	12					HYDROPUNCH GW 385-S09-054 FROM 30.0-32.0' DO 8.74 mg/L CND 760 MS/cm TRB 914.5 NTU ORP 235.0 mV TMP 19.6°C PH 8.01			
	24					HYDROPUNCH GW 385-S09-055 FROM 45-47.0' DO 3.77 mg/L CND 35409 MS/cm TRB 728.4 NTU ORP 263.7 mV TMP 20.42°C PH 6.53			
0915	36			385-S09-054		HYDROPUNCH GW 385-S09-056 FROM 58-60.0 DO 1.77 mg/L CND 38277 MS/cm TRB 1382 NTU ORP -12.1 mV TMP 20.93°C PH 6.86			
1005	48			385-S09-055, 055A		TOTAL DEPTH = 60' BORING BACKFILLED W/ CEMENT GROUT.			
10	60			385-S09-056					

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S09-D65-DP11	Date Started: 8/30/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/30/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring:	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft.bgs.)	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Hydropunch GW Sample			
					1' concrete, ground surface measured from below			
					Hydropunch 385-S09-058 (30'-32')			
					PH: 8.05			
8					CND: 1.22 ms/cm			
					TRB: >999 NTU			
					Temp: 23.6°C			
					ORP: 59 mV			
16					DO: 7.65 mg/L			
					GW: Yellow; turbid; odorless; no sheen			
					TOTAL DEPTH = 32'			
24					* Boring backfilled w/ grout			
			1230	385-S09-058				
32								

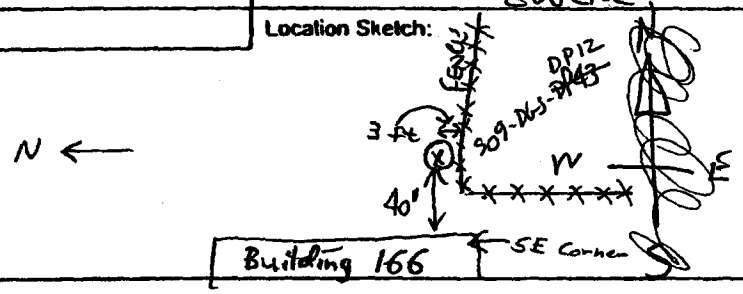
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: SUPPLEMEN REMEDIAL INVESTIGA- DATA GAP SAMPLIN

Boring Number: S09-DGS-DP12	Date Started: 9/11/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/11/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTC
Outer Diameter of Boring:	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GROUNDWATER SAMPLE			
						HYDROPUNCH GW 385-S09-059 FROM 30 to 32' bgs and 385-S09-905 (Duplicate)			
						DO: 4.44 mg/L TRB: 1384 NTU TMP: 20.78°C			
	8					ORP: -125.2 mV CND: 2696 µS/cm PH: 7.39			
	16					TOTAL DEPTH = 32'			
						BORING BACKFILLED W/ CEMENT GROUT.			
	24								
	32	↕		385-S09-059					

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B001

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼	Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590525		1:00:00 PM						SAND (SP): Olive [5Y 5/3], medium dense to dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	
						1			
C0590526		1:05:00 PM							
						2			IDW Generated = 3 gallons
C0590527		1:10:00 PM				3			
						4			
						5			
C0590528		1:15:00 PM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B001

Report form: C:\DATA\ALAMEDA BORING LOG Time: 4:41:41 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B002

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.7 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
								BASEROCK	
C0590529		9:15:00 AM				1		SAND (SP): Olive [5Y 5/3], medium dense, moist, poorly graded, fine grained sand, subrounded, trace (<2%) shell.	
C0590530		9:20:00 AM				2			IDW Generated = 3 gallons
						3			
C0590531		9:25:00 AM				4			
				▽		5		at 5.0 ft.: Greenish gray [5GY 5/1].	
						6			
C0590532		9:30:00 AM				7			
						8			
								TOTAL DEPTH = 8.7 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S009B002

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B003

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.2 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼		Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590534 C0590533		9:55:00 AM						**SAND and GRAVEL (SW)**: Olive [5Y 5/3], dense, moist, well graded, fine and coarse gravel, fine grained sand, angular, 30% gravel, 70% sand, 0% fines.	
						1			
C0590535		10:00:00 AM						**SAND (SP)**: Olive [5Y 5/3], medium dense to dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	
						2			IDW Generated = 3 gallons
C0590536		10:05:00 AM				3			
						4			
						5			
								at 5.5 ft.: brick lodged in to sampler at 5.5 ft. bgs, did not allow material deeper than 5.5 ft. in to sampler.	
C0590537		10:10:00 AM				6			
						7			
						8			
								TOTAL DEPTH = 8.2 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B003

Report Form: CTD-459 ALAMEDA BORING LOG Time: 4:01:03 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B004

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 7.5 ft / ft	Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590538		11:21:00 AM						**SAND (SP)**: Dark brown [7.5YR 3/2], loose, dry, poorly graded, 10% gravel, 90% sand, trace fines.	
								at 0.5 ft.: Light olive brown [2.5Y 5/4], moist, 0% gravel, 100% sand, trace fines.	
						1			
C0590539		11:22:00 AM							
						2			
C0590540		11:24:00 AM				3			
						4			
						5		**5" layer of WELL GRADED SAND** at 4.5 ft.: Very dark brown [10YR 2/2], loose, moist, layer from 54-59 inches bgs, 60% gravel, 40% sand, trace fines.	
C0590541		11:27:00 AM				6			
				▽		7			
						8		**TOTAL DEPTH = 8.0 FEET**	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B004

AMEC/A BORING LOG Time: 4/01:49 PM
Report Form:

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B005

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 09	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ Dry at time of drilling		Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590542		1:24:00 PM						SAND (SP): Brown [10YR 5/3], loose, moist, poorly graded, 0% gravel, 100% sand, trace fines.	
								at 0.5 ft.: Light olive brown [2.5Y 5/3].	
						1			
C0590544 C0590543		1:25:00 PM							
						2			
C0590545		1:27:00 PM				3			
						4		at 4.0 ft.: Olive [5Y 5/4], strong odor observed.	
						5			
C0590546		1:30:00 PM				6			
						7		at 7.0 ft.: Dark gray [5Y 4/1].	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S009B005

Report form: CTO-059 ALAMEDA BORING LOG Time: 6/01/01 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B006

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ Dry at time of drilling	Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590547		2:57:00 PM						**SAND (SP)**: Light olive brown [2.5Y 5/4], loose, moist, poorly graded, 10% gravel, 90% sand, trace fines.	Removed top 6 inches of drain rock to prevent sloughing into 4-8 feet bgs sample.
								at 0.5 ft.: 0% gravel, 100% sand, trace fines.	
						1			
C0590548		2:58:00 PM							
						2			
									No amount of Recovery given for 0-4 foot interval
C0590549		2:59:00 PM				3			
						4		at 4.0 ft.: wet.	
						5			
C0590550		3:03:00 PM				6			
						7			
						8		at 7.7 ft.: Dark gray [2.5Y 4/1].	
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B006

AMPA BORING LOG Time: 4:41:30 PM
Report form:

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B008

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 09	Alameda Point	8-6-03	8-6-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 7.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	8/6/03

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID background = 0 ppm
C0590556		9:59:00 AM				1		**GRAVELLY SAND (SW)**: Yellowish brown [10YR 5/4], fine gravel, angular, fine sand, 35% gravel, 55% sand, 10% fines. (FILL).	Hole backfilled at 11:00:00 AM after completion.
C0590557		10:01:00 AM				2		**SAND (SP)**: Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	IDW Generated = 4-gallons of soil
C0590558		10:03:00 AM				3			
						4		**SANDY SILT (ML)**: [GLEY1 3/1], fine grained sand, 0% gravel, 30% sand, 70% fines. (FILL).	
C0590559		10:05:00 AM		∇		5		**SAND (SP)**: [GLEY1 4/1], moist, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
						6			
						7			
						8		at 7.5 ft.: wet	
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S009B008

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:01:58 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B009

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	PID/FID background = 3.9 ppm
C0590560		9:45:00 AM				1		**SAND (SP)**: Greenish gray [5GY 5/1], medium dense, moist, poorly graded, fine grained sand, moderate hydrocarbon odor, trace shells ~2%.	
C0590561		9:50:00 AM				2			IDW Generated = 3 gallons
						3			
C0590562		9:55:00 AM				4			
				▽		5		at 5.0 ft.: wet.	
						6			
C0590564 C0590563		10:00:00 AM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S009B009

\MFDA BORING LOG Time: 4:01:00 PM

Report form:

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B010

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	8-7-03	8-7-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	8/7/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT and BASEROCK	
C0590565		9:20:00 AM				1		**SAND (SP)**: Olive [5Y 5/3], medium dense to dense, moist, poorly graded, fine grained sand, subrounded, trace (~2%) shells increasing downward from. (FILL).	FID/PID background = 3.8 ppm Hole backfilled at 9:40:00 AM after completion.
C0590566		9:25:00 AM				2			IDW Generated = 3 gallons
						3			
C0590567		9:30:00 AM				4			
				▽		5			
						6		**SILTY SAND** at 6.0 ft.: small lenses <1" in thickness for 6-7 ft. bgs.	
C0590568		9:35:00 AM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B010

Report form: CTI-A59 ALAMEDA BORING.LDG Time: 6/03/03 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B011

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 6.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590569		11:00:00 AM				1		**SAND (SP)**: Olive [5Y 4/3], dense, moist, poorly graded, fine grained, (FILL).	
C0590570						2			
						3			
C0590571						4			
						5			
				▽		6		at 6.0 ft.: wet.	
C0590572						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S009B011

Report form: C:\ALAMEDA BORING LOG. Time: 4/02/04 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B012

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590574, C0590573		10:40:00 AM						SAND (SP): Olive [5Y 4/3], dense, moist, fine grained sand, trace (~2%) shells. (FILL).	
C0590575		10:45:00 AM				1, 2			
C0590576		10:50:00 AM				3, 4			
				∇		5		at 5.0 ft.: wet.	
C0590577		10:55:00 AM				6, 7, 8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B012

Report Form: C:\DATA\ALAMEDA\BORINGLOG Time: 4:03:04 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S009B013

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 09	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID/PID background = 3.7 ppm
C0590578		10:05:00 AM				1		SAND (SP): Olive [5Y 5/3], dense, moist, poorly graded, fine grained sand, subrounded, trace (~2%) shells. (FILL).	
C0590579		10:10:00 AM				2			
						3			No amount of Recovery given for 0-4 foot interval
C0590580		10:15:00 AM				4			
				▽		5		at 5.0 ft.: wet.	
						6			
C0590582 C0590581		10:20:00 AM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S009B013

Report format: CEDA BORING LOG Time: 4:41:11 PM

Site 13

SITE 13 SOIL BORING AND CONE PENETROMETER LOGS

Remedial Investigation Report for OU-2A, Alameda Point, Alameda, California
(Page 1 of 3)

Boring ID	Date Drilled	Investigation
MW-1	12/1/1989	Intermediate Maintenance Facility
MWOR-1	7/16/1990	Phase 1 & 2A
MWOR-2	7/17/1990	Phase 1 & 2A
MWOR-3	7/17/1990	Phase 1 & 2A
MWOR-4	7/19/1990	Phase 1 & 2A
MWOR-5	7/19/1990	Phase 1 & 2A
BOR-6	7/5/1990	Phase 1 & 2A
BOR-7	7/5/1990	Phase 1 & 2A
BOR-8	7/16/1990	Phase 1 & 2A
BOR-9	7/13/1990	Phase 1 & 2A
BOR-10	7/12/1990	Phase 1 & 2A
BOR-11	7/18/1990	Phase 1 & 2A
BOR-12	7/18/1990	Phase 1 & 2A
BOR-13	7/3/1990	Phase 1 & 2A
BOR-14 (OR-1)	5/23/1990	Phase 1 & 2A
BOR-15	7/17/1990	Phase 1 & 2A
BOR-16	7/23/1990	Phase 1 & 2A
BOR-17	7/17/1990	Phase 1 & 2A
BOR-18	7/23/1990	Phase 1 & 2A
BOR-19	7/18/1990	Phase 1 & 2A
BOR-20	7/17/1990	Phase 1 & 2A
BOR-21	7/19/1990	Phase 1 & 2A
BOR-22	7/23/1990	Phase 1 & 2A
BOR-23	7/20/1990	Phase 1 & 2A
BOR-24	7/19/1990	Phase 1 & 2A
BOR-25	7/20/1990	Phase 1 & 2A
BOR-26	7/24/1990	Phase 1 & 2A
BOR-27	7/20/1990	Phase 1 & 2A
IMF-01	7/19/1991	Intermediate Maintenance Facility
IMF-02	7/18/1991	Intermediate Maintenance Facility
IMF-03	7/18/1991	Intermediate Maintenance Facility
IMF-04	7/18/1991	Intermediate Maintenance Facility
IMF-05	7/19/1991	Intermediate Maintenance Facility
IMF-06	7/19/1991	Intermediate Maintenance Facility
IMF-07	7/19/1991	Intermediate Maintenance Facility
IMF-08	7/19/1991	Intermediate Maintenance Facility
M-IMF-01	7/23/1991	Intermediate Maintenance Facility
B-IMF-09	4/3/1992	Intermediate Maintenance Facility
B-IMF-10	4/3/1992	Intermediate Maintenance Facility
B-IMF-11	4/3/1992	Intermediate Maintenance Facility
M-IMF-02	4/3/1992	Intermediate Maintenance Facility
B13-28	12/9/1994	Follow On Investigation 1994
B13-29	12/9/1994	Follow On Investigation 1994
B13-30	12/9/1994	Follow On Investigation 1994
B13-31	12/9/1994	Follow On Investigation 1994
B13-32	8/12/1994	Follow On Investigation 1994
M13-06	8/11/1994	Follow On Investigation 1994
M13-07	8/12/1994	Follow On Investigation 1994
M13-08	11/19/1994	Follow On Investigation 1994
M13-09	11/19/1994	Follow On Investigation 1994
D13-01	11/2/1994	Follow On Investigation 1994
ALA13B38	4/4/1994	Follow On Investigation 1994
ALA13B39	4/4/1994	Follow On Investigation 1994
ALA13B40	4/4/1994	Follow On Investigation 1994
ALA13B41	4/5/1994	Follow On Investigation 1994
ALA13B42	4/5/1994	Follow On Investigation 1994
ALA13B43	4/5/1994	Follow On Investigation 1994
ALA13B44	4/5/1994	Follow On Investigation 1994
CPT-S13-03	7/7/1994	Follow On Investigation 1994
CPT-S13-04	7/7/1994	Follow On Investigation 1994
CPT-S13-05	7/14/1996	Follow On Investigation 1994

SITE 13 SOIL BORING AND CONE PENETROMETER LOGS

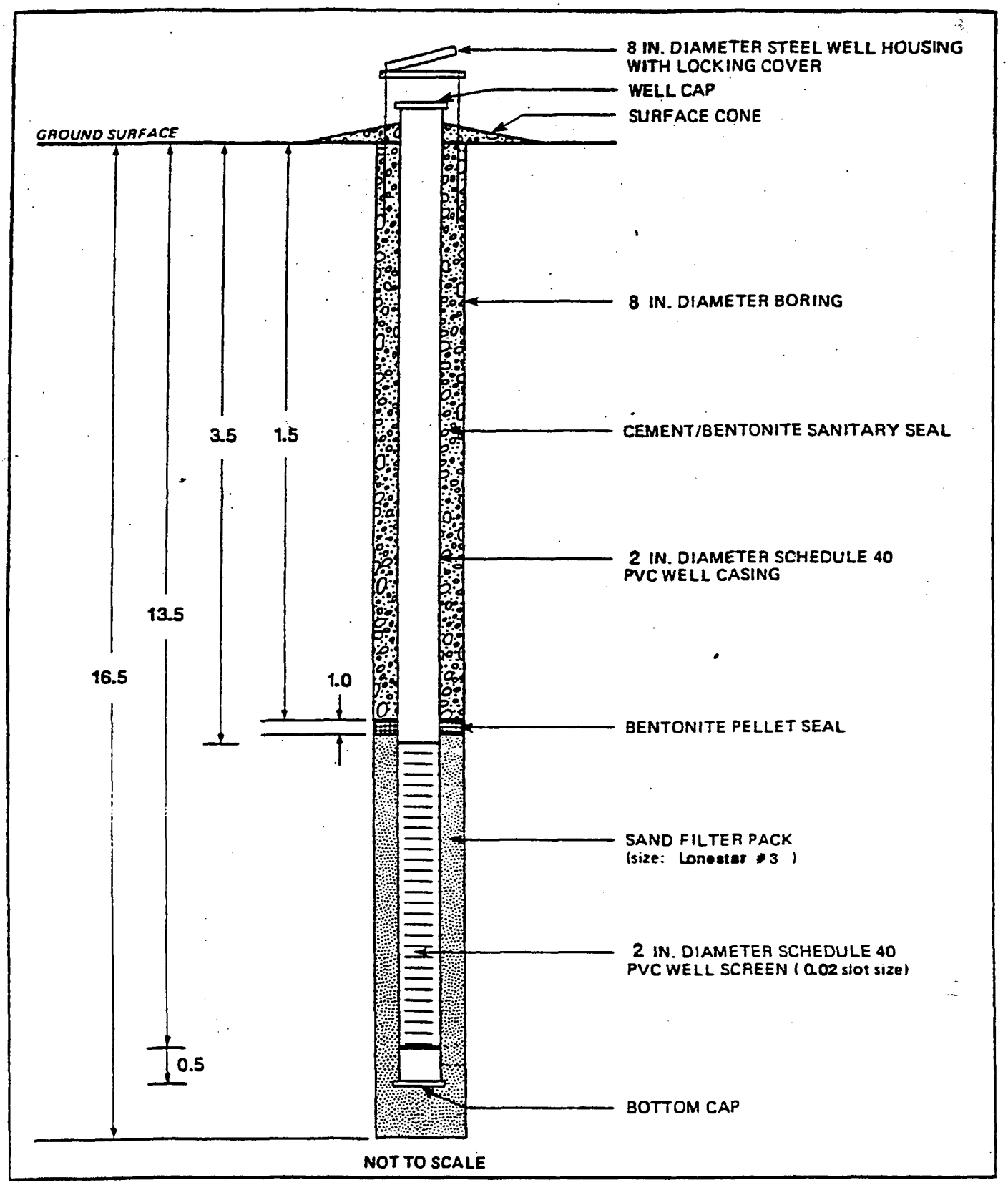
Remedial Investigation Report for OU-2A, Alameda Point, Alameda, California
(Page 2 of 3)

Boring ID	Date Drilled	Investigation
CPT-S13-02	7/14/1996	Follow On Investigation 1994
P13-01	2/16/1996	Aq Test
P13-02	2/16/1996	Aq Test
P13-03	2/9/1996	Aq Test
M13-P	2/19/1996	Aq Test
CA13-01	4/26/2000	Corrective Action Area
CA13-02	5/10/2000	Corrective Action Area
CA13-03	5/10/2000	Corrective Action Area
CA13-04	6/14/2000	Corrective Action Area
CA13-05	6/14/2000	Corrective Action Area
CA13-06	6/21/2000	Corrective Action Area
CA13-07	4/26/2000	Corrective Action Area
CA13-09	4/26/2000	Corrective Action Area
CA13-08	5/2/2000	Corrective Action Area
CA13-10	6/15/2000	Corrective Action Area
CA13-26	6/21/2000	Corrective Action Area
CA13-11	5/9/2000	Corrective Action Area
CA13-12	5/9/2000	Corrective Action Area
CA13-13	5/11/2000	Corrective Action Area
CA13-14	5/11/2000	Corrective Action Area
CA13-15	5/11/2000	Corrective Action Area
CA13-16	5/11/2000	Corrective Action Area
CA13-17	6/14/2000	Corrective Action Area
CA13-18	6/14/2000	Corrective Action Area
CA13-19	6/14/2000	Corrective Action Area
CA13-20	6/14/2000	Corrective Action Area
CA13-21	6/14/2000	Corrective Action Area
CA13-22	6/14/2000	Corrective Action Area
CA13-23	6/14/2000	Corrective Action Area
CA13-24	6/14/2000	Corrective Action Area
CA13-25	6/14/2000	Corrective Action Area
S13-DGS-DP01	8/16/2001	Data Gap Sampling 2001
S13-DGS-DP02	8/15/2001	Data Gap Sampling 2001
S13-DGS-SG01	7/10/2001	Data Gap Sampling 2001
S13-DGS-SG02	7/10/2001	Data Gap Sampling 2001
S13-DGS-VE01	8/8/2001	Data Gap Sampling 2001
S13-DGS-VE02	8/7/2001	Data Gap Sampling 2001
S13-DGS-VE03	4/26/2002	Data Gap Sampling 2002
C3S013B001	7/25/2003	PAH Study
C3S013B002	7/25/2003	PAH Study
C3S013B003	7/25/2003	PAH Study
C3S013B004	7/25/2003	PAH Study
C3S013B005	7/25/2003	PAH Study
C3S013B006	7/25/2003	PAH Study
C3S013B007	7/25/2003	PAH Study
C3S013B008	7/25/2003	PAH Study
C3S013B009	7/25/2003	PAH Study
C3S013B010	7/25/2003	PAH Study
C3S013B011	7/25/2003	PAH Study
C3S013B012	7/25/2003	PAH Study
C3S013B013	7/25/2003	PAH Study
C3S013B014	7/25/2003	PAH Study
C3S013B015	unknown	PAH Study
C3S013B016	unknown	PAH Study
C3S013B017	unknown	PAH Study
C3S013B018	unknown	PAH Study
C3S013B019	7/28/2003	PAH Study
C3S013B020	7/28/2003	PAH Study
C3S013B021	7/28/2003	PAH Study
C3S013B022	7/29/2003	PAH Study
C3S013B023	7/28/2003	PAH Study

SITE 13 SOIL BORING AND CONE PENETROMETER LOGS

Remedial Investigation Report for OU-2A, Alameda Point, Alameda, California

Boring ID	Date Drilled	Investigation
C3S013B024	7/28/2003	PAH Study
C3S013B025	7/28/2003	PAH Study
C3S013B026	unknown	PAH Study
C3S013B027	7/28/2003	PAH Study
C3S013B028	7/28/2003	PAH Study
C3S013B029	unknown	PAH Study
C3S013B030	unknown	PAH Study
C3S013B031	7/28/2003	PAH Study
C3S013B032	7/28/2003	PAH Study
C3S013B033	7/28/2003	PAH Study
C3S013B034	7/28/2003	PAH Study
C3S013B035	7/28/2003	PAH Study
C3S013B036	7/28/2003	PAH Study
C3S013B037	7/28/2003	PAH Study
C3S013B038	unknown	PAH Study
C3S013B039	7/28/2003	PAH Study
C3S013B040	unknown	PAH Study
C3S013B041	unknown	PAH Study
C3S013B042	unknown	PAH Study
C3S013B043	7/29/2003	PAH Study
C3S013B044	7/29/2003	PAH Study
C3S013B045	7/29/2003	PAH Study
C3S013B046	7/29/2003	PAH Study
C3S013B047	7/28/2003	PAH Study
C3S013B048	7/28/2003	PAH Study
C3S013B049	7/29/2003	PAH Study
C3S013B050	7/29/2003	PAH Study
C3S013B051	unknown	PAH Study
C3S013B052	unknown	PAH Study
C3S013B053	unknown	PAH Study
C3S013B054	7/31/2003	PAH Study
C3S013B055	7/29/2003	PAH Study
C3S013B056	7/29/2003	PAH Study
C3S013B057	7/29/2003	PAH Study
C3S013B058	7/29/2003	PAH Study
C3S013B059	7/29/2003	PAH Study
C3S013B060	7/29/2003	PAH Study
C3S013B061	7/29/2003	PAH Study
C3S013B062	7/29/2003	PAH Study
C3S013B063	unknown	PAH Study
C3S013B064	7/30/2003	PAH Study
C3S013B065	7/31/2003	PAH Study
C3S013B066	7/29/2003	PAH Study
C3S013B067	7/29/2003	PAH Study
C3S013B068	7/29/2003	PAH Study
C3S013B069	7/30/2003	PAH Study
C3S013B070	7/30/2003	PAH Study
C3S013B071	7/31/2003	PAH Study
C3S013B072	7/29/2003	PAH Study
C3S013B073	7/30/2003	PAH Study
C3S013B074	7/30/2003	PAH Study
C3S013B075	7/30/2003	PAH Study
C3S013B076	7/30/2003	PAH Study
C3S013B077	7/30/2003	PAH Study
C3S013B078	7/30/2003	PAH Study
C3S013B079	7/30/2003	PAH Study
C3S013B080	unknown	PAH Study
C3S013B081	7/30/2003	PAH Study
C3S013B082	7/30/2003	PAH Study



Harding Lawson Associates
Engineers Geologists & Geophysicists

Monitering Well Completion Detail (MW-1)
Intermediate Maintenance Facility
Alameda Naval Air Station, California

PLATE **13**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
TY	19541,001.04		12/89		

FORM GW1

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast of Building 397 SURFACE ELEV. 114.41 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	5	24	16	13	SM			0.5	Dense, brown to light brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	7	16	15	16	SM					
5	3	CS	3.5	5.0	8	6	4	15	SM				increased silt content below 4.0 feet.	
	4	CS	5.0	6.5	3	4	4	17	SM			5.0	Loose, brown, silty fine sand, moist. saturated below 6.3 feet.	X
	5	CS	6.5	8.0	3	2	2	16	SM		Fill			X
	6	CS	8.0	9.5	3	4	8	18	SC		MS	8.0	Medium dense, orange brown mottled with gray, clayey fine sand, saturated. (Merritt Sand)	X
10														X
	7	CS	9.5	11.0	6	8	16	18	SC				clay content decreases at 9.5 feet.	X
	8	CS	11.0	12.5	2	6	10	15	SC				clay content increase at 11.0 feet.	X
	9	CS	12.5	14.0	8	9	16	17	SC					X
15	10	CS	14.0	15.5	6	7	12	14	SC					X
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.3 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 2 ppm at 3.0 feet.

Canonie Environmental

Canonie

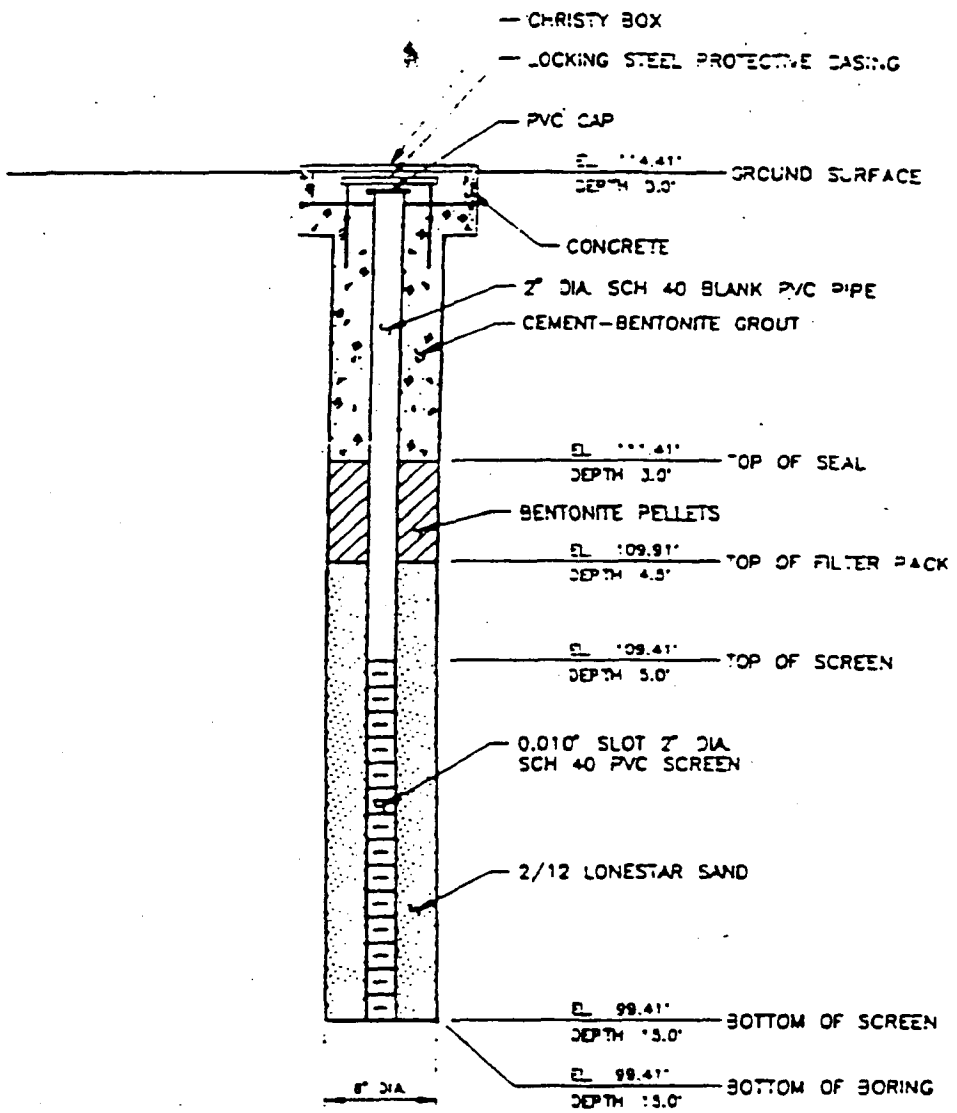
Monitoring Well Detail

PROJECT No. 86-0[illegible]8-[illegible]304

WELL No. MWCR-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 397, NORTH-EAST CORNER DATE [illegible]-16-90 BY PMC



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-2
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 9th Street and Avenue L SURFACE ELEV. 114.12 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	2	5	11	6	GM				Medium dense, brown silty gravel, dry. (Fill)	
	2	CS	1.5	3.0	15	15	24	14	GM			2.8	Dense, light brown, silty fine sand, moist, with some shells. (Fill)	
	3	CS	3.0	4.5	12	15	20	14	SM					
5														
	4	CS	4.5	6.0	6	8	12	14	SM					X
	5	CS	6.0	7.5	5	5	5	14	SM				becomes saturated below 6.0 feet.	X
													becomes medium dense at 6.0 feet.	X
	6	CS	7.5	9.0	5	7	7	14	SM				no shells below 7.5 feet.	X
10	7	CS	9.0	10.5	3	2	2	12	SM		Fill			X
														X
	8	CS	10.5	12.0	2	3	4	17	CL		BS	11.0	Soft to medium stiff, dark gray, silty clay,	X
	9	CS	12.0	13.5	5	7	8	17	CL				trace of sand, occasional layers of	X
													sandy clay, saturated. (Bay Mud)	X
15	10	CS	13.5	15.0	5	8	12	2	CL					X
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Canonie

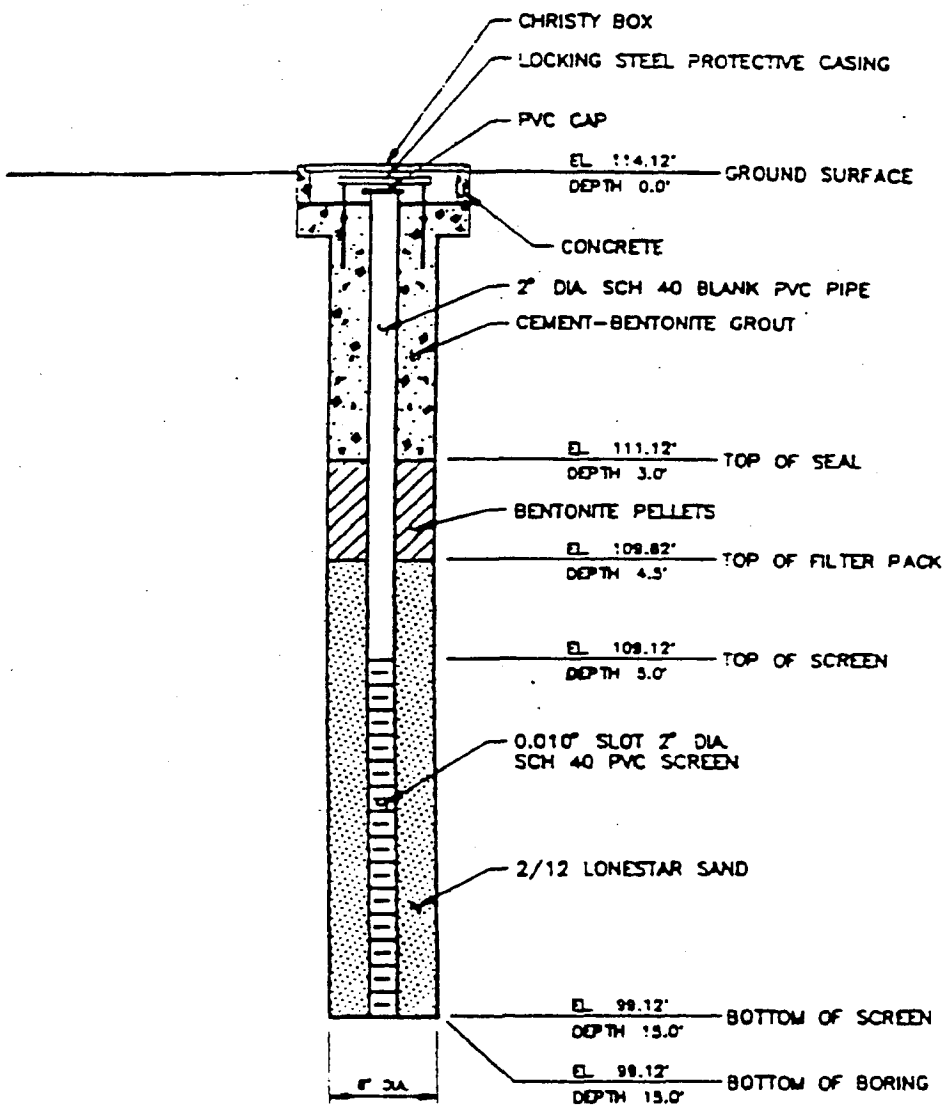
Monitoring Well Detail

PROJECT No. 66-018-1804

WELL No. MWOR-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION NORTHEAST CORNER OF 9TH ST. AND AVE. L DATE 7-17-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MWOR-3.
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: E side of 11th St. bet. Avenues K and L SURFACE ELEV. 114.82 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	20	21	26	13	SM				Dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	11	22	33	15	SM					
	3	CS	3.0	4.5	10	8	9	15	SM					
5	4	CS	4.5	6.0	4	2	2	6	SM			5.0	Loose black to dark gray brown, silty fine sand, moist, trace of clay. saturated below 6 feet.	x
	5	CS	6.0	7.5	4	5	8	12	SM		Fill			x
														x
	6	CS	7.5	9.0	6	7	4	14	SM-SC		MS	8.0	Medium dense, mottled gray to orange brown, clayey sand, saturated, pockets of gray clay.	x
10	7	CS	9.0	10.5	10	10	18	16	SC					x
														x
	8	CS	10.5	12.0	7	10	20	18	SC					x
	9	CS	12.0	13.5	7	10	13	14	SC					x
														x
15	10	CS	13.5	15.0	12	14	16	8	SM			14.0	Dense, orange brown, silty sand, saturated, trace of clay. (Merritt Sand)	x
												15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Canonie

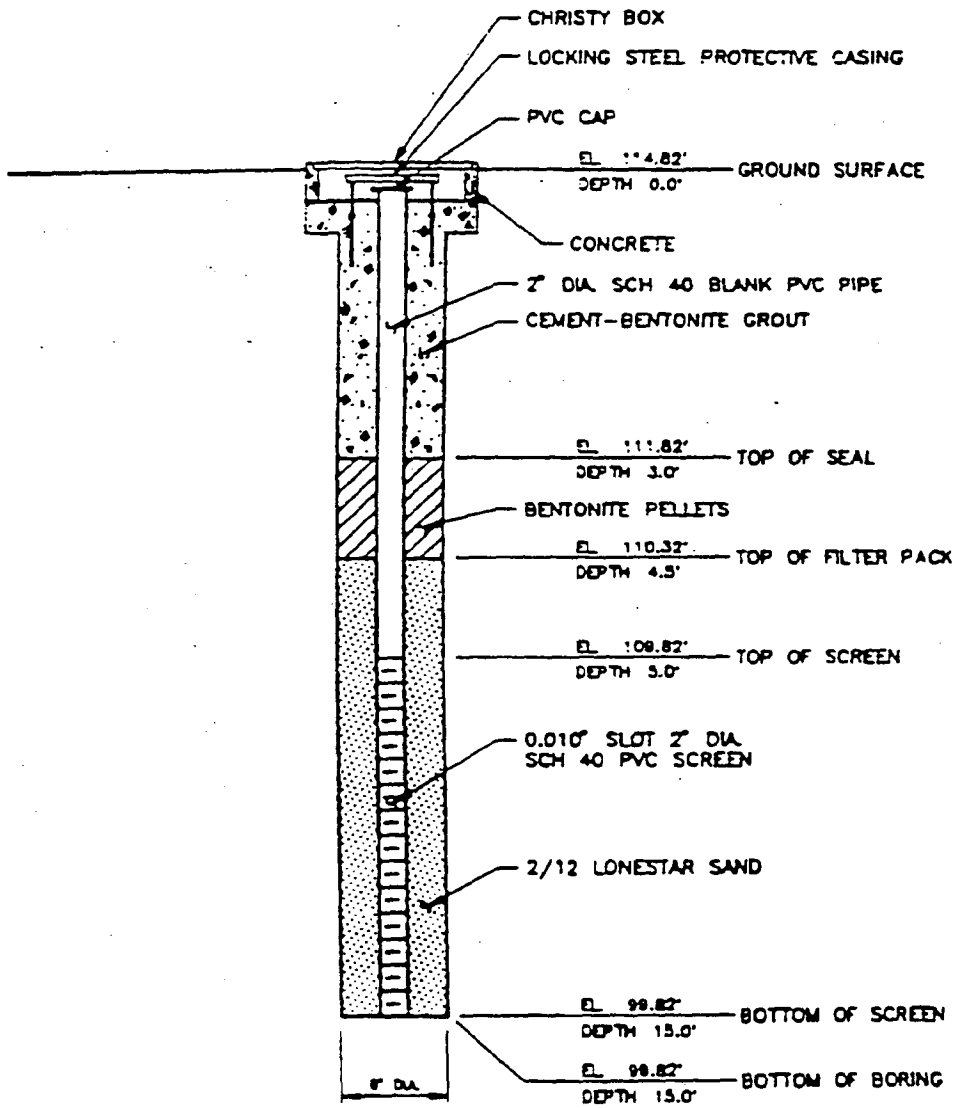
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-3

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF 11TH STREET BETWEEN AVENUES K & L DATE 7-17-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MWOR-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Near fence on east side of storage yard SURFACE ELEV. 113.40 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0" 6" 6"	6" 12" 12"	12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS	ENZO
														Asphalt. (Fill)	
	1	CS	0.5	2.0	22	34	13	13	GM			0.3		Red baserock. (Fill)	
	2	CS	2.0	3.5	12	14	14	15	SM			1.8		Medium dense, brown, silty fine sand, moist. (Fill)	
5	3	CS	3.5	5.0	6	8	6	14	SM					saturated below 4.5 feet.	
	4	CS	5.0	6.5	2	3	4	15	SM		Fill				x
	5	CS	6.5	8.0	6	10	13	16	SC			6.8		Medium dense, mottled gray, orange brown, clayey sand, saturated, with some silt. (Merritt Sand)	x
	6	CS	8.0	9.5	6	12	17	17	SC		MS				x
10	7	CS	9.5	11.0	8	12	16	16	SC						x
	8	CS	11.0	12.5	10	11	13	0	SM			11.0		Medium dense, orange brown, silty sand, saturated. (Merritt Sand)	x
	9	CS	12.5	14.0	5	10	15	17	SM						x
15	10	CS	14.0	15.0	3	10		12	SM						x
												15.0		Bottom of Boring at 15.0 feet.	
20															
25															
30															
35															
40															

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Canonie

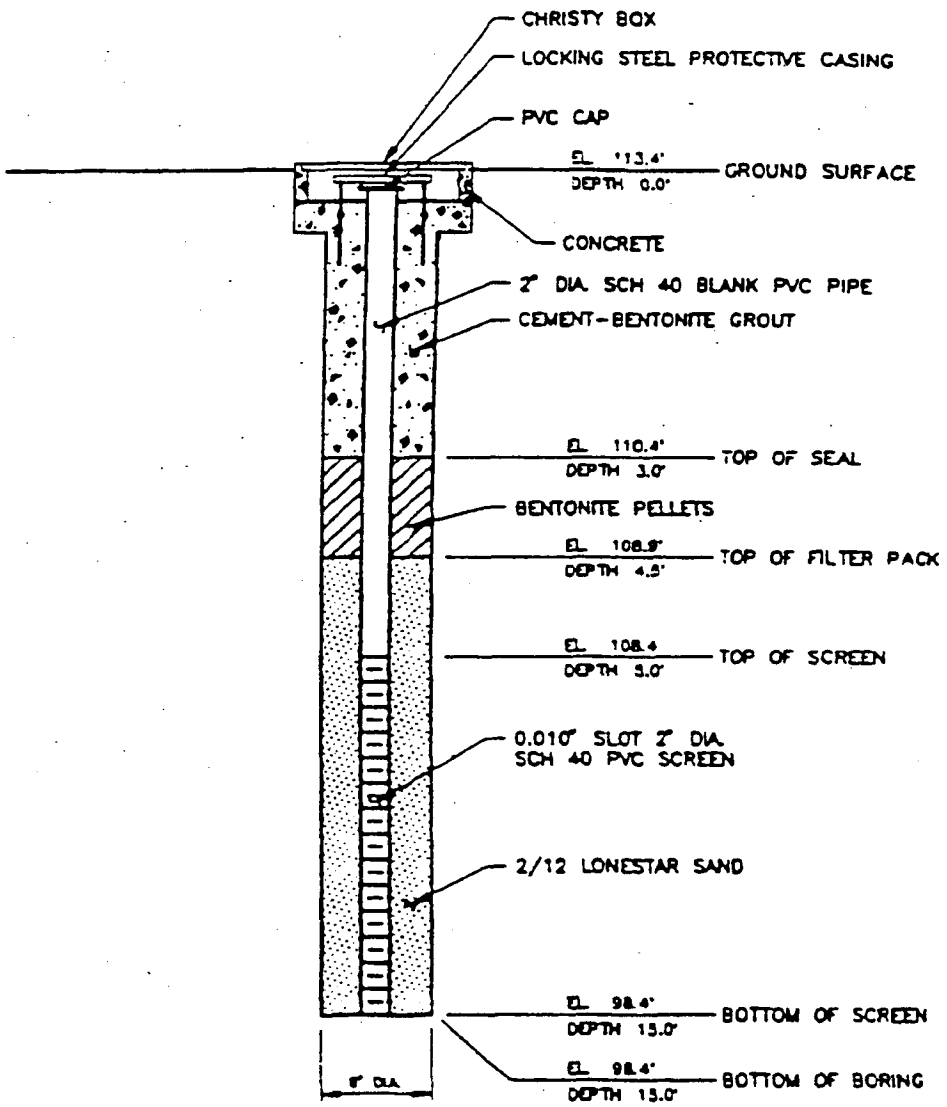
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION STORAGE AREA, BY EAST FENCE DATE 7-19-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MWOR-5
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southeast corner of storage yard SURFACE ELEV. 113.83 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	30	25	20	13	GP			0.5	Dense, dark brown, silty sandy gravel, moist, some silt. (Fill)	
	2	CS	2.0	3.5	8	10	10	0	GP					
5	3	CS	3.5	5.0	15	20	23	0	GP				(Between 2.5 to 7.0 feet, encountered abundant hard gravel.)	
	4	CS	5.0	6.5	23			0	GP				saturated below 6.5 feet.	x
	5	CS	6.5	8.0	9	5	3	6	GP				becomes less gravelly below 7.0 feet.	x
	6	CS	8.0	9.5	3	3	9	12	GP					x
10											Fill			x
	7	CS	9.5	11.0	8	10	15	18	GP			11.0	Dense, dark orange brown, clayey silty fine sand, saturated, some clay. (Merritt Sand).	x
	8	CS	11.0	12.5	14	12	20	18	SM		MS			x
	9	CS	12.5	14.0	9	15	20	18	SM					x
15	10	CS	14.0	15.5	8	15	25	13	SM					x
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Canonie

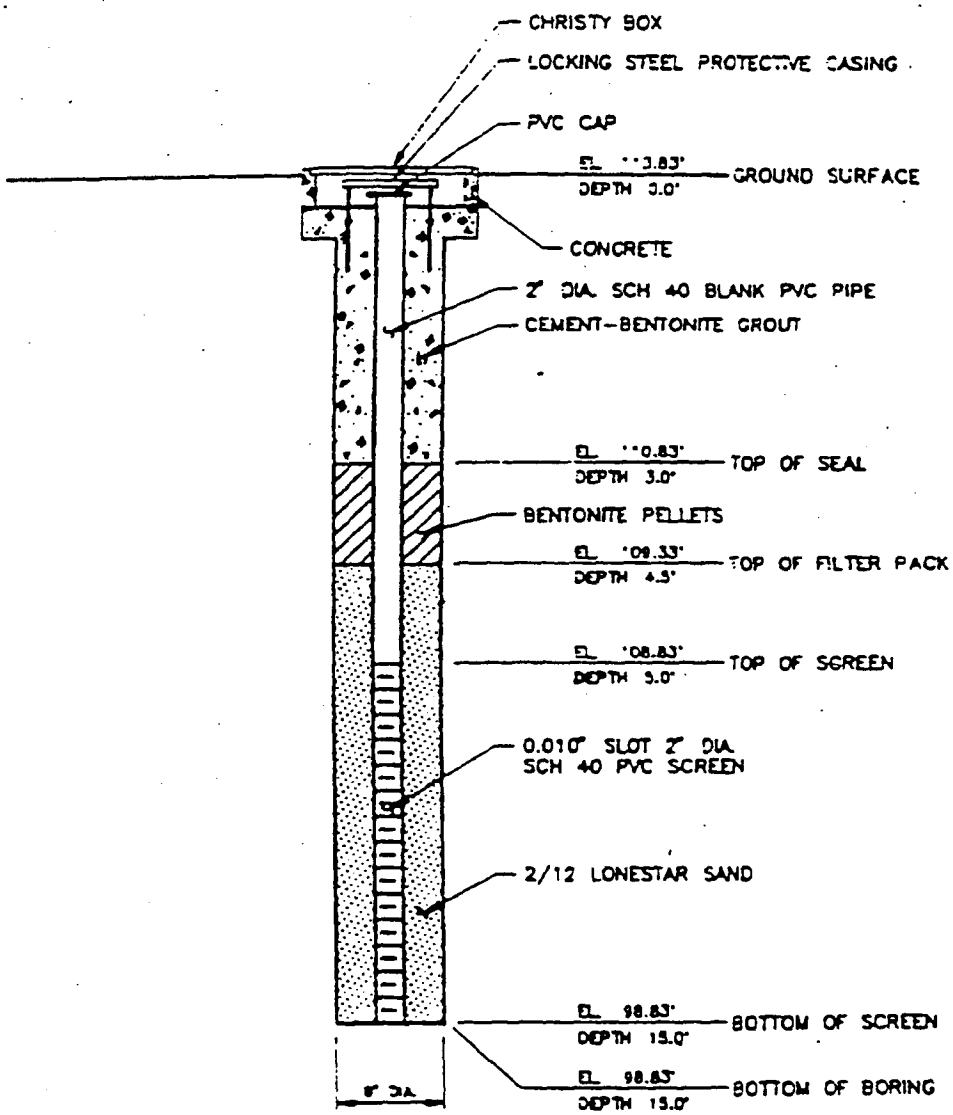
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-5

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION STORAGE AREA, SOUTHEAST CORNER BY FENCE DATE 7-19-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. BOR-6
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: In parking lot south of Building 360 SURFACE ELEV 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0"-6"	BLOW COUNT 6"-12"	BLOW COUNT 12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	ZONE
													Asphalt. (Fill)	
	1	CS	0.5	2.0	14	21	14	12	SM			1.0	Medium dense, light brown, silty fine sand, dry, no odor. (Fill)	
	2	CS	2.0	3.5	4	7	5	15	SM				dark brown, silty sand layer at 2.5 feet.	
5	3	CS	3.5	5.0	1	2	1	12	SM				becomes loose at 3.5 feet.	
	4	CS	5.0	6.5	1	1	1	18	SM				color change to brown at 3.5 feet.	
													becomes saturated below 5.0 feet.	
	5	CS	6.5	8.0	1	1	1	15	SM				trace of clay no odor.	
	6	CS	8.0	9.5	3	4	10	18	CL		Fill	8.0	Stiff, orange brown-mottled gray, sandy clay, saturated. (~~Merritt Sand~~)	
10														
	7	CS	9.5	11.0	9	10	11	18	CL			10.5	Dense, orange-brown mottled gray, clayey sand, saturated. (Merritt Sand)	
	8	CS	11.0	12.5	5	12	12	18	SC		MS		becomes more silty below 13 feet.	
	9	CS	12.5	14.0	5	10	13	18	SC					
15	10	CS	14.0	15.0	4	8		12	SC					
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-7
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: In parking lot south of Building 360 SURFACE ELEV. 1-14.4 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	CONTROL
													Asphalt. (Fill)	
	1	CS	0.5	2.0	9	11	8	12	SM			0.5	Medium dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	2.0	3.5	4	3	2	12	SM				color change to brown at 3.0 feet.	
5	3	CS	3.5	5.0	1	1	1	12	SM				saturated below 4.5 feet.	
	4	CS	5.0	6.5	1	1	1	18	SM		Fill			
	5	CS	6.5	8.0	1	2	5	18	SM-SC			7.5	Medium dense, orange brown mottled gray, clayey fine sand, saturated. (Merritt Sand)	
	6	CS	8.0	9.5	3	4	7	18	SC-CL		MS			
10														
	7	CS	9.5	11.0	7	9	10	18	CL				sandy clay layer between 9.0 and 9.5 feet.	
	8	CS	11.0	12.5	4	7	9	18	CL-SM			12.0	color change to brown at 11.0 feet.	
	9	CS	12.5	14.0	9	19	20	18	SM				Medium dense, orange brown, silty sand, saturated. (Merritt Sand)	
15	10	CS	14.0	15.0	4	9		12	SM			15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement, bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-8
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Building 397 by fence SURFACE ELEV. 114.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	DEPTH
	1	CS	0.0	1.5	3	6	9	15	SM				Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	3	7	8	15	SM					
	3	CS	3.0	4.5	5	4	6	17	SM					
5														
	4	CS	4.5	6.0	3	4	5	15	SM		Fill			
	5	CS	6.0	7.5	3	3	3	14	SM				becomes saturated at 6.0 feet.	
												6.8	Loose, gray, silty fine sand, saturated, some shells.	
	6	CS	7.5	9.0	2	2	2	15	SM		BS			
10	7	CS	9.0	10.5	2	2	3	17	CL			9.3	Soft, dark gray, silty clay, saturated, some iron oxide stains. (Bay Mud)	
	8	CS	10.5	12.0	3	2	1	18	CL					
	9	CS	12.0	13.5	14	21	25	16	SC			12.0	Dense, mottled gray, orange brown, clayey fine sand, saturated. (Merritt Sand)	
15	10	CS	13.5	15.0	10	15	20	9	SC		MS	15.0		
20														
25														
30														
35														
40														

Bottom of Boring at 15.0 feet.

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 2-10 ppm at 10.0 feet.
   b) 20-30 ppm at 11.0 feet.
   c) 30 ppm at 13.0 feet.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-9
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Off the southeast corner of Building 397 SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/13/90 FINISH 7/13/90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PID (ppm)
	1	CS	0.0	1.5	7	14	13	14	GM-SM				Medium dense, dark brown, silty gravel, dry. (Fill)	
	2	CS	1.5	3.0	8	11	13	13	SM			1.0	Medium dense, light brown, silty fine sand, moist. (Fill)	
	3	CS	3.0	4.5	5	4	5	13	SC		Fill			
5														
	4	CS	4.5	6.0	3	2	4	14	SM			4.5	Medium dense to dense, gray, clayey sand, saturated, some silt, strong odor (Fill)	
	5	CS	6.0	7.5	4	3	4	18	SM			6.0		
	6	CS	7.5	9.0	3	3	5	15	SM			8.5	Loose to medium dense, gray, silty sand, wet, some clay, strong odor. (Fill)	
10	7	CS	9.0	10.5	4	8	15	15	SM				Medium dense, black, silty sand, moist, trace of clay.	
	8	CS	10.5	12.0	3	11	14	15	SM		BS		color change to dark gray at 12.0 feet.	
	9	CS	12.0	13.5	12	17	18	18	SM				some discoloration (iron stains), pervasive odor.	
15	10	CS	13.5	15.0	14	15	15	18	SM		MS			
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 7.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement, bentonite grout upon completion of drilling.
5. OVA readings:
   a) 5 ppm at 4.5 feet.
   b) 100 ppm at 5.5 feet.
   c) 100-150 ppm at 7.5 feet.
   d) 200 ppm at 9.5 feet.
   e) 300 ppm at 12.0 feet.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-10
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Bldg. 397, east of Bldg. 169 SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LOAY ER	DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	14	18	20	13	SM					Dense, brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	8	20	15	14	SM						
	3	CS	3.0	4.5	9	9	10	15	SM					becomes medium dense below 3.0 feet.	
5															
	4	CS	4.5	6.0	3	7	10	13	SM					becomes saturated at 5.0 feet.	
	5	CS	6.0	7.5	4	8	5	14	SM					color change to brown gray at 6.8 feet.	
											Fill				
	6	CS	7.5	9.0	2	1	4	14	SM				8.0	Loose, gray, silty sand, saturated, with	
10	7	CS	9.0	10.5	1	1	3	18	SM-CL				9.8	some shells.	
											BS			Soft to medium stiff, dark gray, silty clay,	
	8	CS	10.5	12.0	1	3	6	16	CL					saturated. (Bay Mud)	
	9	CS	12.0	13.5	10	7	20	18	CL-SC				12.3	iron-stained at top of unit, organic	
													13.0	matter and soil discoloration at 12.0 feet.	
15	10	CS	13.5	15.0	16	21	25	15	SC		MS			Medium dense, dark green gray, clayey	
													15.0	sand, saturated, abundant oil stains,	
														strong odor.	
														Dense, orange brown clayey sand,	
														saturated. (Merritt Sand)	
20														Bottom of Boring at 15.0 feet.	
														Notes:	
25														1. Boring was advanced using 8-inch-diameter hollow stem augers.	
														2. Groundwater was encountered at 5.0 feet during drilling.	
30														3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
35														4. Boring was backfilled with cement/bentonite grout upon completion of drilling.	
40														5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 12.0 feet.	

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-11
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Corner of 10th Street and Avenue L SURFACE ELEV. 114.4 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	28	21	14	13	SM				Dense, light brown, silty sand, moist, trace of gravel. (Fill)	
	2	CS	1.5	3.0	9	11	12	13	SM					
	3	CS	3.0	4.5	3	5	4	15	SM					
5														
	4	CS	4.5	6.0	3	3	4	15	SM					
	5	CS	6.0	7.5	3	3	5	18	SM				saturated below 7.0 feet.	
	6	CS	7.5	9.0	5	2	2	15	SM		Fill		color change to gray brown at 8.0 feet.	
10	7	CS	9.0	10.5	1	1	1	15	SM-CL			10.0	some clay pockets below 9.0 feet.	
	8	CS	10.5	12.0	3	8	15	18	CL-SM		BS		Very soft, gray silty clay, saturated. (Bay Mud)	
	9	CS	12.0	13.5	3	18	11		SM			12.5	Medium dense, dark gray to brown, silty fine sand, saturated, trace of clay, some shells.	
15	10	CS	13.5	15.0	3	2	11		SM		MS	15.0	color change to brown at 14.0 feet.	
													Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 7.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 2 ppm at 1.5 feet.
   b) 2 ppm at 10.0 feet.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-12
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NW corner of Bldg. 530 along Avenue L SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	USCS
	1	CS	0.0	1.5	18	14	14	13	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	8	10	12	12	SM					
	3	CS	3.0	4.5	4	8	10	13	SM					
5														
	4	CS	4.5	6.0	6	6	7	14	SM				some shells at 5.0 feet.	
	5	CS	6.0	7.5	4	5	5	15	SM				saturated below 6 feet.	
											Fill			
	6	CS	7.5	9.0	5	2	3	12	SM				color change to light gray at 8.0 feet.	
10	7	CS	9.0	10.5	1	2	2	13	SM-CL					
											BS	9.5	Soft, gray, sandy silty clay, saturated.	
	8	CS	10.5	12.0	3	4	20	18	CL			10.5	some sand. (Bay Mud)	
	9	CS	12.0	13.5	13	23	14	18	SM			12.0	Stiff, dark gray to black, silty clay, saturated. (Bay Mud)	
											MS			
15	10	CS	13.5	15.0	3	20	25	14	SM				Dense, light orange brown, silty fine sand saturated, some clay. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 10 ppm at 1.5 feet.
   b) 0 ppm at 3.0 feet.
   c) 30-40 ppm at 10.5 feet. No odor noticed.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-13
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 10th Street and Avenue L SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	11	11	13	SM				Medium dense, dark brown, silty sand, dry, occasional rock fragments. (Fill)	
	2	CS	1.5	3.0	7	11	10	15	SP-SM			1.5	Medium dense, light brown, fine sand, moist. (Fill)	
	3	CS	3.0	4.5	3	8	7	15	SP-SM					
5														
	4	CS	4.5	6.0	3	6	4	15	SP-SM		Fill		becomes loose at 5.0 feet.	
	5	CS	6.0	7.5	1	2	1	15	CL			6.5	saturated below 5.5 feet.	
	6	CS	7.5	9.0	1	1	1	15	CL		BS		Soft, dark gray, silty sandy clay, some silt, iron stains at top of unit, saturated. (Bay Mud Dredge Spoils Fill)	
10	7	CS	9.0	10.5	35			6	CL				sampler refusal at 9.5 feet.	
	8	CS	10.5	12.0	6	15	17	15	CL-SC			11.5	Medium dense, mottled gray-orange brown, clayey fine sand, saturated. (Merritt Sand)	
	9	CS	12.0	13.5	9	9	10	6	SC		MS			
15	10	CS	13.5	15.0	8	10	8	18	SC				color change to brown at 12.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1701
BORING No. BOR-14 (OR-1)
LOGGED BY Bill Johnston

PROJECT NAME: NAS Alameda - Phase 1 Exploratory Borings
BORING LOCATION: Near NE Corner of Ave. K and 11th St. SURFACE ELEV. 114.3 feet
DRILLER: Beylik Drilling - Alex Bashta DATE: START 5/23/90 FINISH 5/23/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PENETROMETER
	1	CS	0.0	2.0	6	6	9	24	SP		Fill		Dense brown silty fine sand, moist	
					9									
	2	CS	2.0	4.0	7	6	9	18	SP					
					11							4.5	Medium stiff gray clayey silt, moist	
5	3	CS	4.0	6.0	2	2	1	12	SP		BS			
					1				ML			6.0	Medium dense brown clayey sand, saturated, some gray to black mottling at top of unit, slight odor. (Merritt Sand)	
	4	CS	6.0	8.0	P									
								18	SC		MS			
	5	CS	8.0	10.0	P									
10								18	SC					
	6	CS	10.0	12.0	P									
								24	CL					
	7	CS	12.0	14.0	P									
								24	CL				some interbedded sandy clay layers.	
15	8	CS	14.0	16.0	P									
								24	SC					
												16.0	Bottom of boring at 16.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Ground water was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.
6. P refers to the sampler being advanced downward by the weight of the drill stem.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-15
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Storage Yard East of 11th Street SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LOG DEPTH	SOIL DESCRIPTION AND REMARKS
	1	CS	0.0	1.5	25	25	15	12	SM				Dense, dark brown to brown, silty sand, moist, some gravel. (Fill)
	2	CS	1.5	3.0	11	12	16	12	SM				
	3	CS	3.0	4.5	10	15	8	14	SM				
5													trace of clay below 3.0 feet.
	4	CS	4.5	6.0	3	4	5	15	SM				color change to gray at 5.0 feet.
	5	CS	6.0	7.5	3	3	3	15	SM				saturated below 5.0 feet.
	6	CS	7.5	9.0	3	5	9	15	SM		Fill	8.0	Medium dense, dark gray brown, silty sand, saturated, trace of clay, strong oil petroleum odor. (Fill)
10	7	CS	9.0	10.5	4	4	4	15	SC			10.0	color change to gray at 10.0 feet.
	8	CS	10.5	12.0	7	9	15	18	SC		BS		Loose to medium dense, gray, clayey sand, saturated, strong petroleum odor.
	9	CS	12.0	13.5	13	18	20	18	SC			12.0	
15	10	CS	13.5	15.0	15	20	30	18	SC		MS	15.0	Very dense, mottled gray dark orange brown, clayey fine sand, saturated, some silt, strong odor and discoloration (Merritt Sand)
													Bottom of Boring at 15.0 feet.
20													Notes:
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.
													2. Groundwater was encountered at 5.0 feet during drilling.
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches
35													4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
40													5. OVA readings: a) 20 ppm at 7.5 feet. b) 100 ppm at 9.0 feet. c) 10 ppm at 12.0 feet.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-16
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Corner of Central and Pacific Avenues SURFACE ELEV. 113.3 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7/23/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	12	12	16	12	ML					Medium dense, dark brown, sandy silt, dry, some roots. (Fill)	
	2	CS	1.5	3.0	7	13	8	12	ML-SM				2.5	Medium dense, black to dark brown, silty fine sand, no odor, moist. (Fill) saturated below 4.0 feet.	
	3	CS	3.0	4.5	1	1	2	15	SM						
5	4	CS	4.5	6.0	2	2	2	15	SM				5.0	Loose, brown, silty fine sand, saturated. (Merritt Sand)	
	5	CS	6.0	7.5	3	3	4	18	SM		Fill				
	6	CS	7.5	9.0	5	15	10	15	CL-SC		MS		8.0	Stiff, mottled gray, orange brown, sandy clay, saturated. (Merritt Sand)	
10	7	CS	9.0	10.5	7	10	11	14	SC				9.0	Medium dense, mottled gray, orange brown, clayey fine sand, saturated. (Merritt Sand) with interbedded silty sand below 12.0 feet.	
	8	CS	10.5	12.0	4	7	9	18	SC						
	9	CS	12.0	13.5	5	12	13	15	SC						
15	10	CS	13.5	15.0	4	10	21	18	SC				15.0	Bottom of Boring at 15.0 feet.	
20															
25															
30															
35															
40															

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

CanonieEnvironmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-17
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 11th Street and Avenue L SURFACE ELEV. 114.8 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	20	15	10	12	SM					Medium dense, dark brown, silty sand, dry, some gravel. (Fill)	
	2	CS	1.5	3.0	10	7	8	12	SM				2.5	Medium dense, gray brown, silty fine sand, moist.	
	3	CS	3.0	4.5	5	6	5	14	SM		Fill			black oily discoloration and strong odor at 5.0 feet.	
5	4	CS	4.5	6.0	3	3	3	18	SM				5.0		
	5	CS	6.0	7.5	3	3	4	15	SM		MS			Medium dense, mottled orange-gray, silty sand, strong odor, occasional layers of clayey sand, moist. (Merritt Sand)	
	6	CS	7.5	9.0	6	7	10	18	SM					saturated below 6.0 feet.	
10	7	CS	9.0	10.5	10	10	17	15	SM					some clay of 7.5 feet.	
	8	CS	10.5	12.0	10	12	16	16	SM					trace of clay at 9.5 feet.	
	9	CS	12.0	13.5	10	15	15	18	SM					increased clay content at 10.0 feet, with gray-green discoloration and strong odor.	
15	10	CS	13.5	15.0	10	13	15	18	SM				15.0	Bottom of Boring at 15.0 feet.	
20															
25															
30															
35															
40															

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 20 to 40 ppm at 2.5 feet.
   b) 80 to 100 ppm at 7.5 feet.
   c) 200 to 300 ppm at 10.5 feet.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-18
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West side of Central Ave. SURFACE ELEV. 113.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7/23/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PHOTO
	1	CS	0.0	1.5	17	10	12	16	SC			0.3	Asphalt. (Fill)	
	2	CS	1.5	3.0	6	5	6	16	SC				Medium dense, mottled black dark gray clayey fine sand, moist, some silt. (Fill)	
	3	CS	3.0	4.5	2	1	1	16	SM			3.0	Very loose, gray, silty fine sand, wet, saturated below 3.5 feet.	
5	4	CS	4.5	6.0	1	1	2	14	SM		Fill	5.0	Loose, gray brown, silty fine sand, saturated, trace of gravel. (Fill)	
	5	CS	6.0	7.5	4	3	4	18	SM					
	6	CS	7.5	9.0	2	6	14	18	SC			7.5	Medium dense, mottled gray orange brown, clayey fine sand, saturated. (Merritt Sand)	
10	7	CS	9.0	10.5	11	10	11	18	SC		MS			
	8	CS	10.5	12.0	4	15	18	18	SC					
	9	CS	12.0	13.5	16	15	12	18	SC				decreased clay content, increased silt content, becomes soupy at 13.5 feet.	
15	10	CS	13.5	15.0	6	8	11	15	SC					
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 3.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 2 to 5 ppm at 1.0 feet.
   b) 2 to 4 ppm at 2.5 feet.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-19
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NW corner of 11th Street and Avenue L SURFACE ELEV. 113.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6" 6"	6" 12" 12"	12" 18" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	41	25	27	12	SM				Very dense, light brown, silty fine sand, moist, slight odor. (Fill)	
	2	CS	1.5	3.0	8	12	17	13	SM					
	3	CS	3.0	4.5	8	10	11	15	SM				color change to gray at 3.5 feet.	
5														
	4	CS	4.5	6.0	7	7	15	13	SC			5.0	Medium dense, mottled orange green, clayey fine sand, moist, strong odor. (Merritt Sand)	
	5	CS	6.0	7.5	8	12	23	14	SC			6.5		
	6	CS	7.5	9.0	17	21	25	15	SC				Dense, mottled orange gray green, clayey sand, moist.	
10	7	CS	9.0	10.5	10	15	15	15	SC		Fill			
	8	CS	10.5	12.0	10	11	15	15	SC-SM		BS	11.0	Medium dense, gray green, silty fine sand, saturated, some clay.	
	9	CS	12.0	13.5	10	10	10	15	SM				change to trace of clay at 13.5 feet.	
15	10	CS	13.5	15.0	8	12	9	15	SM					
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 11.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 50 ppm at 3.5 feet.
   b) 80 to 100 ppm at 6.0 feet.
   c) 30 ppm at 9.0 feet.
   d) 50 ppm at 10.5 feet.

Canonie Environmental

PROJECT No. 86-018-1804
BORING No. BOR-20
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Avenue L west of Bldg. 530 SURFACE ELEV 114.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PENETROMETER
													Asphalt. (Fill)	
	1	CS	0.5	2.0	15	12	13	15	GP-SM			0.5	Medium dense, brown, silty sandy gravel, dry. (Fill)	
	2	CS	2.0	3.5	9	9	11	15	SM			1.0	Medium dense, light brown, silty fine sand, moist. (Fill)	
5	3	CS	3.5	5.0	6	8	8	15	SM				saturated below 5.0 feet.	
	4	CS	5.0	6.5	5	5	5	18	SM					
	5	CS	6.5	8.0	3	3	2	12	SM				color change to brown at 8.0 feet. (native soil approximately below 8.0 feet)	
	6	CS	8.0	9.5	4	4	4	7	SM					
10														
	7	CS	9.5	11.0	2	1	2	12	SM					
	8	CS	11.0	12.5	2	1	3	13	SM		Fill			
	9	CS	12.5	14.0	1	1	1	12	SM					
15	10	CS	14.0	15.5	2	2	1	12	SM			14.0	Loose, dark gray, silty sand, saturated some shells.	
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 10 ppm at 15.0 feet.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-21
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Storage yard (near NE corner of Bldg. 530) SURFACE ELEV. 113.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
													Asphalt. (Fill)
	1	CS	0.5	2.0	15	21	22	12	SM			0.5	Dense, light brown, silty fine sand, moist, trace of shells.
	2	CS	2.0	3.5	11	22	18	13	SM				
5	3	CS	3.5	5.0	15	25	25	14	SM				
	4	CS	5.0	6.5	12	16	15	14	SM				saturated below 5.5 feet.
	5	CS	6.5	8.0	7	7	17	14	SM				
	6	CS	8.0	9.5	5	6	10	15	SM				
10											Fill		
	7	CS	9.5	11.0	4	2	3	7	SM				some shells below 10.0 feet.
	8	CS	11.0	12.5	12	14	21	15	SM		MS	11.5	Dense, mottled gray orange brown, silty fine sand, saturated, trace of clay. (Merritt Sand)
	9	CS	12.5	14.0	10	20	30	18	SM				
15	10	CS	14.0	15.5	15	15	15	13	SM				
												15.5	Bottom of Boring at 15.5 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 2 ppm at 9.5 feet.
   b) 2 ppm at 13.5 feet.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-22
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 530 in parking lot SURFACE ELEV. 114.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7-23-90

DEPTH	SAMPLE No	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
	1	CS	0.0	1.5	4	10	11	13	SM			0.3	Asphalt. (Fill)
	2	CS	1.5	3.0	7	22	25	17	SM				Medium dense to dense, light brown, silty fine sand, moist. (Fill)
	3	CS	3.0	4.5	10	10	12	12	SM				shells at 2.0 feet.
5	4	CS	4.5	6.0	7	16	18	14	SM				saturated below 5.3 feet.
	5	CS	6.0	7.5	12	11	12	15	SM				
	6	CS	7.5	9.0	5	5	9	16	SM			8.0	Medium dense, gray brown, silty fine sand saturated, some shells.
10	7	CS	9.0	10.5	4	6	5	15	SM		Fill		
	8	CS	10.5	12.0	3	1	1	16	SM-CL		BS	11.0	Very soft, dark gray, silty clay, saturated. (Bay Mud)
	9	CS	12.0	13.5	8	22	24	18	SM		MS	12.5	Dense, light orange brown-mottled gray green, clayey silty sand, sulphur type odor, saturated. (Merritt Sand)
15	10	CS	13.5	15.0	10	20	12	14	SM			15.0	Bottom of Boring at 15.0 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.3 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement-bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-23
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 530 in parking lot SURFACE ELEV. 113.2 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/20/90 FINISH 7/20/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS
												0.3		Asphalt. (Fill)
	1	CS	0.5	2.0	15	20	30	15	SM					Very dense, light brown, silty fine sand moist. (Fill)
	2	CS	2.0	3.5	10	18	16	14	SM					rock fragments between 2.5 and 4.0 feet
5	3	CS	3.5	5.0	7	11	18	18	SM					shells below 4.0 feet.
	4	CS	5.0	6.5	10	30	35	15	SM					saturated below 6.0 feet.
	5	CS	6.5	8.0	10	15	25	7	SM		Fill			
	6	CS	8.0	9.5	10	15	11	12	SM			9.0		Medium dense, gray silty sand, saturated.
10														
	7	CS	9.5	11.0	8	9	5	13	SM					
	8	CS	11.0	12.5	2	3	18	18	CL-SM		BS	11.0		Medium dense, black, silty sandy clay, saturated. (Bay Mud)
											MS	12.0		Medium dense, light orange brown silty fine sand, saturated.
	9	CS	12.5	14.0	5	15	10	12	SM					
15	10	CS	14.0	15.5	12	13	14	18	SM			15.5		clayey sand layer between 12.0 and 12.5 feet.
														some clay below 13.0 feet.
														Bottom of Boring at 15.5 feet.
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement bentonite grout upon completion of drilling.
5. OVA readings:
   a) 2 ppm at 9.0 feet

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-24
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: W side of Central Ave. inside storage yard SURFACE ELEV. 113.8 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
												0.3	Asphalt (Fill)
	1	CS	0.5	2.0	22	15	20	8	SM				Dense, brown, silty fine sand. (Fill)
	2	CS	2.0	3.5	8	9	12	13	SM				some granite gravel at 1.5 feet. becomes medium dense at 2.0 feet.
5	3	CS	3.5	5.0	3	4	4	16	SM				becomes loose at 3.5 feet.
	4	CS	5.0	6.5	3	3	3	16	SM-SC		Fill	6.0	Loose, mottled orange brown and gray, clayey fine sand, saturated, abundant iron stains. (Merritt Sand)
	5	CS	6.5	8.0	3	4	5	14	SC		MS		
	6	CS	8.0	9.5	14	12	14	17	SC				
10													
	7	CS	9.5	11.0	8	8	8	17	SC				
	8	CS	11.0	12.5	3	9	16	18	SC-SM			12.0	Medium dense, orange brown, silty sand, saturated, trace of clay. (Merritt Sand)
	9	CS	12.5	14.0	3	9	16	15	SM				
15	10	CS	14.0	15.5	12	9	10	18	SM				
												15.5	Bottom of Boring at 15.5 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-25
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: SE of Building 530, W of Cans C2 Area SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/20/90 FINISH 7/20/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	21	24	27	14	SM			0.3	Asphalt. (Fill)	
													Dense, yellowish light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	12	17	18	14	SM					
	3	CS	3.0	4.5	8	12	10	16	SM					
5														
	4	CS	4.5	6.0	10	20	15	18	SM			4.5	Dense, light brown, silty fine sand, moist. with seashell fragments. saturated below 5.5 feet.	
	5	CS	6.0	7.5	10	20	15	15	SM		Fill			
	6	CS	7.5	9.0	10	15	20	15	SM			8.0	Dense, gray, silty fine sand, saturated. becomes medium dense at 9.0 feet.	
10	7	CS	9.0	10.5	6	12	15	16	SM		BS			
	8	CS	10.5	12.0	2	3	5	15	SM				becomes loose at 10.5 feet.	
	9	CS	12.0	13.5	2	3	4	15	SM				color change to dark gray at 13.0 feet	
15	10	CS	13.5	15.0	3	5	6	14	SM		NS	13.5	Loose, orange brown mottled with gray. silty fine sand, saturated. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

CanonieEnvironmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-26
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: S of storage yard, N of Cans C2 Area SURFACE ELEV. 113.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	USE ZO
													Asphalt/steel grate runway	
	1	CS	0.5	2.0	14	11	11	15	SM			0.5	Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	12	14	11	14	SM				lenses of clay and gravel from 2.5 to 3.5 feet.	
5	3	CS	3.5	5.0	7	14	12	16	SM		Fill			
	4	CS	5.0	6.5	5	6	8	15	SM			5.5	Loose, gray, silty fine sand, saturated.	
	5	CS	6.5	8.0	2	3	5	15	SM		BS			
	6	CS	8.0	9.5	2	3	4	16	SM					
10														
	7	CS	9.5	11.0	2	4	3	14	SM					
	8	CS	11.0	12.5	2	1	2	18	SM-SC			12.0	Loose, dark gray, clayey sand, saturated, with pockets of silty clay.	
	9	CS	12.5	14.0	8	10	11	18	SM			12.5	Medium dense, black to dark gray, silty sand, saturated, some clay, some shells.	
15	10	CS	14.0	15.5	7	12	12	7	SM			15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

N00236.002017
ALAMEDA POINT
SSIC NO. 5090.3

APPENDIX B – SOIL BORING AND CONE PENETROMETER LOGS

PROJECT No. 86-018-1804
SOIL BORING LOG No. BOR-27

AS PER RPM, THIS LOG CANNOT BE RECOVERED.

FINAL REMEDIAL INVESTIGATION REPORT
SITES 9, 13, 19, 22, AND 23
OPERABLE UNIT 2A (OU-2A)

QUESTIONS MAY BE DIRECTED TO:

DIANE C. SILVA
RECORDS MANAGEMENT SPECIALIST
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 532-3676

'AMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
5 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

ING/WELL NUMBER IHF-01 CLIENT PRC/US NAVY
E STARTED 7/19/91 COMPLETED 7/19/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
/ATION 0 FEET GEOLOGIST KAREN KRAMER

Feet	SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	40	0		SM	silty SAND (SM), olive brown (2.5Y 4/4), loose, dry, fine sand, 15 to 20% fines, high estimated K	field pH=7
			49			SP	SAND (SP), light yellowish brown (2.5Y 6/4), dense, damp, fine sand, trace fines, high estimated K	field pH=7
			43	2.4				
			19					
		CHEM	19			CL SC	CLAY (CL) and clayey SAND (SC), olive (5Y 4/3), stiff, moist/damp, fine sand, 50 to 90% fines, low estimated K	field pH=5
			29	2.4				
			2			CL	CLAY (CL), as above, isolated pockets of sand (SP), sandy areas are oxidized and have some roots	
			3					
		CHEM	4	4.1			CLAY (CL), as above, with pockets of clayey sand (SC), moist, thin, black layer (organics or HC)	field pH=7
			3					
			3					
			4	4.1				field pH=7
		CHEM	6			SC CL	clayey SAND (SC) and CLAY (CL), olive (5Y 4/3), soft, moist, fine sand, 30 to 40% fines, moderate estimated K, sand zones were saturated	
			2					field pH=7
			2	4.1				DEPTH TO WATER=7 feet
			6			SM	@ 7.5 feet-as above, HC odor, oily sheen	
		CHEM	23					
			32	255			@ 8.5 to 9 feet-coke/tar, black, oily, wood common throughout	field pH=4
			40					
		CHEM	50/5"	62			silty SAND (SM), pale olive (5Y 6/3), dense, damp, very fine to fine sand, 30 to 35% fines, moderate estimated K, contains coke fragments	field pH=6.5
							TOTAL DEPTH 10 feet	

LING METHOD/RIG TYPE AUGER/MOBILE B-30 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
DIAMETER 2.25 INCHES BIT TYPE HOLLOW STEM AUGER
L DEPTH OF BORING 10 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER IMF-02 CLIENT PRC/US NAVY
DATE STARTED 7/18/91 COMPLETED 7/18/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2778.0312
ELEVATION 0 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PIC	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	4	0		SP	SAND (SP), light yellowish brown (2.5Y 6/4), dry, fine to medium sand, trace fines, shell fragments common, high estimated K	field pH=7
			8					
			14	0.2				field pH=6
			4				@ 1.5 feet-as above except medium dense and moist	
2		CHEM	17					
			22	0.4				field pH=8
			12				@ 3 feet-strong HC odor, wet	DEPTH TO WATER=3 feet
			14					
4		CHEM	21	0.4		SC	clayey SAND (SC), olive, medium dense, wet, 30 to 35% clay, fine sand, high estimated K	field pH=7
			12					
			14				@ 4.5 feet-floating product, clayey SAND (SC), dark olive brown (2.5Y 3/3), 30 to 35% fines, fine sand, high estimated K, strong odor.	field pH=6
			41	0.6				
		CHEM	28				@ 6 to 7 feet-appears to be ash, black (N2/) or very silty fine sand	
			42					field pH=5
			50/5"	0.4			clayey SAND (SC), light olive brown (2.5Y 5/6), very dense, moist, 30 to 40% fines, fine sand, moderate K	
			37					
8		CHEM	50/4"				@ 7.5 feet-as above except olive yellow (2.5Y 6/6), moist, no odor	
			25	0.4				field pH=5
			45					field pH=5
		CHEM	50/5"	0.4				
10								
			38					
			50/5"				@ 11 feet-as above	
							TOTAL DEPTH 11.5 feet	
12								
14								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 11.5 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER IMF-03
DATE STARTED 7/18/91 COMPLETED 7/18/91
ELEVATION 0 FEET

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2739.[illegible]
GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	7			SP	SAND (SP), light yellowish brown (2.5Y 6/2), loose, dry, 5 to 10% fines, fine to medium sand, high estimated K, shell fragments common	field pH=7
			13					
			20					
			13				@ 1.5 feet-as above, except light olive brown (2.5Y 5/4), moist, medium dense	
2		CHEM	28					field pH=6
			29					
			7			SM	silty SAND (SM), dark olive (5Y 3/6), medium dense, moist, 30 to 40% fines, very fine to fine sand, oily, strong HC odor, moderate estimated K	
			11					field pH=5
4		CHEM	15				@ 4 feet-as above, but 10 to 20% fines	
			5				@ 4.5 feet-color change to olive (5Y 4/4), higher percent of fines, contains wood fragments	! DEPTH TO WATER=4.5 feet
			8					
			13					field pH=5
6		CHEM	7					
			17			SC	clayey sand (SC), olive (5Y 4/4), dense, moist, 30 to 40% fines, fine sand, low estimated K	field pH=5
			50/5"					
			18					
8		CHEM	40				@ 8 feet-color change to olive gray, strong odor	field pH=4
			50/5"					
			31					
		CHEM	50/4"					field pH=4
10							@ 10.5 feet-Fe staining on sample	
							TOTAL DEPTH 10.5 feet	
12								
14								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
HOLE DIAMETER 8.25 INCHES
TOTAL DEPTH OF BORING 10.5 FEET

DRILLING CONTRACTOR EXPLORATION GEOSERVICES
BIT TYPE HOLLOW STEM AUGER
DRILLER DAVE RYAN

AMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
1 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

NG/WELL NUMBER IMF-04 CLIENT PRC/US NAVY
STARTED 7/18/91 COMPLETED 7/18/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2228.03
ATION 0 FEET GEOLOGIST KAREN KRAMER

SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	CHEM	13			SP	SAND (SP), light olive brown (2.5Y 6/4), dense, dry, 5 to 10% fines, fine sand, high estimated K, shell fragments	field pH=11
		22					
		24				@ 0.5 feet-as above, moist, trace fines, no shell fragments	field pH=6
		14					
	CHEM	16					
		18					field pH=8
		1					
		6			SC CL	clayey SAND (SC) and CLAY (CL), olive, mottled with light olive brown, Fe-staining throughout	field pH=7
	CHEM	6			CL	CLAY (CL), olive (5Y4/3), stiff, moist, 100% fines, low estimated K, H2S odor, contains asphalt pieces	
		8					field pH=1
		4				sandy CLAY (CL), olive (5Y 4/3), stiff, moist, 50 to 60% fines, fine sand, low to moderate K, sand occurs in layers, contains oily black coke at 5 feet	field pH=7
		5					
	CHEM	2					
		3					field pH=6
		7					
		6				silty CLAY (CL), olive (5Y 4/3), stiff, moist, contains pieces of cardboard, HC odor	
	CHEM	50/1"					field pH=3
		50				@ 9 to 10 feet-silty SAND, black, very dense, moist, 30 to 40% fines, fine sand, moderate estimated K, contains coke fragments	field pH=6
	CHEM	30					
						TOTAL DEPTH 10 feet	

LLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
E DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
AL DEPTH OF BORING 10 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 · (415) 975-3400

BORING/WELL NUMBER IMF-05 CLIENT PRC/US NAVY
DATE STARTED 7/19/91 COMPLETED 7/19/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
ELEVATION 0 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SP	gravelly SAND (SP), olive brown (2.5Y 4/4), dry, 5 to 10% fines, fine sand, 10 to 15% gravel, moderate to high estimated K	field pH=7
		CHEM	30					field pH=5
			46	2.4			SAND (SP), light olive brown (2.5Y 5/4), dense, moist, trace fines, fine sand, high estimated K, contains shell fragments and fish scales	field pH=6
			29					
2		CHEM	44				@ 2 feet-as above, moist and 5 to 10% fines	
			50	4.1				field pH=7
			25					
			32					
4		CHEM	36	5.8				field pH=7
			18				@ 4.5 feet-as above, wet	
			32					
			40					DEPTH TO WATER=5.5 feet
6		CHEM	17	7.4		SM	silty SAND (SM), light olive brown (2.5Y 5/4), dense, wet, 15 to 20% fines, fine sand, high estimated K	
			21					field pH=6
			23	5.8			@ 7 feet-gradational color change to olive (5Y 4/3), dense, wet, shell fragments and rocks common	
			11			CL SC		field pH=10
8		CHEM	5				CLAY (CL) and clayey SAND (SC), olive (5Y 4/3), medium stiff, moist to wet, 50 to 100% fines, low to moderate estimated K	
			4	2.4				field pH=8
			4			CL	@ 9 to 9.5 feet-CLAY (CL), as above	
			6			SC CL	clayey SAND (SC) and CLAY (CL), color as above, SC contains 50 to 60% fine sand	
10		CHEM	50/4"	10				field pH=7
							TOTAL DEPTH 10.5 feet	
12								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 10.5 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER IMF-06 CLIENT PRC/US NAVY
DATE STARTED 7/19/91 COMPLETED 7/19/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/273B 0312
ELEVATION 0 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	13			SW	gravelly SAND (SW), olive brown (2.5Y 4/3), dense, dry, 10 to 15% fines, fine sand, 15 to 20% gravel, high estimated K	field pH=11
			20			SP		
			27	9.1			SAND (SP), light yellowish brown (2.5Y 6/4), medium dense, moist, 5 to 10% fines, fine sand, high estimated K	field pH=9
			17					
2		CHEM	20					field pH=7
			23	7.4				
			9					! DEPTH TO WATER=3 feet
			32				@ 3.5 feet-contains coke, sand is black with strong HC odor	
4		CHEM	33	138				field pH=1
			10			SC	clayey SAND (SC), dark olive (5Y 4/3), medium dense, wet, 25 to 30% fines, fine sand, moderate estimated K	
			13					
			13	92				field pH=5
6		CHEM	10					
			15					
			40	5.8			clayey SAND (SC), olive yellow (2.5Y 6/8), very dense, moist, 30 to 40% fines, fine sand, low K	field pH=5
			44				@ 7.5 feet-as above, oily areas	
8		CHEM	50/4"	438				field pH=5
		CHEM	40	541			@ 9.5 feet-as above, moist to wet	field pH=4
							TOTAL DEPTH 9.5 feet	
10								
12								
14								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-80 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 9.5 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER IMF-07 CLIENT PRC/US NAVY
DATE STARTED 7/19/91 COMPLETED 7/19/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0[illegible]
ELEVATION 0 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6 in	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	15	2.4		SP	SAND (SP), light yellowish brown (2.5Y 6/4), dense, moist, 10 to 15% fines, fine sand, high estimated K	field pH=7
			20					
			33	4.1				field pH=7
			14					
2		CHEM	26					
			20					DEPTH TO WATER=2.5 feet
			10				@ 3 feet-as above, saturated	
			10	4.1				field pH=7
4		CHEM	10					
			14	4.1		SM	silty SAND (SM), dark olive brown (2.5Y 3/3), dense, wet, 20 to 30% fines, fine sand, high estimated K, saturated with oil	field pH=7
			42					
			50	728				field pH=6
6		CHEM	32					
			50/5"	140			@ 6.5 feet-as above, saturated with oil, tar and coke throughout	field pH=6
			34					
8		CHEM	50/5"	293				field pH=5
			13	1149		SC	clayey SAND (SC), olive, 20 to 30% fines	
			32					
10		CHEM	50/3"					field pH=4
							TOTAL DEPTH 10.5 feet	
12								
14								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 10.5 FEET DRILLER DAVE RYAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER IMF-08 CLIENT PRC/US NAVY
DATE STARTED 7/19/91 COMPLETED 7/19/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.031
ELEVATION 0 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	30			SW	gravelly SAND (SW), olive brown (2.5Y4/4), dense, moist, 10 to 15% fines, 15 to 20% gravel, fine sand, high estimated K	field pH=7
			40					
			50	7.4		SP	SAND (SP), light olive brown (2.5Y 5/4), dense, moist, trace fines, fine sand, high estimated K	field pH=7
			42					
2		CHEM	50					
			50/4"	5.8				field pH=7
			36					
			34				@ 3.5 feet-wet, moist	
4		CHEM	39	4.1				field pH=7
			24					
			24			CL	@ 5 feet-grades into a sandy CLAY (CL)	
			14	10			sandy CLAY (CL), light olive brown (2.5Y 5/4), dense, moist to wet, 60 to 90% fines, 10 to 40% fine sand, moderate estimated K	DEPTH TO WATER=5.5 feet
6		CHEM	1					
			2				silty CLAY (CL), olive (5Y 4/3), soft, moist, 80 to 100% fines, trace fine sand, low estimated K	field pH=7
			2	9.1				
			2			CL SC	silty CLAY (CL) and clayey SAND (SC), olive (5Y 4/3), CL contains 80 to 100% fines, trace fine sand, SC contains 20 to 30% fines, 70 to 80% fine sand	field pH=7
8		CHEM	3					
			3					field pH=7
			2				@ 9 feet-as above	
			3					
10		CHEM	3	2.4				field pH=7
							TOTAL DEPTH 10.5 feet	
12								
14								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 10.5 FEET DRILLER DAVE RYAN

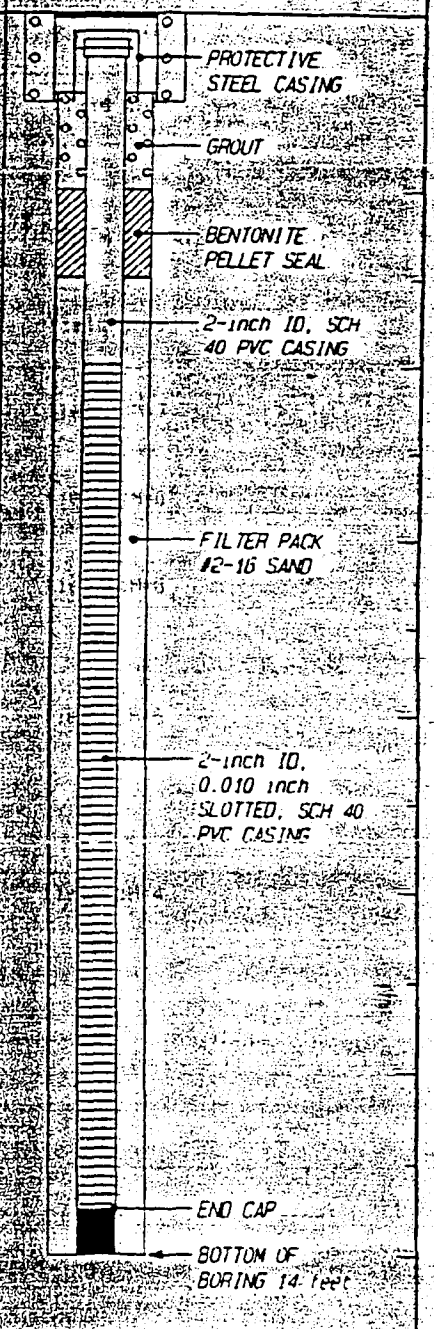
JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER MIMF-01 CLIENT PRC/US NAVY
DATE STARTED 7/23/91 COMPLETED 7/23/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
REF. ELEVATION 0 FEET, TOP OF CASING GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS 6"	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							No samples collected, see log of Borings IMF-01 and IMF-04.
2							
4							
8							
10							TOTAL DEPTH 10.5 feet
12							
14							

WELL DIAGRAM



DRILLING METHOD/RIG TYPE AUGER/CME 750 DRILLING CONTRACTOR/DRILLER WEXP GEOSER/DAVE RYAN
HOLE DIAMETER 8.25 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 14 FEET WELL COMPLETION DEPTH 14 FEET

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-IMF-09 CLIENT PRC/US NAVY
DATE STARTED 4/3/92 COMPLETED 4/3/92 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
ELEVATION 0 FEET GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SP	SAND (SP), brown, medium dense, moist, 5-10% fines, fine sand, high estimated K	
			6					
1			5					
			9				@ 1.4 feet-black tar-like substance (2.5 inch layer), strong hydrocarbon odor, vitreous luster	
2			4				@ 2.2 feet-black tar-like substance (2 inch layer), strong hydrocarbon odor, vitreous luster	Water level 2.25 feet on 4/3/92
			10					
3			15					
			3				@ 3.5 feet-color change to black (saturated with oil), abundant wood fragments, strong hydrocarbon odor, vitrified	
4			6					
			12					
5								
6							Hydropunch sample from 5.5 to 6 feet	
7								
8								
9								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-53 DRILLING CONTRACTOR GREGG DRILLING
HOLE DIAMETER 6.5 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 6 FEET DRILLER RICHARD HERMAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-IMF-10
DATE STARTED 4/3/92 COMPLETED 4/3/92
ELEVATION 0 FEET
CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SW	SAND (SW), medium grained, 10% fines, loose, damp at 1 foot, wood fragments and black petroleum material at 1.5 feet	
			5					
1			5					
			5					
2			4				SAND (SW), as above, oily at 2 feet, shell fragments	
			10					
3			20				SAND (SW), oil soaked, contains fragments of black tar-like substance, similar to asphalt	
			9					
4			4				@ 4 feet-oil soaked sand with vitrified fragments of tar-like substance	
			20					
5			9				@ 5 feet-oil soaked sand with wood fragments	
			4					
6								
			10					
7			14			SC	clayey SAND (SC), white-gray, dense, moist, 30% fines, fine sand, low to moderate estimated K	
			45					
8							Hydropunch sample at 8 feet	
9								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-53
HOLE DIAMETER 6.5 INCHES
TOTAL DEPTH OF BORING 8.0 FEET
DRILLING CONTRACTOR GREGG DRILLING
BIT TYPE HOLLOW STEM AUGER
DRILLER RICHARD HERMAN

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-IMF-11 CLIENT PRC/US NAVY
DATE STARTED 4/3/92 COMPLETED 4/3/92 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
ELEVATION 0 FEET GEOLOGIST DONNA COURINGTON

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SP	SAND (SP), brown, 15% fines, FeO2 staining, black vitreous material @ 1.5 feet	
1								
			6				SAND (SP), as above, lower 3 inches is black, dense, dry, coal-like material, hard, strong hydrocarbon odor	
2			20					
			40					
3			12					
			13				@ 3.5 feet-entire sampler is black, coal-like, oily and damp in lower 1 foot	
4			20					
			4					
5			9				@ 5 feet-asphalt, sticky black oil with sand and brick fragments, wood, lower 6 inches is oily SP as above	
			12					
6							@ 6 feet-upper 6 inches is oily asphalt, sticky, with sand and gravel, lower 12 inches is SM to SC, moist, red-brown, oily, strong odor	
7								
8							Hydropunch sample driven from 8 to 9 feet, no groundwater sample recovered	
9								

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-53 DRILLING CONTRACTOR GREGG DRILLING
HOLE DIAMETER 6.5 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 8.0 FEET DRILLER RICHARD HERMAN

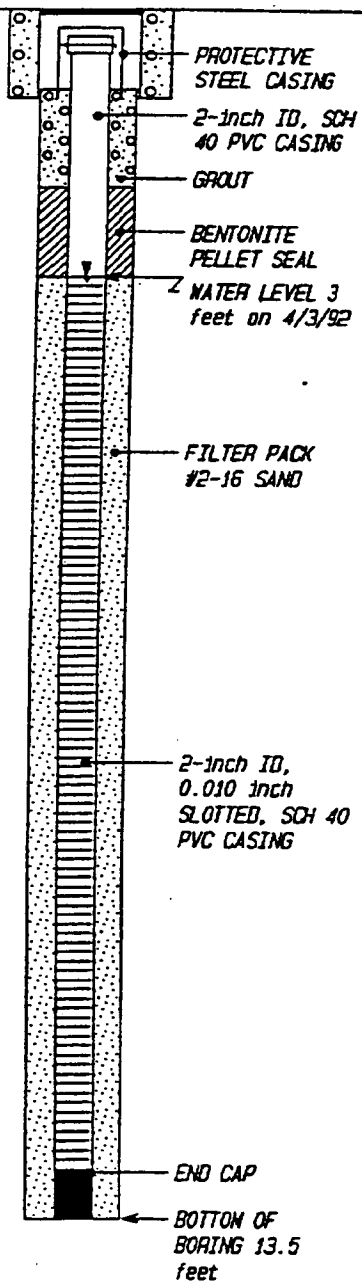
JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER M-IMF-02
DATE STARTED 4/3/92 COMPLETED 4/3/92
REF. ELEVATION 0 FEET, TOP OF CASING

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0312
GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SP	SAND (SP), brown, medium dense, moist, 5% fines, fine sand, trace oyster shell fragments
1			13				
			6				
2			9				
			11				SAND (SP), brown, medium dense, wet, 5% fines, fine sand, trace oyster shell fragments
3			2				
			2			CL	CLAY (CL), gray, soft, wet, trace fine sand, trace plant debris, low estimated K
4			26			SP	@ 4 feet-vitrified tar-like substance mixed with wood fragments
			8				
5			12				
			16				@ 5.5 feet-vitrified material interspersed with SP, 6 inch fragments of white pulp-like material (possibly paper or insulation)
6			6				
			30			SC	@ 5.8 feet-2 inch wood fragment
7			30				clayey SAND (SC), tan-white, moist, 25% fine sand, low estimated K
			10				clayey SAND (SC), mottled gray-brown, wet, moderate estimated K, iron staining, oily patches, hydrocarbon odor
8			20				
			21				
9			5				
			10				
10			11				
			8				
11			20				
			24				
12			8				@ 12 feet-as above
			20				
13			24				
							TOTAL DEPTH 13.5 feet

WELL DIAGRAM



DRILLING METHOD/RIG TYPE AUGER/MOBILE B-53
HOLE DIAMETER 6.5 INCHES
TOTAL DEPTH OF BORING 13.5 FEET

DRILLING CONTRACTOR/DRILLER GREGG DRILLING/R. HERMAN
BIT TYPE HOLLOW STEM AUGER
WELL COMPLETION DEPTH 13.5 FEET

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING BB-28

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								2 inches asphalt over sand and gravel base
	CHEMICAL	28Ø-S13-ØØ1	2	36			FILL SP	Sand (SP), very dark gray (N3/), fine sand, dense, moist, trace gravel
	CHEMICAL	28Ø-S13-ØØ2	11Ø	32				Same as above
5	CHEMICAL DUPE	28Ø-S13-ØØ3 28Ø-S13-1Ø6	45Ø	22			SP-SM	Sand with silt (SP-SM), greenish gray (5BG4/1), 90-95% very fine to fine sand, 5-10% silt, medium dense, very moist to wet, trace root pores, trace wood, odor
10								TD = 8 feet bgs Borehole abandoned as follows: 8.Ø to Ø.Ø feet bgs: Neat Cement
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-Ø28Ø
LOGGED BY WPW
DATE DRILLED 12-9-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 8 Feet bgs
WATER LEVEL 6 Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B13

Page 1

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
								2 inches asphalt over sand and gravel base
	CHEMICAL	280-S13-004	6	47			SP	Sand (SP), very dark gray (N3/), fine sand, dense, moist, trace gravel, charcoal common, yellow and red brick common
	CHEMICAL	280-S13-005						
	CHEMICAL	280-S13-006		13			SM	Silty sand (SM), very dark grayish brown (10YR3/2), medium dense, very moist to wet, slight sheen on soil, trace roots
			37					
5	CHEMICAL	280-S13-007		21			SC	Clayey sand (SC), greenish gray (5GY5/1), fine sand, medium dense, very moist, caliche common, trace silt, trace roots
	DUPE	280-S13-146	208					
								TD = 6.5 Feet bgs
								Borehole abandoned as follows:
								6.5 to 0.0 feet bgs: Neat Cement
10								
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 12-9-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 6.5 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

ER

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B13-30

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL 2 inches asphalt over sand and gravel base
	CHEMICAL	280-S13-008	NA	30	X		SP-SM	Sand with silt (SP-SM), fine sand, black charcoal common, red brick common
	CHEMICAL	280-S13-009	75	19	X			Same as above, very dark gray (N3/), medium dense, very moist to wet
5	CHEMICAL DUPE	280-S13-010 280-S13-108	238	27	X		SM	Siltysand with clay (SM), greenish gray (5GY5/1), very moist to wet
								TD = 6.5 Feet bgs Borehole abandoned as follows: Unknown
10								
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 12-9-94
DRILLER Wood ward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 14.44 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 6.5 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
								2 inches asphalt over sand and gravel base
	CHEMICAL	280-S13-011	21	60			SP	Sand (SP), gray (5Y 6/1), fine sand, very dense, very moist, brick common, coal common, wood common
	CHEMICAL	280-S13-012	72	30				
5	CHEMICAL	280-S13-013		17			SP-SM	Sand with silt (SP-SM), greenish gray (5GY5/1), 90-95% fine sand, 5-10% silt, medium dense, very moist to wet, root pores with oil staining common, trace clay
	DUPE	280-S13-014	123 68	15				
10								
15								
20								

TD = 7 Feet bgs

Borehole abandoned as follows:

7.0 to 0.0 feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI

LOCATION Site 13

JOB NUMBER 044-0280

LOGGED BY WPW

DATE DRILLED 12-9-94

DRILLER Woodward Drilling Co.

DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon

GROUND ELEVATION 14.03 Feet

TOC ELEVATION Not Applicable

BORING DIAMETER 8 inches

TOTAL DEPTH OF HOLE 7 Feet bgs

WATER LEVEL Not Available

WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B13-32

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S13-015	1.5	30			SP	FILL Sand (SP), brown, 25% fine sand, 75% medium sand, loose, dry
	CHEMICAL	280-S13-016		23				
			81					Wood Same as above, but medium sand, moist
	CHEMICAL	280-S13-017	15	13			SP-SC	Sand with clay (SP-SC), black, medium stiff, very strong hydrocarbon-like odor
5								
10								
15								
20								

TD = 5 Feet bgs

Borehole abandoned as follows:
5.0 to 0.0 feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 8-12-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.68 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 5 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
	CHEMICAL	280-S13-018	Ø	19			SP-SM	Sand with silt (SP-SM), brown, 90% fine to medium sand, 10% silt, loose, dry, trace gravel
	CHEMICAL	280-S13-019	Ø	15			SP	Grades to sand (SP), medium sand, moist
	CHEMICAL	280-S13-020	Ø	15				Same as above, but wet
5								
			NA	2				Same as above, but black, medium dense to loose, BAY SEDIMENTS
10			NA	10			CL	Clay (CL), gray with black mottling, medium stiff to soft, moist
							SP	Sand (SP), black, medium sand, loose, wet, fine angular gravel
								TD = 11.5 Feet bgs
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-Ø28Ø
LOGGED BY DEK
DATE DRILLED 8-11-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 14.12 Feet
TOC ELEVATION 13.81 Feet
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 11.5 Feet bgs
WATER LEVEL 4 Feet bgs
WELL INSTALLED? (Y/N) Y

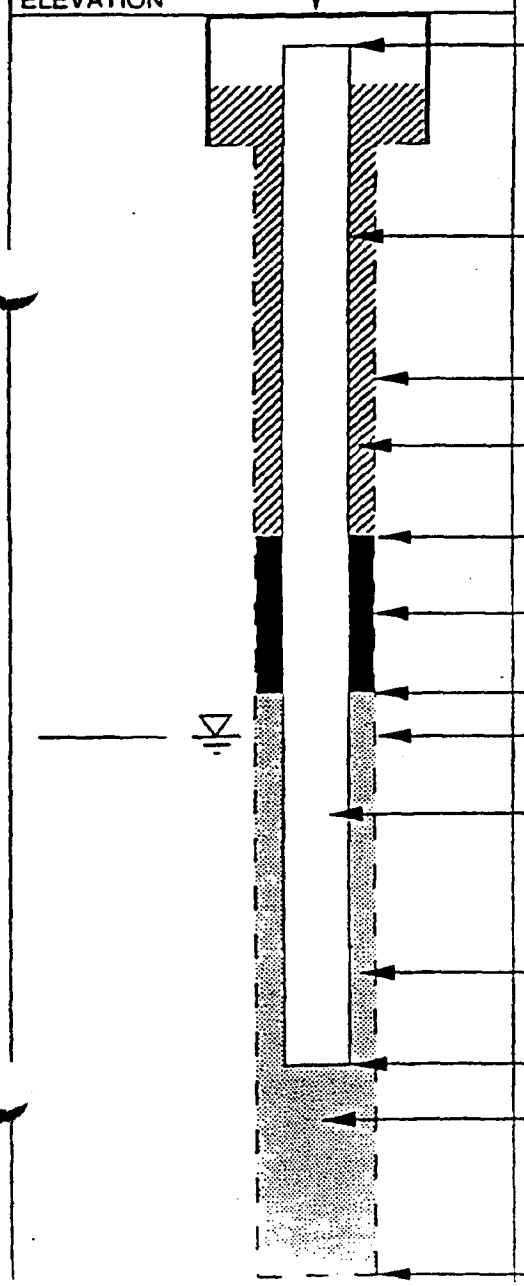
WELL ~~BORING~~ NO. M13-06

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. 044 0280
SITE 13
FIELD GEOLOGIST DEK

LOCATION Alameda, California
BORING M13-06
DATE 8-12-94

DRILLER Woodward Drilling Co.
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.12

ELEVATION OF TOP OF WELL CASING: 13.81

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8.5 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 1.5

DEPTH TOP OF SCREEN: 2.0

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/16 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 9.75

DEPTH BOTTOM OF SAND PACK: 9.75

TYPE OF BACKFILL BELOW OBSERVATION WELL: Bentonite

DEPTH OF HOLE: (feet bgs) 11.50

OK

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S13-021		28			SP	FILL Gravelly sand (SP), gray, medium sand, pebble-size gravel, loose, dry
			0.1					
	CHEMICAL	280-S13-022		32				Sand (SP), tan, medium to fine sand, loose, moist
	CHEMICAL	280-S13-023	1.2	15			SP-SM	Sand with silt (SP-SM), black, 90% fine sand, 10% silt, loose, wet, medium sand at 4.5 Feet bgs ▽
5	CHEMICAL	280-S13-024	1.2	15				
			200	44			CL/SC	MERRITT SAND Sandy clay/clayey sand (CL/SC), black, fine sand, medium stiff, moist to wet, very strong petroleum odor
10				33	NA		SC	Clayey sand (SC), black, medium stiff, moist to wet
				38				Same as above Petroleum odor
								TD = 13 Feet bgs
15								
20								

Water Level

Split Spoon

Sample Collected

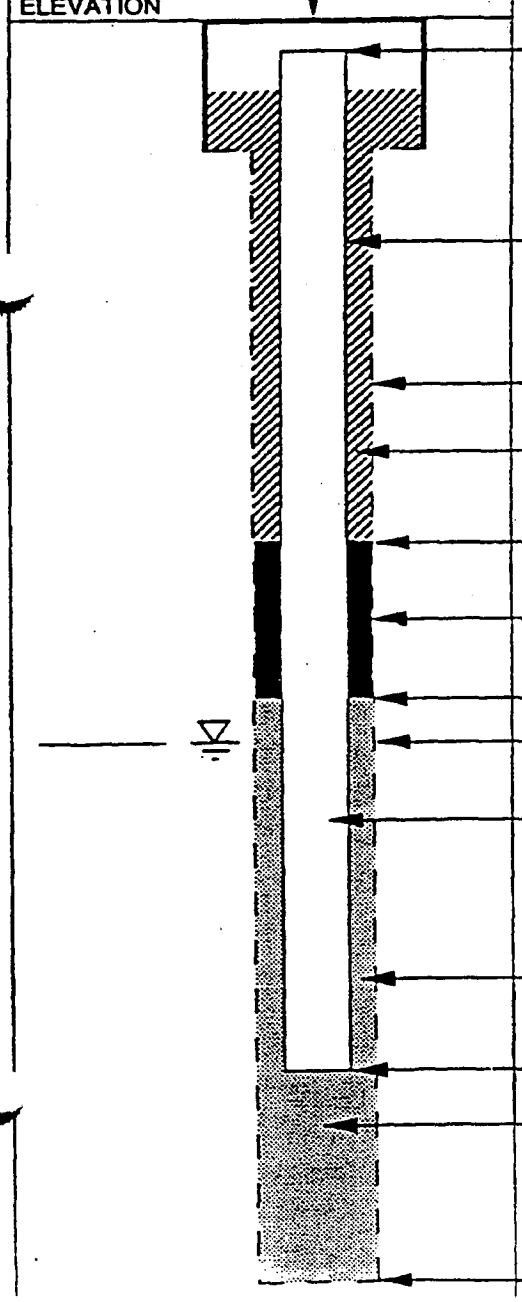
PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 8-12-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 14.60 Feet
TOC ELEVATION 14.22 Feet
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 13 Feet bgs
WATER LEVEL 3.5 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. M13-Ø7

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. Ø44 Ø28Ø	BORING M13-Ø7	DRILLING METHOD Hollow Stem Auger
SITE 13	DATE 8-12-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST DEK		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.60

ELEVATION OF TOP OF WELL CASING: 14.22

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8.5 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 2.5

DEPTH TOP OF SCREEN 2.5

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/16 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 12.5

DEPTH BOTTOM OF SAND PACK 12.5

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/16 Monterey Sand

DEPTH OF HOLE (feet bgs) 13.0

6/2

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA					FILL Sand and coarse gravel base
	CHEMICAL	280-S13-025		11			SP	Sand (SP), grayish brown (10YR 5/2), very fine to fine sand, loose to very loose, very moist
	CHEMICAL	280-S13-026		3				Same as above, but wet
5	CHEMICAL	280-S13-027		10				Same as above, but dark gray (5Y 4/1) grading to light olive brown (2.5Y 5/4), loose, wet, trace silt
10				45				PERRITT SAND Same as above, but yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) mottled, dense, moist to very moist, 5% silt, 5% clay, trace rocks, slightly consolidated
15				52				Same as above, but yellowish brown (10YR 5/4), fine sand, no very fine sand, dense, wet, trace silt, no clay, no roots
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-19-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.16 Feet
TOC ELEVATION 12.83 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 32 Feet bgs
WATER LEVEL 3 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M13-08

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				54	X		SP	Same as above, but pale brown (10YR 6/3), no silt
25				49	X			Same as above, but pale brown (10YR 6/3) and yellowish-brown (10YR 5/6) mottled
30				59	X			Same as above, but pale brown (10YR 6/3), trace silt
								TD = 32 Feet bgs
35								
40								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

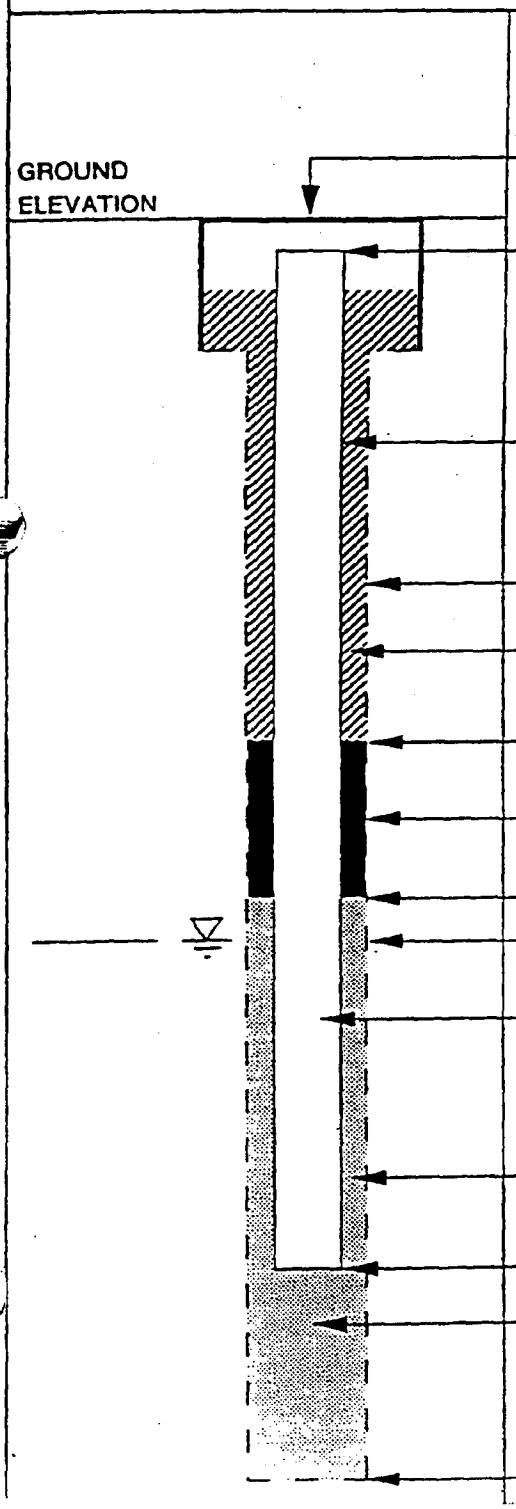
WATER LEVEL

WELL INSTALLED? (Y/N)

WELL ~~BORING~~ NO. M13-Ø8

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. Ø44 Ø28Ø	BORING M13-Ø8	DRILLING METHOD Hollow Stem Auger
SITE 13	DATE 11-19-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.16

ELEVATION OF TOP OF WELL CASING: 12.83

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 18.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 20.0

DEPTH TOP OF SCREEN: 22.0

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 32.0

DEPTH BOTTOM OF SAND PACK: 32.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE: (feet bgs) 32.0

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M13-09

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								3 inches asphalt over coarse gravel base FILL
	CHEMICAL	280-S13-028	NA	19			SP	Sand (SP), very dark grayish brown (10YR3/2), fine sand, medium dense, very moist, trace fine gravel
	CHEMICAL	280-S13-029	NA	9				
5	CHEMICAL	280-S13-030	32	7				Same as above, but dark bluish gray (5B4/1), very fine to fine sand, loose, wet, trace silt, no gravel, oil-like odor
10			NA	26/6 50/6				Same as above, but greenish gray (5GY5/1), fine sand, no very fine sand, very dense, very moist to wet, roots with greenish gray (5G6/1) staining common, trace silt, trace clay
			NA	39				Same as above, but yellowish brown (10YR5/4) with light gray (10YR6/1) mottling
								TD = 13 Feet bgs
15								MERRITT SAND
20								

Water Level

Split Spoon

Sample Collected

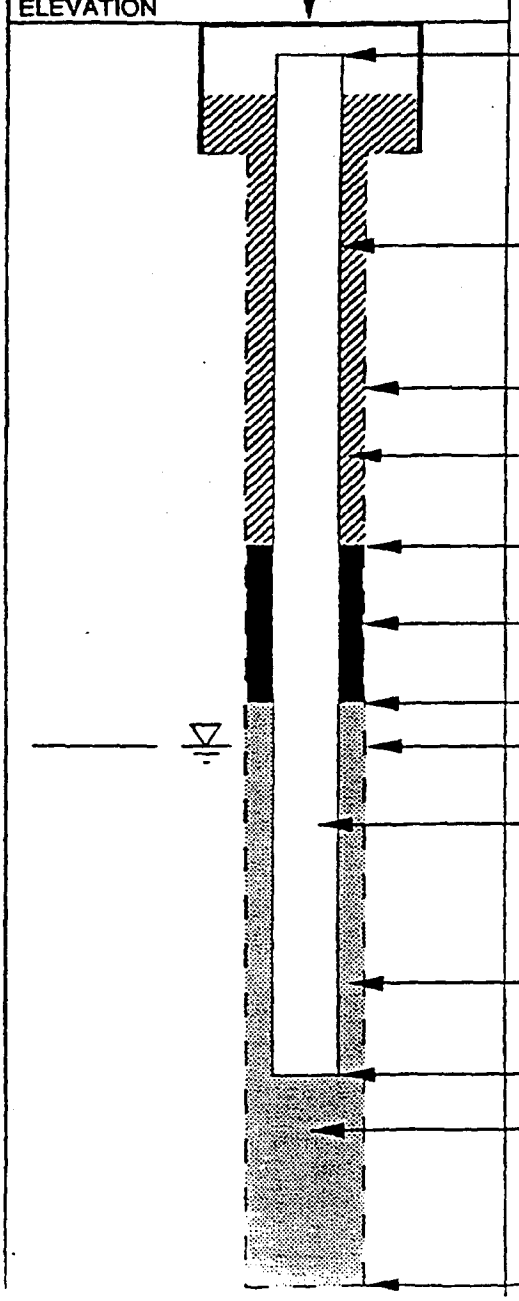
PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-19-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.42 Feet
TOC ELEVATION 13.04 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 13 Feet bgs
WATER LEVEL 3.2 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. M13-09

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. 044 0280	BORING M13-09	DRILLING METHOD Hollow Stem Auger
SITE 13	DATE 11-19-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.42

ELEVATION OF TOP OF WELL CASING: 13.04

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 1.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 2.0

DEPTH TOP OF SCREEN: 2.5

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 12.5

DEPTH BOTTOM OF SAND PACK: 13.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE: (feet bgs) 13.0

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B13-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								Asphalt FILL
5			0	53	X		SM CL	Gravelly sandy silt (SM), orange brown, 20% chert pebbles, 30% medium to coarse sand, 50% silt, loose, moist, oxidized zone underlies gravel Sandy silty clay (CL), orange brown, 30% medium sand, 20% fine sand, 50% silt/clay, very stiff, moist MERRITT SAND
10			0	49	X			Same as above, but with dark red mottling, dense, wet
15			0	33/6 50/6	X		SP-SM	Grades to silty sand (SP-SM), brown, 30% medium sand, 25% fine sand, 25% very fine sand, 10% silt, very dense, wet
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 13
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 11-2-99
DRILLER Tonto Drilling Services Co.
DRILL METHOD Mud Rotary

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.42 Feet
TOC ELEVATION 13.11 Feet
BORING DIAMETER 7.75 inches
TOTAL DEPTH OF HOLE 101.5 Feet bgs
WATER LEVEL 8.6 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D1?

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	4 6/6 5 Ø/6	☒		SP-SM	Same as above
25 ~~8~~			Ø	2 5/6 5 Ø/3	☒		SP-SM/SP-SC	Grades to sand with silt and clay (SP-SM/SP-SC), 25% medium sand, 30% fine sand, 25% very fine sand, 10% silt/clay, trace dark red mottling
30 ~~10~~			Ø	5 Ø/6	☒			Same as above
35 ~~15~~			Ø	5 Ø/6	☒			Same as above
40 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER 044- _____ TOC ELEVATION _____

LOGGED BY _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D13-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	73	☒		SM/SC	Same as above, but 15-20% silt/clay
AS 8			Ø	50/6	☒			Same as above, but 40% fine sand, 20% very fine sand, 15% silt/clay
SS 10			Ø	32/6 50/4	☒		CL	Same as above with 2-inch clay layers Grades to clay (CL), light brownish tan, hard, moist
SS 15			Ø	50/5	☒		SP-SM/SP-SC	Sand with silt and clay (SP-SM/SP-SC), brown, 20% medium sand, 35% fine sand, 35% very fine sand, 10% silt/clay, very dense, wet
SS 20								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____

LOCATION

JOB NUMBER 0442-

LOGGED BY .

DATE DRILLED _____

DRILLER

DRILL METHOD _____

SAMPLING METHOD

GROUND ELEVATION _____

TOC ELEVATION _____

BORING DIAMETER

TOTAL DEPTH OF HOLE _____

WATER LEVEL

WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	64	☒		SP-SM/SP-SC	Same as above, but light tannish brown, 50% fine sand, 30% very fine sand, 10% medium sand, moist to very moist
65			Ø	50/3	⊠			Same as above, but 40% fine sand, 35% medium sand, 15% very fine sand, 1-inch fine red shale gravel layer
70			Ø	50/5	⊠			Same as above, but wet
75			Ø	50/3	⊠			Same as above
80								

▼ Water Level

⊠ Split Spoon

■ Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER 0JJ- _____ TOC ELEVATION _____

LOGGED BY . _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D13-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	50/3	☒		SP-SM/ SP-SC	Same as above
								SAN ANTONIO INTERBEDDED SAND & CLAY
85 ~~5~~			Ø	50/3	☒		SW	Sand (SW), dark gray, 50% fine sand, 30% very fine sand, 20% medium sand, very dense, wet
90 ~~10~~			Ø	50/5	☒			Same as above, with small clay pieces
95 ~~15~~			Ø	50/4	☒			Same as above
100 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT		SAMPLING METHOD	
LOCATION		GROUND ELEVATION	
JOB NUMBER	044-	TOC ELEVATION	
LOGGED BY		BORING DIAMETER	
DATE DRILLED		TOTAL DEPTH OF HOLE	
DRILLER		WATER LEVEL	
DRILL METHOD		WELL INSTALLED? (Y/N)	

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	35	☒		CH	YERBA BUENA MUD Clay (CH), bluish gray, highly plastic, stiff to very stiff, moist, some organic matter
								TD = 101.5 Feet bgs
105 5								
110 10								
115 15								
120 20								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER 044- _____ TOC ELEVATION _____

LOGGED BY _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

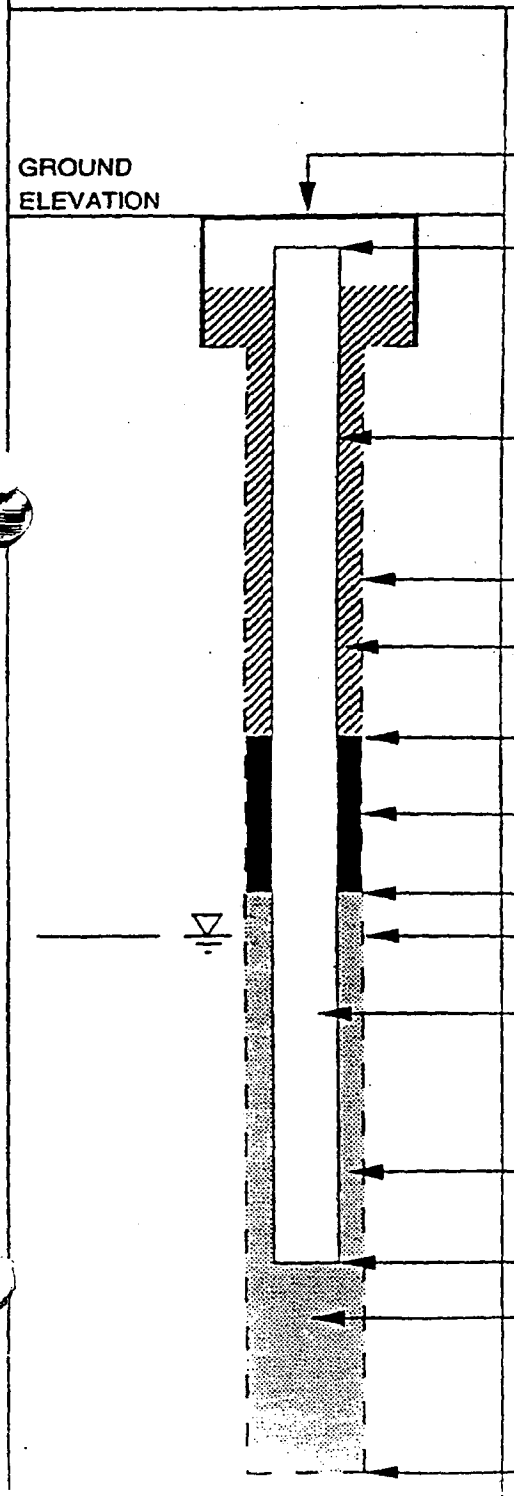
WELL ~~BORING~~ NO. D13-01

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. 044 0280
SITE 13
FIELD GEOLOGIST DEK

LOCATION Alameda, California
BORING D13-01
DATE 11-3-94

DRILLER Tonto Drilling Services Co.
DRILLING METHOD Mud Rotary
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.42

ELEVATION OF TOP OF WELL CASING: 13.11

RISER PIPE I.D.: 3 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 7.75 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 44.6

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 48.6

DEPTH TOP OF SCREEN: 50.0

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 60.0

DEPTH BOTTOM OF SAND PACK: 63.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Bentonite

DEPTH OF HOLE: (feet bgs) 101.5

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B38
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 4' bgs
SUBSITE: SITE 13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 04-04-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN	RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHM	WELL info	DEPTH IN FT	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
D1	X		3	18								SP	SAND: pale yellow brown, moist, medium, micaeous
	X		4	12		1049					1		
	X		7										
											2		
											3		
			3								4		
2			2										Material becomes saturated, dark grey
	X		3	18	12	1100					5		
											6		
											7		
													Grades from dark grey sand to reddish brown sand
											8		
											9		
			2	24		1110							
3	\		7	20							10		At 10' grades to medium to coarse sand, reddish brown, moist with grey silty clay, moist
	X		16										MS
			18								11		
											12		
											13		
											14		
			5	24		1124					15		Same as above with minor lens of grey sand at 14.5'
4	/		12	21									
	X		15								16		
			18										
											17		
											18		TOTAL DEPTH DRILLED 16'
											19		Hole destroyed with 6 bags Portland, 5% bentonite, approximately 40 gallons grout
											20		

004-0400A\B38 054 - 07/11/94

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B39
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 4.5' bgs
SUBSITE: SITE 13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 04-04-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN	RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHEM	WELL Info.	DEPTH IN Ft.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
											1	SP	SAND, pale yellow brown, moist, fine to medium, trace silt, micaceous
											2		
			4	24									
			10	21	1416						3		
1	X		9										
			9								4		
										▽			
											5		
											6		
											7		
			3	24									Becomes saturated, grey to tan, abundant shell fragments
2	/		3	20	1425						8		
	X		6										
			5								9		
											10		
3			3		1432								Becomes finer
			2/								11	MU	Grades to Silty CLAY, grey, saturated trace fine sand, elastic
			18									CL	to plastic, possibly bay mud
	X										12		
			1								13		Intebbeded silts and clays
4			1		1445								
	/		2								14		
	X		3									SP	14.5' grades to SAND, dark grey, saturated, fine to medium, micaceous
											15		
			3								16		Grades to SAND, tan to reddish brown, moist, dense, fine to medium
5	X		7		1500								
	/		19								17		
			23										
											18		
													TOTAL DEPTH 17.5 bgs
											19		
													HOLE DESTROYED with 6 bags Portland, 5% bentonite, 40 gallons grout
											20		

BMS

MS

004-0400A) 03 13 1 : 07/13/94

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B40
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 4.5' bgs
SUBSITE: SITE-13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 04-04-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHM	WELL info.	DEPTH IN Ft.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION	
			3	24							SP	SAND: pale yellow brown, fine to medium, trace silt, micaceous	
1	X		4	19	1611					1			
			4										
			10							2			
										3			
			4							4			
2	/		6						▼				
	X		5		1625					5			
			5										
										6			
										7			
										8			
										9			
			2	24	1630								
3	X		4	21						10	CL/ML	Grades to Silty CLAY, saturated, dark grey, plastic	BMa
			6										
			1							11			
										12			
										13			
4	X		2	24									
			4	21	1640					14			
			12										
			26							15	SP	Grades to SAND, reddish brown, saturated, medium, micaceous	MS
5	X		7	24						16			
	/		16	21	1700								
			20							17		TOTAL DEPTH 17.5'	
			26									Hole destroyed with 6 bags Portland, 5% bentonite, 38 gallons grout	
										18			
										19			
										20			

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B41
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 5' bgs
SUBSITE: SITE 13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 04-05-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHEM	WELL Info.	DEPTH IN FT.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
			1	24							SP	SAND: pale yellow brown, moist, fine to medium, trace gravel, micaceous
1	X		4	19	0925					1		
	/		7									
			9							2		
										3		
			19	24							SM	Grades to Silty SAND, reddish brown, moist, fine, trace gravel, micaceous
2			16	24						4		
	/		18		0932							
	X		17						▼	5		
			4	24						6		Becomes saturated
3			7	18	0941							
			10							7		Grades to refinery waste, black tar-like material, strong odor, sandy matrix, some silt
	X		9									
			2	24						8		
4	X		2	19	0995							
5	X		1							9		
6	X		7									
										10	SM	Grades to SAND, pale yellow brown, moist, fine to medium, trace silt, micaceous, trace gray clay
			8	24	1002					11		
7	X		13	18								
	/		22							12		
			26									
										13		
										14		
			4	24	1010							
8			10	20						15		
	X		12									
			17							16		
												Total depth 16' bgs
										17		
												Hole destroyed—6 bags Portland, 5% bentonite, 38 gallons grout
										18		
										19		
										20		

MS

FIELD BOREHOLE LOG

SHEET 1 OF 1

LOCATION OF BOREHOLE		
	JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B42
	CLIENT: NRaD	SURFACE ELEVATION:
	SITE: NAS Alameda	DEPTH TO WATER: 4' bgs
	SUBSITE: SITE 13	LOGGED BY: Don McHugh
	DRILLING CO.: Woodward	DRILLING DATE(S): 04-05-94
	DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN	RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHM	WELL info	DEPTH IN FT.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
											1	SP	SAND, pale yellow brown, moist, fine to medium, trace silt, micaceous
											2		
			3	24									
			2	21							3		
1	X		2			1130							Grades to saturated
			4				▼				4		
											5		
			4	24		1140							Refinery waste, black tar-like material, oil product, strong odor
2	X		4	24							6		
			4										
3	X		7								7		
			5	24								SM	Silty SAND, green, saturated, fine, trace clay
4	X		8	21		1150					8		
			10										
			17								9		
			10	24									
5	X		13	21		1200					10		
			9										
			12								11		
											12		
			6	24								SP	Grades to SAND, brown, saturated, fine to medium, trace silt, hydrocarbon odor
6	X		13	22							13		
			13			1210							
			12								14		
											15		
			8	24									
7	X		20	15							16		
			27			1217							
			28								17		
											18		
											19		
													TOTAL depth 21 feet
8	X		14	24							20		
8D	X		24	22		1228							Hole destroyed—6 bags Portland, 5% bentonite, approximately 40 gallons grout
			25										
			30										

MS

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13843
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 4' bgs
SUBSITE: SITE 13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 01-05-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN RECOVERED	TIME	PID Pgs	ANLYS PHYS	ANLYS CHM	WELL Info.	DEPTH IN Ft.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
					1458						SP	SAND: brown, moist, fine to medium, trace gravel, micaeous
										1		
										2		
										3		
			2	24								
1	X		1	18	1506				▼	4		
			1									
			3							5		
											SM	Grades to green, becomes finer
										6		
										7		Grades to refinery waste, black tar-like material, strong odor, sandy matrix, some silt
										8		
										9		
			4	24	1513							Hydrocarbon odor
2	X		8	20						10		
2D	X		10									
			13							11		
			8									
3	/		13	84	1525					12		
	X		27									
			31							13		
										14		
			7	24	1534							
4	X		16	25						15	SP	Grades to SAND, brown, moist, fine to medium, trace silt, micaeous
4D	X		26									
			31							16		
										17		Total depth 16 feet
												Hole destroyed—6 bags Portland, 5% bentonite
										18		
										19		
										20		

MS

004-0400A B-01.DBF - 07/11/94

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

JOB NO.: 004-0400A	BOREHOLE DESIGNATION: ALA13B44
CLIENT: NRaD	SURFACE ELEVATION:
SITE: NAS Alameda	DEPTH TO WATER: 5.5' bgs
SUBSITE: SITE 13	LOGGED BY: Don McHugh
DRILLING CO.: Woodward	DRILLING DATE(S): 04-06-94
DRILLING PERSONNEL METHOD: Mobile B-57	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	BLOWS/6" SAMPLE	DRIVEN RECOVERED	TIME	PID Rdg	ANLYS PHYS	ANLYS CHM	WELL Info.	DEPTH IN Ft.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
												AC for 4"
										1	SP	SAND: pale yellow brown, moist, fine to medium, trace silt, micaceous
			6	24								
			9	18	0848					2		
1	X		13								SM	Grades to SAND, black, moist, fine, some silt, strong gasoline odor
			19							3		
			8									
2	X		12	24						4		
			13	18	0855							
			7							5		
			2	24					▼			
			2	20						6		
3	X		4		0910							Becomes saturated
			3							7		
			2	24	1915					8		
4	/		1	21								
	X		3							9		
			7									
										10		
												Grades to Silty SAND, pale yellow brown to greenish, saturated, fine, micaceous, limonite staining
			3	24						11		
	/		8	22								
5	X		10		0922					12		
			16									
										13		SAND, pale yellow brown, saturated, fine to medium, trace silt
										14		
			9	24	0931							
6	X		19	25						15		
6D	X		20									
			25							16		Total depth 15 feet bgs
										17		5 bags Portland, 5% bentonite
										18		
										19		
										20		

MS

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watsn
On Site Loc:CPT-S13-03
Job No. :27381236
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/07/94 08:52
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	69.30	0.35	0.50	0.02	sand to silty sand	>90	>48	17	UNDEFINED
0.50	1.64	36.50	0.43	1.19	0.07	silty sand to sandy silt	70-80	46-48	12	UNDEFINED
0.75	2.46	6.28	0.25	3.92	0.12	clay	UNDFND	UNDFD	6	.6
1.00	3.28	4.82	0.04	0.85	0.17	sensitive fine grained	UNDFND	UNDFD	2	.4
1.25	4.10	3.64	0.04	1.01	0.21	sensitive fine grained	UNDFND	UNDFD	2	.3
1.50	4.92	1.98	0.03	1.45	0.26	sensitive fine grained	UNDFND	UNDFD	1	.1
1.75	5.74	10.06	0.02	0.18	0.31	sensitive fine grained	UNDFND	UNDFD	5	.9
2.00	6.56	23.34	0.11	0.45	0.35	silty sand to sandy silt	<40	38-40	7	UNDEFINED
2.25	7.38	50.42	0.26	0.52	0.40	sand to silty sand	60-70	40-42	12	UNDEFINED
2.50	8.20	41.82	0.23	0.55	0.45	silty sand to sandy silt	50-60	40-42	13	UNDEFINED
2.75	9.02	14.26	0.09	0.63	0.50	sandy silt to clayey silt	UNDFND	UNDFD	5	1.3
3.00	9.84	26.82	0.87	3.25	0.54	clayey silt to silty clay	UNDFND	UNDFD	13	2.6
3.25	10.66	70.20	2.48	3.54	0.58	clayey silt to silty clay	UNDFND	UNDFD	34	6.9
3.50	11.48	172.88	6.09	3.52	0.60	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
3.75	12.30	177.90	5.71	3.21	0.62	sandy silt to clayey silt	UNDFND	UNDFD	>50	17.7
4.00	13.12	188.10	4.72	2.51	0.64	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
4.25	13.94	134.58	3.23	2.40	0.66	silty sand to sandy silt	80-90	44-46	43	UNDEFINED
4.50	14.76	158.62	3.97	2.50	0.68	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.75	15.58	158.14	5.09	3.22	0.71	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.7
5.00	16.40	176.52	5.15	2.92	0.73	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.25	17.22	219.88	3.43	1.56	0.75	sand to silty sand	>90	44-46	>50	UNDEFINED
5.50	18.04	238.98	4.45	1.86	0.77	sand to silty sand	>90	44-46	>50	UNDEFINED
5.75	18.86	260.56	3.27	1.25	0.79	sand	>90	46-48	50	UNDEFINED
6.00	19.69	302.08	3.59	1.19	0.81	sand	>90	46-48	>50	UNDEFINED
6.25	20.51	246.84	3.19	1.29	0.84	sand	>90	44-46	47	UNDEFINED
6.50	21.33	326.38	2.87	0.88	0.86	sand	>90	46-48	>50	UNDEFINED
6.75	22.15	343.56	2.32	0.68	0.88	gravelly sand to sand	>90	46-48	>50	UNDEFINED
7.00	22.97	392.52	4.13	1.05	0.90	sand	>90	46-48	>50	UNDEFINED
7.25	23.79	371.20	5.61	1.51	0.92	sand to silty sand	>90	46-48	>50	UNDEFINED
7.50	24.61	368.76	3.46	0.94	0.94	sand	>90	46-48	>50	UNDEFINED
7.75	25.43	399.18	3.10	0.78	0.96	gravelly sand to sand	>90	46-48	>50	UNDEFINED
8.00	26.25	309.02	3.55	1.15	0.99	sand	>90	44-46	>50	UNDEFINED
8.25	27.07	334.08	4.70	1.41	1.01	sand	>90	46-48	>50	UNDEFINED
8.50	27.89	375.40	5.46	1.45	1.03	sand	>90	46-48	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson
On Site Loc:CPT-S13-04
Job No. :2738.1236
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/07/94 08:52
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	20.60	0.66	3.20	0.02	clayey silt to silty clay	UNDFND	UNDFD	10	2.0
0.50	1.64	148.80	1.24	0.83	0.07	sand	>90	>48	29	UNDEFINED
0.75	2.46	67.80	0.38	0.56	0.12	sand to silty sand	80-90	>48	16	UNDEFINED
1.00	3.28	75.00	0.30	0.39	0.17	sand to silty sand	80-90	46-48	18	UNDEFINED
1.25	4.10	81.80	0.37	0.45	0.21	sand to silty sand	80-90	46-48	20	UNDEFINED
1.50	4.92	42.80	0.83	1.95	0.26	sandy silt to clayey silt	UNDFND	UNDFD	16	4.2
1.75	5.74	90.00	2.70	3.00	0.31	sandy silt to clayey silt	UNDFND	UNDFD	34	8.9
2.00	6.56	117.40	3.66	3.12	0.35	sandy silt to clayey silt	UNDFND	UNDFD	45	11.7
2.25	7.38	113.60	4.03	3.54	0.40	sandy silt to clayey silt	UNDFND	UNDFD	44	11.3
2.50	8.20	68.60	2.45	3.57	0.45	clayey silt to silty clay	UNDFND	UNDFD	33	6.8
2.75	9.02	47.20	1.34	2.84	0.50	sandy silt to clayey silt	UNDFND	UNDFD	18	4.6
3.00	9.84	66.80	1.72	2.58	0.54	sandy silt to clayey silt	UNDFND	UNDFD	26	6.6
3.25	10.66	57.00	1.18	2.07	0.58	sandy silt to clayey silt	UNDFND	UNDFD	22	5.6
3.50	11.48	178.00	3.69	2.08	0.60	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
3.75	12.30	220.80	3.28	1.49	0.62	sand to silty sand	>90	46-48	>50	UNDEFINED
4.00	13.12	96.00	1.90	1.98	0.64	silty sand to sandy silt	70-80	42-44	31	UNDEFINED
4.25	13.94	194.60	2.78	1.43	0.66	sand to silty sand	>90	44-46	47	UNDEFINED
4.50	14.76	250.00	3.52	1.41	0.68	sand to silty sand	>90	46-48	>50	UNDEFINED
4.75	15.58	284.80	3.67	1.29	0.71	sand	>90	46-48	>50	UNDEFINED
5.00	16.40	188.00	4.06	2.16	0.73	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.25	17.22	218.40	5.10	2.34	0.75	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
5.50	18.04	211.20	4.24	2.01	0.77	sand to silty sand	>90	44-46	>50	UNDEFINED
5.75	18.86	301.00	3.81	1.27	0.79	sand	>90	46-48	>50	UNDEFINED
6.00	19.69	337.60	3.82	1.13	0.81	sand	>90	46-48	>50	UNDEFINED
6.25	20.51	224.80	3.22	1.43	0.84	sand to silty sand	>90	44-46	>50	UNDEFINED
6.50	21.33	261.40	2.74	1.05	0.86	sand	>90	44-46	>50	UNDEFINED
6.75	22.15	248.60	2.71	1.09	0.88	sand	>90	44-46	48	UNDEFINED
7.00	22.97	240.40	2.64	1.10	0.90	sand	>90	44-46	46	UNDEFINED
7.25	23.79	190.40	3.96	2.08	0.92	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
7.50	24.61	219.60	4.47	2.03	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	190.80	3.40	1.78	0.96	sand to silty sand	80-90	44-46	46	UNDEFINED
8.00	26.25	178.40	3.84	2.15	0.99	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
8.25	27.07	181.40	2.31	1.27	1.01	sand to silty sand	80-90	42-44	43	UNDEFINED
8.50	27.89	267.20	2.94	1.10	1.03	sand	>90	44-46	>50	UNDEFINED
8.75	28.71	310.20	3.60	1.16	1.05	sand	>90	44-46	>50	UNDEFINED
9.00	29.53	284.20	4.03	1.42	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
9.25	30.35	158.20	1.27	0.80	1.09	sand	70-80	42-44	30	UNDEFINED
9.50	31.17	280.00	3.20	1.14	1.12	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MontgomeryWatson On Site Loc:CPT-S13-04 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	262.80	3.15	1.20	1.14	sand	>90	44-46	>50	UNDEFINED
10.00	32.81	338.80	3.79	1.12	1.16	sand	>90	44-46	>50	UNDEFINED
10.25	33.63	386.00	3.68	0.95	1.18	sand	>90	46-48	>50	UNDEFINED
10.50	34.45	251.40	5.37	2.14	1.20	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	291.80	2.96	1.02	1.22	sand	>90	44-46	>50	UNDEFINED
11.00	36.09	372.00	4.17	1.12	1.24	sand	>90	44-46	>50	UNDEFINED
11.25	36.91	327.60	3.27	1.00	1.27	sand	>90	44-46	>50	UNDEFINED
11.50	37.73	272.80	3.18	1.16	1.29	sand	>90	44-46	>50	UNDEFINED
11.75	38.55	298.00	1.89	0.63	1.31	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

2 TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S13-05
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 12:27
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	53.54	0.27	0.50	0.02	sand to silty sand	>90	>48	13	UNDEFINED
0.50	1.64	15.62	0.42	2.69	0.07	clayey silt to silty clay	UNDFND	UNDFD	7	1.5
0.75	2.46	40.36	1.29	3.19	0.12	clayey silt to silty clay	UNDFND	UNDFD	19	4.0
1.00	3.28	109.42	2.97	2.71	0.17	sandy silt to clayey silt	UNDFND	UNDFD	42	10.9
1.25	4.10	235.98	4.93	2.09	0.21	sand to silty sand	>90	>48	>50	UNDEFINED
1.50	4.92	269.80	4.46	1.65	0.26	sand to silty sand	>90	>48	>50	UNDEFINED
1.75	5.74	91.66	0.98	1.07	0.31	sand to silty sand	80-90	44-46	22	UNDEFINED
2.00	6.56	96.84	2.30	2.37	0.35	silty sand to sandy silt	80-90	44-46	31	UNDEFINED
2.25	7.38	121.64	2.53	2.08	0.40	silty sand to sandy silt	80-90	44-46	39	UNDEFINED
2.50	8.20	188.30	4.16	2.21	0.45	silty sand to sandy silt	>90	46-48	>50	UNDEFINED
2.75	9.02	174.14	2.03	1.17	0.50	sand to silty sand	>90	46-48	42	UNDEFINED
3.00	9.84	136.38	3.06	2.24	0.54	silty sand to sandy silt	80-90	44-46	44	UNDEFINED
3.25	10.66	227.58	5.11	2.24	0.58	silty sand to sandy silt	>90	46-48	>50	UNDEFINED
3.50	11.48	268.14	3.54	1.32	0.60	sand	>90	46-48	>50	UNDEFINED
3.75	12.30	281.08	2.93	1.04	0.62	sand	>90	46-48	>50	UNDEFINED
4.00	13.12	217.34	3.27	1.50	0.64	sand to silty sand	>90	46-48	>50	UNDEFINED
4.25	13.94	146.62	3.11	2.12	0.66	silty sand to sandy silt	80-90	44-46	47	UNDEFINED
4.50	14.76	187.82	3.76	2.00	0.68	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
4.75	15.58	286.92	4.67	1.63	0.71	sand to silty sand	>90	46-48	>50	UNDEFINED
5.00	16.40	306.02	3.86	1.26	0.73	sand	>90	46-48	>50	UNDEFINED
5.25	17.22	293.90	4.64	1.58	0.75	sand to silty sand	>90	46-48	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S13-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 10:12
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	16.92	-0.06	-0.33	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	17.00	0.06	0.34	0.07	sandy silt to clayey silt	UNDFND	UNDFD	7	1.6
0.75	2.46	26.32	0.14	0.52	0.12	silty sand to sandy silt	50-60	44-46	8	UNDEFINED
1.00	3.28	45.24	0.26	0.57	0.17	silty sand to sandy silt	60-70	44-46	14	UNDEFINED
1.25	4.10	22.00	0.24	1.07	0.21	sandy silt to clayey silt	UNDFND	UNDFD	8	2.1
1.50	4.92	51.50	0.33	0.64	0.26	sand to silty sand	60-70	44-46	12	UNDEFINED
1.75	5.74	79.48	0.61	0.76	0.31	sand to silty sand	70-80	44-46	19	UNDEFINED
2.00	6.56	100.14	0.72	0.72	0.35	sand to silty sand	80-90	44-46	24	UNDEFINED
2.25	7.38	87.30	0.71	0.81	0.40	sand to silty sand	70-80	44-46	21	UNDEFINED
2.50	8.20	39.94	0.57	1.43	0.45	silty sand to sandy silt	50-60	40-42	13	UNDEFINED
2.75	9.02	77.06	1.76	2.29	0.50	silty sand to sandy silt	60-70	42-44	25	UNDEFINED
3.00	9.84	61.90	0.85	1.38	0.54	silty sand to sandy silt	60-70	40-42	20	UNDEFINED
3.25	10.66	97.18	2.88	2.97	0.58	sandy silt to clayey silt	UNDFND	UNDFD	37	9.6
3.50	11.48	156.16	4.83	3.09	0.60	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.5
3.75	12.30	175.26	4.33	2.47	0.62	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.00	13.12	148.28	4.98	3.36	0.64	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.7
4.25	13.94	198.26	3.40	1.71	0.66	sand to silty sand	>90	44-46	47	UNDEFINED
4.50	14.76	242.52	3.39	1.40	0.68	sand to silty sand	>90	46-48	>50	UNDEFINED
4.75	15.58	193.26	3.40	1.76	0.71	sand to silty sand	>90	44-46	46	UNDEFINED
5.00	16.40	150.00	5.19	3.46	0.73	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.9
5.25	17.22	127.06	3.55	2.79	0.75	sandy silt to clayey silt	UNDFND	UNDFD	49	12.6
5.50	18.04	224.92	3.67	1.63	0.77	sand to silty sand	>90	44-46	>50	UNDEFINED
5.75	18.86	312.12	3.83	1.23	0.79	sand	>90	46-48	>50	UNDEFINED
6.00	19.69	274.72	3.59	1.31	0.81	sand	>90	46-48	>50	UNDEFINED
6.25	20.51	307.66	4.09	1.33	0.84	sand	>90	46-48	>50	UNDEFINED
6.50	21.33	254.40	3.10	1.22	0.86	sand	>90	44-46	49	UNDEFINED
6.75	22.15	224.18	2.27	1.01	0.88	sand	>90	44-46	43	UNDEFINED
7.00	22.97	283.96	2.70	0.95	0.90	sand	>90	44-46	>50	UNDEFINED
7.25	23.79	281.94	4.00	1.42	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	262.06	2.41	0.92	0.94	sand	>90	44-46	>50	UNDEFINED
7.75	25.43	176.14	2.85	1.62	0.96	sand to silty sand	80-90	42-44	42	UNDEFINED
8.00	26.25	285.12	4.36	1.53	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	322.16	4.53	1.41	1.01	sand	>90	44-46	>50	UNDEFINED
8.50	27.89	293.06	2.67	0.91	1.03	sand	>90	44-46	>50	UNDEFINED
8.75	28.71	211.04	2.54	1.20	1.05	sand	80-90	44-46	40	UNDEFINED
9.00	29.53	205.30	2.84	1.38	1.07	sand to silty sand	80-90	42-44	49	UNDEFINED
9.25	30.35	299.12	3.08	1.03	1.09	sand	>90	44-46	>50	UNDEFINED
9.50	31.17	286.90	3.26	1.14	1.12	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO On Site Loc:CPT-S13-02 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	269.76	3.99	1.48	1.14	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	295.60	3.45	1.17	1.16	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

PRC LITHOLOGIC BORING LOG

SHEET 1 OF 2

DATE: 2/16/96

PROJECT: NAVY CLEAN NAS Alameda

PROJECT MANAGER: Susan Willoughby

PROJECT TASK: Aquifer Test Well Installation

BACKFILL DATE: — BY: —

WEATHER: Cloudy ~62°F

TOTAL DEPTH (ft bgs): 38'1/2

WATER DEPTH (ft bgs): —

SITE ID: Site 13 BORING ID: P-13-01

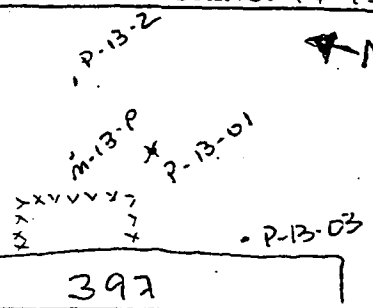
CHARGE NO.: 044-0107IRRIF2

LOGGED BY: Michelle Marie Brown

MATERIAL: Portland Cement & Bentonite Slurry

BEGIN BORING: 800 FINISH BORING: 1045

LOCATION OF BOREHOLE



SYMBOLS:
≡ Well Screen Int.
Static water level
* Staining / Odor

CONTACTS:
Distinct
Inferred
Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
Visual only										4" asphalt
						1		gr		cobbles and silt
						2				
						3				Silty sand (SM) brown (7.5YR4/3), dry, very fine to fine grained, sub angular, very dense
						4				
						5		SM		
						6				
						7				becomes saturated
						8				
						9				Silty sand (SM) yellowish brown (10YR5/4) with gray (10YR5/1) mottling, damp to moist, very dense, trace iron oxide staining
						10		SM		
						11				
						12				
						13				saturated, medium course
						14				Sand (SP) Dark yellowish brown (10YR4/4), damp to moist, medium grained, subangular loose, trace silts
						15		SP		
						16				becomes fine grained clayey sand layer from 16 to 16'1/4'
						17				becomes saturated, iron oxide staining
						18		SP		medium grained
						19				add trace gray mottling, trace fines
						20				

[illegible] 2/16/96

DATE: 21.01.96

PRC LITHOLOGIC BORING LOG

SHEET 2 OF 2

SITE ID: Site 13 BORING ID: ~~P-12~~ P-

CHARGE NO.: 044-0107IRRIF2

LOGGED BY: Michelle Marie Brown

See page 1

SYMBOLS:
≡ Well Screen Int.
⊽ Static water level
* Staining / Odor

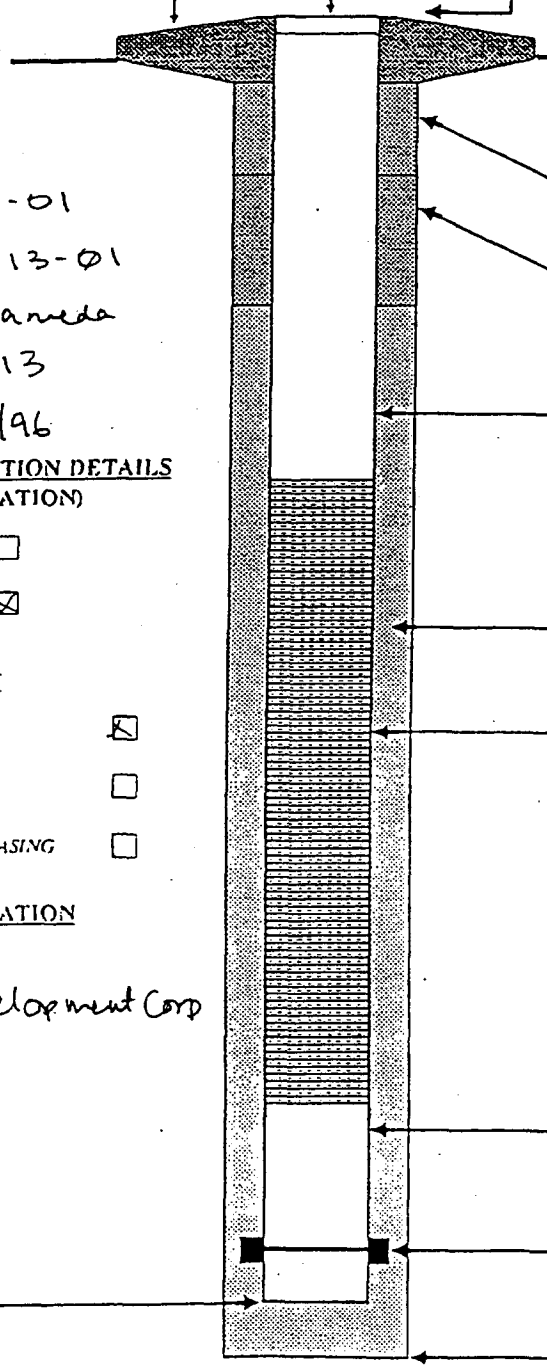
CONTACTS:
—— Distinct
---- Inferred
\ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
Visual only					X					
					X	21				
					X					
					X	22		SP		
					X					
					X	23				
					X					Same as above
					X	24				
					X					
					X	25				
					X					
					X	26				
					X					
					X	27				fine to medium grained
					X					
					X	28		SP		
					X					
					X	29				add trace fines, becoming medium dense
					X					
					X	30				
					X					
					X	31				
					X					
					X	32		SP		
					X					
					X	33				
					X					
					X	34				
					X					Same as above
					X	35				
					X					
					X	36				
					X					
					X	37		SP		
					X					
					X	38				
					X					
						39				TD = 38½' bgs
						40				

[illegible] 2/16/96

PRC Environmental Management Inc.

MONITORING WELL COMPLETION DIAGRAM



3-FOOT DIAMETER CONCRETE PAD

FLUSH-MOUNTED PROTECTIVE CASING

ELEVATION TOC: _____ FEET

GROUND ELEVATION: _____ FEET

CEMENT/BENTONITE GROUT
FROM 0 TO 7 FT. BELOW GROUND

BENTONITE SLURRY
FROM 7 TO 9 FT. BELOW GROUND

2" PVC RISER CASING
FROM 0 TO 10 FT. BELOW GROUND

#212 SAND PACK
FROM 9 TO 38 1/2 FT. BELOW GROUND

.010 SLOT PVC SCREEN
FROM 10 TO 35 FT. BELOW GROUND

PVC SILT TRAP
FROM 35 TO 35 1/2 FT. BELOW GROUND

STAINLESS STEEL CENTRALIZERS: FEET FEET

TOTAL DEPTH OF BOREHOLE: 38 1/2 FT.

_____ BOREHOLE

BACKFILL MATERIAL:

WELL

WELL NO.: P-13-01

BOREHOLE NO.: P-13-01

SITE: NAS Alameda

SUBSITE: Site 13

DATE: 2/16/96

SURFACE COMPLETION DETAILS
(TYPE OF INSTALLATION)

ABOVE GROUND ☐

FLUSH MOUNT ☒

MEASURING POINT

TOP OF CASING ☒

GROUND SURFACE ☐

TOP OF PROTECTIVE CASING ☐

DRILLING INFORMATION

DRILLING COMPANY:
Water Development Corp

DRILLING METHOD:
HSA

DRILLING DATE(S):
2/16/96

INSTALLATION DATE(S):
2/16/96

BOTTOM OF WELL
35 1/2 FEET:

WATER ADDED DURING DRILLING

YES ☒ GALLONS: 30

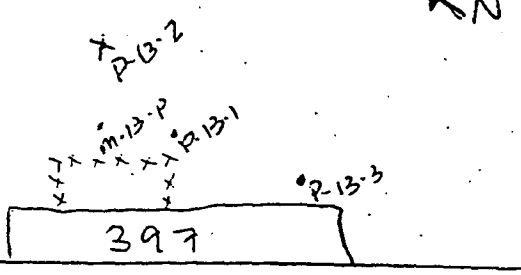
NO ☐

PRC LITHOLOGIC BORING LOG

DATE: 2/16/96 SHEET 1 OF 2

PROJECT: NAS Alameda NAVY CLEAN
SITE ID: Site 13 BORING ID: P-13-2
PROJECT MANAGER: Susan Willoughby
CHARGE NO.: Φ44-Φ107IRRIF2
PROJECT TASK: Aqu. Test Well Installation
LOGGED BY: MICHELLE MARIE BROWN
BACKFILL DATE: — BY: —
MATERIAL: Portland Cement & Bentonite Slurry
WEATHER: Sunny, Cloudy, 70°F
BEGIN BORING: 1300 FINISH BORING: 1615
TOTAL DEPTH (ft bgs): 38 1/2
WATER DEPTH (ft bgs): —

LOCATION OF BOREHOLE



SYMBOLS:
≡ Well Screen Int.
∓ Static water level
* Staining / Odor

CONTACTS:
—— Distinct
---- Inferred
\ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
visual only										4" asphalt
						1				Sand (SP), Brown (10YR 5/3), damp, fine to medium grained, sub angular, loose
						2				
						3		SP		
						4				add trace silts, saturated
						5				
						6				
						7		SP		Color changes to dark grayish brown (10YR 4/2)
						8				
						9				Clayey Sand (SC) mottled dark yellowish brown (10YR 4/4), gray (10YR 5/1) with trace iron oxide staining, fine grained, sub angular dense, trace rootlets, damp
						10		SC		
						11				
						12				Sand (SP), ~~color changes to~~ dark yellowish brown (10YR 4/4) medium grained, ~~minus rootlets~~ sub angular medium dense, some clays, damp
						13				
						14				
						15		SP		
						16				minus clays, saturated
						17				
						18				
						19		SP		
						20				

Michelle Marie Brown 2/16/96

DATE: 2/16/96

PRC LITHOLOGIC BORING LOG

SHEET 2 OF 2

SITE ID: Site 13 BORING ID: 8-13-2

CHARGE NO.: 0444-0102IRRIF2

LOGGED BY: Michelle Marie Brown

See page 1

SYMBOLS:
≡ Well Screen Int.
∓ Static water level
* Staining / Odor

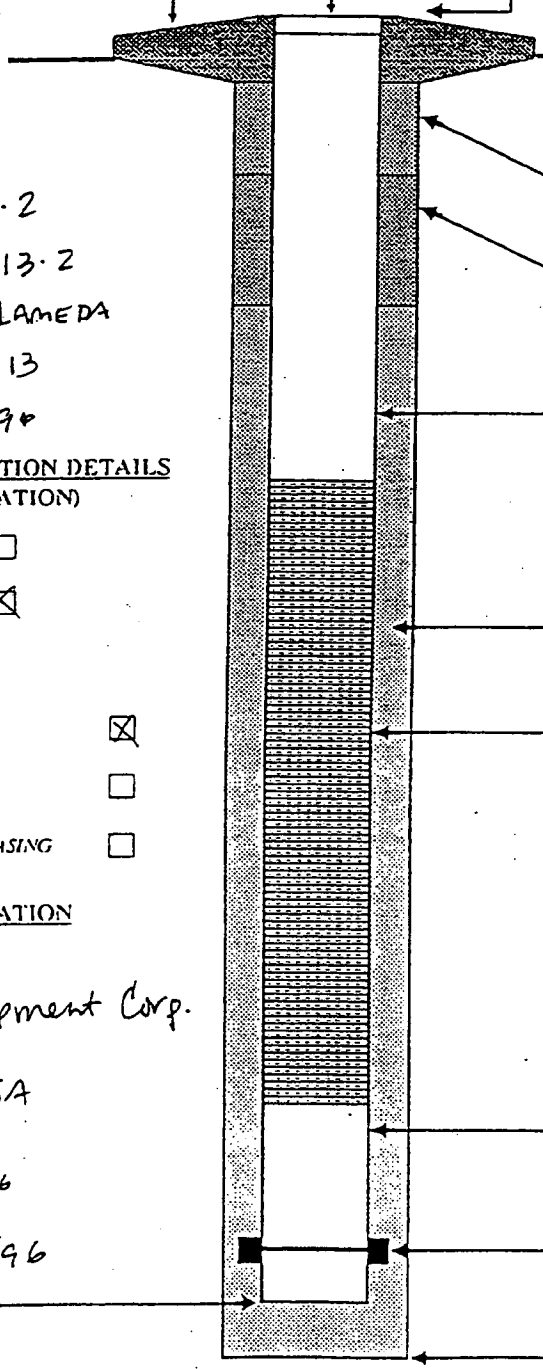
CONTACTS:
—— Distinct
---- Inferred
\ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
Visual only										
					X	21				
					X	22		SP		trace iron oxid. staining
					X					
					X	23				
					X					recovery for 18½-23½ = 2½"
						24				
					X					
					X	25				
					X					
					X	26				
					X					
					X	27				
					X			SP		grades to moist to wet, add trace fines
					X	28				recovery for 23½-28½ = 4½'
					X					
						29				
					X	30				
					X					
					X	31				
					X					
					X	32				
					X					
					X	33				
					X			SP		recovery for 28½-33½ = 4'
					X	34				
					X					
					X	35				moist, same as above
					X					
					X	36				
					X					
					X	37				
					X					
					X	38		SP		
					X					
						39				TD = 38½
						40				

[signature]
2/16/96

PRC Environmental Management Inc.

MONITORING WELL COMPLETION DIAGRAM



3-FOOT DIAMETER CONCRETE PAD

FLUSH-MOUNTED PROTECTIVE CASING

ELEVATION TOC: _____ FEET

GROUND ELEVATION: _____ FEET

CEMENT/BENTONITE GROUT
FROM 0 TO 7 FT. BELOW GROUND

BENTONITE SLURRY
FROM 7 TO 9 FT. BELOW GROUND

2" PVC RISER CASING
FROM 0 TO 10 FT. BELOW GROUND

#212 SAND PACK
FROM 9 TO 38½ FT. BELOW GROUND

.010 SLOT PVC SCREEN
FROM 10 TO 35 FT. BELOW GROUND

PVC SILT TRAP
FROM 35 TO 35½ FT. BELOW GROUND

STAINLESS STEEL CENTRALIZERS:
FEET
FEET

TOTAL DEPTH OF BOREHOLE: 38½ FT.

BACKFILL MATERIAL:

WELL

WELL NO.: P-13-2

BOREHOLE NO.: P-13-2

SITE: NAS ALAMEDA

SUBSITE: Site 13

DATE: 2/16/96

SURFACE COMPLETION DETAILS
(TYPE OF INSTALLATION)

ABOVE GROUND ☐

FLUSH MOUNT ☒

MEASURING POINT

TOP OF CASING ☒

GROUND SURFACE ☐

TOP OF PROTECTIVE CASING ☐

DRILLING INFORMATION

DRILLING COMPANY:
Water Development Corp.

DRILLING METHOD:
10¼" HSA

DRILLING DATE(S):
2/16/96

INSTALLATION DATE(S):
2/16/96

BOTTOM OF WELL
35½ FEET:

WATER ADDED DURING DRILLING

YES ☒ GALLONS: 35

NO ☐

P-13-2 BOREHOLE

PRC LITHOLOGIC BORING LOG

DATE: 2/9/96

PROJECT: NAVY CLEAN NAS Alameda

PROJECT MANAGER: Susan Willoughby

PROJECT TASK: Aquifer Test Well Installation

BACKFILL DATE: — BY: —

WEATHER: Sunny ~65F

TOTAL DEPTH (ft bgs): 35

WATER DEPTH (ft bgs): -

SITE ID: Site 13 BORING ID: P-13-03

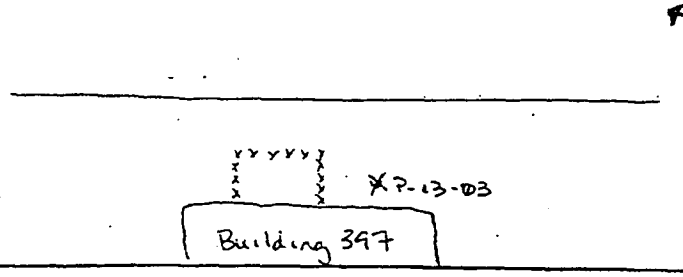
CHARGE NO.: 044-0107 IRRIF2

LOGGED BY: MICHELLE MARIE BROWN

MATERIAL: Portland Cement & Bentonite Slurry

BEGIN BORING: 1430 FINISH BORING: 2100

LOCATION OF BOREHOLE



SYMBOLS:
≡ Well Screen Int.
∓ Static water level
* Staining / Odor

CONTACTS:
—— Distinct
—— Inferred
\ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	Description
Visual only										4" Asphalt
						1				gravel and silt, dark greenish gray 5GY4/1, dry, loose
						2		gr		
						3				
						4				Grades to black oily silt (ML) with strong hydrocarbon odor
						5		ML		
						6				clayey silt (ML) strong brown (7.5YR5/6) low plasticity, moist, stiff, with some fine grained sands (Recovery = 4' for 3½-8½' bgs drive) hydrocarbon odor
						7		ML		
						8				
						9				Silty Sand (SP) strong brown (7.5YR5/6), very fine to fine grained, sub angular, medium dense, moist to wet, trace clays, hydrocarbon odor
						10				
						11		SP		
						12				Same as above minus odor, moist, mottled with reddish brown (5YR4/3)
						13				
						14				
						15				
						16				
						17				
						18				becomes saturated
						19				
						20				

DATE: 2/9/96

PRC LITHOLOGIC BORING LOG

SITE ID: Site 13 BORING ID: P-13-0[illegible]

CHARGE NO.: 044-0107IRRIF2

LOGGED BY: Michelle Marie Brown

SYMBOLS:
≡ Well Screen Int.
Static water level
* Staining / Odor

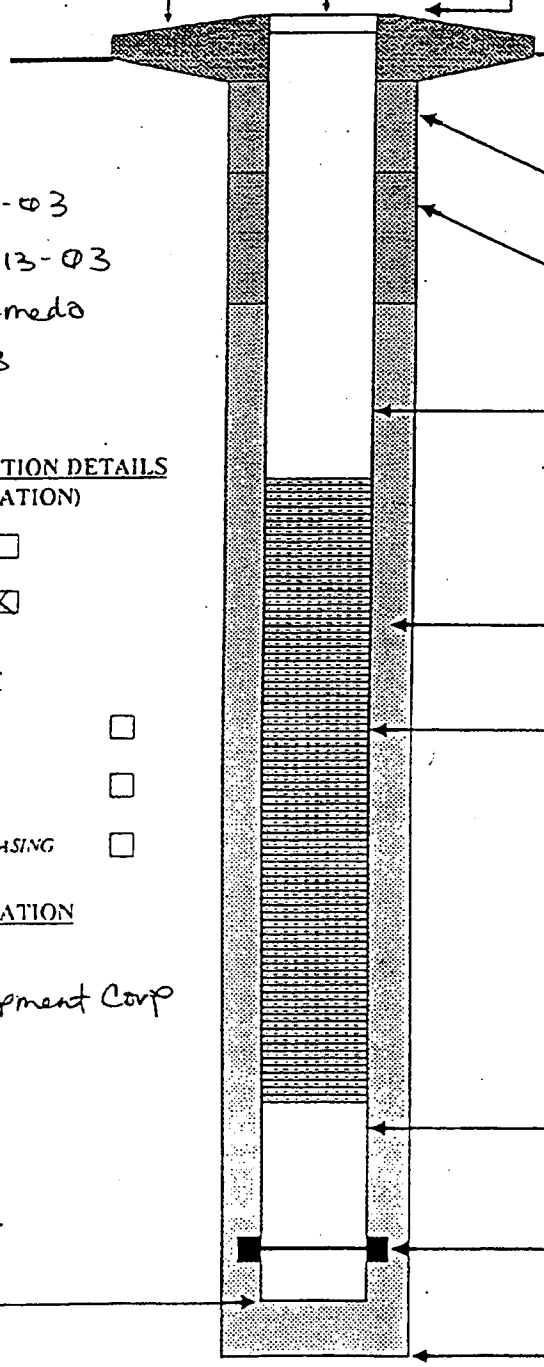
CONTACTS:
—— Distinct
- - - Inferred
\ Gradational

See page 1

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
						21				becomes moist, minus mottling
						22				
						23				becomes very dense
						24				
						25				grades to sand (SP) Brown (7.5YR5/4), moist, fine to medium grained, subangular, dense to very dense, trace gray mottling, little silts
						26				
						27				
						28				
						29				
						30				Same as above
						31				
						32				
						33				
						34				
						35				TD = 35' bgs
						36				
						37				
						38				
						39				
						40				

PRC Environmental Management Inc.

MONITORING WELL COMPLETION DIAGRAM



3-FOOT DIAMETER CONCRETE PAD

FLUSH-MOUNTED PROTECTIVE CASING

ELEVATION TOC: _____ FEET

GROUND ELEVATION : _____ FEET

CEMENT/BENTONITE GROUT
FROM 0 TO 7 FT. BELOW GROUND

BENTONITE SLURRY
FROM 7 TO 9 FT. BELOW GROUND

2" PVC RISER CASING
FROM 0 TO 10 FT. BELOW GROUND

#212 SAND PACK 37
FROM 9 TO ~~35½~~ FT. BELOW GROUND

#010 SLOT PVC SCREEN
FROM 10 TO 35 FT. BELOW GROUND

PVC SILT TRAP
FROM 35 TO 35½ FT. BELOW GROUND

STAINLESS STEEL CENTRALIZERS:
FEET
FEET

TOTAL DEPTH OF BOREHOLE : 37 FT.

BACKFILL MATERIAL :

WELL

WELL NO.: P - 13 - 03

BOREHOLE NO.: P - 13 - 03

SITE: NAS Alameda

SUBSITE: Site 13

DATE: 2/9/96

SURFACE COMPLETION DETAILS
(TYPE OF INSTALLATION)

ABOVE GROUND ☐

FLUSH MOUNT ☒

MEASURING POINT

TOP OF CASING ☐

GROUND SURFACE ☐

TOP OF PROTECTIVE CASING ☐

DRILLING INFORMATION

DRILLING COMPANY:
Water Development Corp

DRILLING METHOD:
HSA

DRILLING DATE(S):
2/9/96

INSTALLATION DATE(S):
2/9/96

BOTTOM OF WELL
35½ FEET:

P-13-03 BOREHOLE

WATER ADDED DURING DRILLING

YES ☒ GALLONS: 45

NO ☐

DATE: 2/19/96

PRC LITHOLOGIC BORING LOG

SHEET 1 OF 2

SITE ID: Site 13 BORING ID: M-13-P

CHARGE NO.: 044-0107 IRRIF2

LOGGED BY: Michelle Marie Brown

Start 0830
Finish 1915

M-13-P
P-13-1
P-13-3

397

N

SYMBOLS:
≡ Well Screen Int.
∓ Static water level
* Staining / Odor

CONTACTS:
—— Distinct
— — Inferred
╲ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
Visual only										asphalt 4"
						1				fill
						2				
						3				2 inches concrete
						4				Sand (SP) Dark grayish Brown (10YR 4/2), moist to wet, fine to medium grained, Subangular, med. dense, trace silts, trace rootlets
						5				
						6		SP		
					X	7				
					X					
					X	8				
					X					
					X	9				Clayey sands (SC), mottled ~~gr~~ dark yellowish brown (10YR 4/6), gray (10YR 5/1), reddish brown (5YR 4/4), wet, medium grained, Subangular, dense.
					X					
					X	10				
					X					
					X	11		SC		
					X					
					X	12				
					X					
					X	13				
					X					
					X	14				Sand (SP) light ~~yellowish~~ brown (10YR 6/4), ~~saturated~~ wet to saturated, med grained, Subangular, med dense, trace ~~clays~~ fines, trace iron oxide staining
					X					
					X	15				
					X					
					X	16				
					X					
					X	17		SP		
					X					
					X	18				
					X					
					X	19				
					X					
					X	20				Same as above minus iron oxide staining
					X					
					X	21				
					X					
					X	22		SP		
					X					
					X	23				

TE: 2/19/96

PRC LITHOLOGIC BORING LOG

SITE ID: Site 13 BORING ID: M-13-P

CHARGE NO.: 044-0107IRRTF2

LOGGED BY: Michelle Marie Brown

See page 1

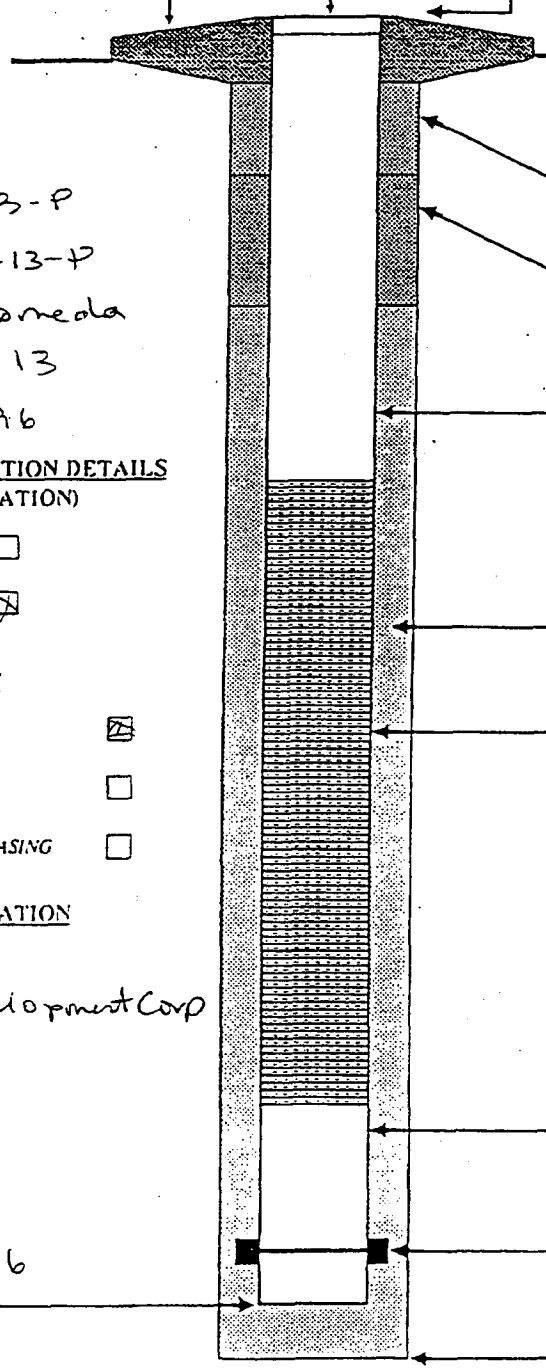
SYMBOLS:
≡ Well Screen Int.
Static water level
* Staining / Odor

CONTACTS:
Distinct
Inferred
Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
visual only					X					
					X	24				
					X					
					X	25				
					X					
					X	26		SP		
					X					
					X	27				
					X					
					X	28				and gray mottling, ~~lite~~ clays, moist
					X					
					X	29				
					X					
					X	30				
					X					
					X	31		SP		Saturated
					X					
					X	32				
					X					
					X	33				
					X					
						34				
					X	35				
					X					
					X	36				
					X					Clayey Sand (SC) Saturated, fine to med grained, submerged, loose
					X	37				
					X					
					X	38		SC		
					X					
					X	39				moist, stiff
					X					
					X	40				
					X					
					X	41				
					X					very stiff
					X	42				
					X					
					X	43		SC		
					X					
						44				TD = 43½' bgs
						45				

PRC Environmental Management Inc.

MONITORING WELL COMPLETION DIAGRAM



3-FOOT DIAMETER CONCRETE PAD

FLUSH-MOUNTED PROTECTIVE CASING

ELEVATION TOC: _____ FEET

GROUND ELEVATION: _____ FEET

CEMENT/BENTONITE GROUT
FROM 0 TO 6 FT. BELOW GROUND

BENTONITE SLURRY
FROM 6 TO 9 FT. BELOW GROUND

4" PVC RISER CASING
FROM 0 TO 10 FT. BELOW GROUND

#3 SAND PACK
FROM 9 TO 43½ FT. BELOW GROUND

0.020 SLOT PVC SCREEN
FROM 10 TO 35 FT. BELOW GROUND

PVC SILT TRAP
FROM 35 TO 38 FT. BELOW GROUND

STAINLESS STEEL CENTRALIZERS:
FEET
FEET

TOTAL DEPTH OF BOREHOLE: 43½ FT.

BACKFILL MATERIAL:

WELL

WELL NO.: M-13-P

BOREHOLE NO.: M-13-P

SITE: NAS Alameda

SUBSITE: Site 13

DATE: 2/19/96

SURFACE COMPLETION DETAILS
(TYPE OF INSTALLATION)

ABOVE GROUND ☐

FLUSH MOUNT ☒

MEASURING POINT

TOP OF CASING ☒

GROUND SURFACE ☐

TOP OF PROTECTIVE CASING ☐

DRILLING INFORMATION

DRILLING COMPANY:
Water Development Corp

DRILLING METHOD:
12" HSA

DRILLING DATE(S):
2/19/96

INSTALLATION DATE(S):
2/19/96

BOTTOM OF WELL
38 FEET:

WATER ADDED DURING DRILLING

YES ☒ GALLONS: 40

NO ☐

M-13-P BOREHOLE

Point Name: CA13-01
Sample Identification: 030-CAP-187

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA13-DGI-01	Date Started: 4-26-00
Drilling Method: (Circle one) HSA Continuous Core GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mullholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos.
Depth to Water (ft./bgs.) ~4.0' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility typ. dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	0.0					0.0' to 2.5' sand, poorly graded sand, 2.5YR, 4/2, dusky red, dry, loose, no cementation, no odor, no visible staining.	SP		0.0
	1.0								
	2.0					2.5' to 10.0' bgs, sand, poorly graded sand, 10G, 2.5/1, greenish black, dry, loose, no cementation, no odor, no visible staining.	SP		0.0
	3.0								
	4.0				▼	Sand, as above, wet @ 4.0' bgs.	SP		0.0
	5.0								

U&A
ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
2930 LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
	5.0					Sand, cs above, wet @ 4.0' bgs.	SP	
	6.0							
	7.0							
	8.0					Sand, cs above,	SP	0.
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.	SP	0.

Point Name: CA13-02
Sample Identification: 030-CAP-188

Tetra Tech EM Inc.

BOREHOLE LOG
SHEET ____ OF ____

LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE ID: FP-CA13-DG1-02
	CLIENT:	DEPTH TO WATER: ~4' bgs
	SITE: Alameda Point	LOGGED BY: JCB
	SUBSITE: CAA-13	DRILLING DATE(S): 5/10
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Van M	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				10:10					Asphalt
							1		Base rock fill - angular gravel + sand
							2		Sand - green - olive green fine sand; minor cobbles angular to 2cm; other debris (wood); loose, moist to wet
							3		
				10:15			4		
							5		
							6	▽	color change to olive gray; slight HC odor
							7		
				10:20			8		~~Sa~~ Silty Sand - fine sand w/ tan to yellowish brown silt (<15%); moist, medium dense,
							9		
				10:25			10		TD= 10.0, set screen 10' bgs
							1		
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDD DN

Point Name: CA13-03
Sample Identification: Not collected

Tetra Tech EM Inc.

BOREHOLE LOG
SHEET 1 OF 1

LOCATION OF BOREHOLE		
Bld 397 (FP-3, FP)	JOB NO.:	BOREHOLE ID: FP-CA13-DG11-03
	CLIENT:	DEPTH TO WATER:
	SITE: Alameda Point	LOGGED BY: [illegible]
	SUBSITE: CAA 13	DRILLING DATE(S): 5/10
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				0930					Asphalt
							1		Base rock fill
							2		Sand - fine sand, Hbrown grading to grey-green, loose, V minor gravel up to 2cm
							3		
		NR		0935	Head		4		
							5		thin (.2') layer of concrete
							6		Significant discoloration, strong HC odor, sheen and NAPL noted in saturated soils
							7		gravel @ 5.7-6.0 - angular gravel up to 1.5cm
									Sand - grey-gr to black fine sand
		NR		0940			8		
							9		Silty Sand - fine sand, brown to H. brown silt (20%) non-plastic, moist, medium dense
				0944			10		
							11		TD=10.0' bgs
							12		Set screen for FP 10' bgs
							13		
							14		
							15		
							16		
							17		
							18		
							19		
							20		

S:\Geosciences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDD DN

Point Name: CA13-04
Sample Identification: 030-CAP-189
Sample Identification: 030-CAP-374

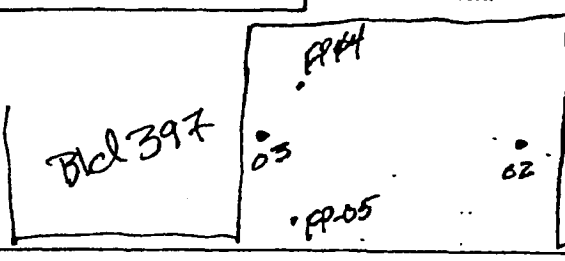
Sheet 1 of 2

CTO: ~~III~~ 030
Bldg./Site:
Project Name:
~~Site 14/25 Demolition~~

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: FP-~~DG~~ CA13-DG1-04	Date Started: 6/14/00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/14/00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: AB/JC
Outer Diameter of Boring:	Drilling Subcontractor: Precisium Samplin
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	~~Recovered interval~~ PID	Drive interval	Blow count (per 6 inches)	V.B. utility type, etc.	Description	USCS soil symbol	Well construction
							Asphalt		
	1						Baserock fill -		
	2						Sand - fine to medium sand; w/gravel (2-5%); grenish grey to olive grey, moist, loose, minor silt + clay. angular to sub angular		
	3								
	4		315				gravel w/sand - gravel to 1.5 cm, sand (20%) black; HC odor; loose; subangular		
	5						Gravelly sand - fine to medium sand; gravel up to 3 cm (30%); minor silt + clay; moist to wet, olive grey to ~~olive~~ grey green; loose; gravel angular to subangular		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~[illegible]~~ 032

Bldg./Site:

Project Name:

Site 14/25 ~~Remedial~~ Investig

Boring # FP-CA13-DG1 - 04

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
						as above		
	6				▽	sheen on soil + black (HC?) discoloration wet		
	7					Silty sand - fine to medium sand w/ silt (20%) minor clay, medium dense, grey green, wet.		
	8							
	9					color change to lt. brown, increasing silt.		
0927	10							
						TD = 10.0'		
						Set screen to 10' bgs		

Point Name: CA13-05
Sample Identification: 030-CAP-423
Sample Identification: 030-CAP-423A

Sheet 1 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~127~~
Bldg./Site:
Project Name:
~~Site 11/25 Remedial In~~

Boring Number: FP-CA13-REI-05	Date Started: 6/14/00
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/14/00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: JCB / JC
Outer Diameter of Boring:	Drilling Subcontractor: Precisium Samplin
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.)	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	PID ~~Recovered interval~~	Drive interval	Blow count (per 6 inches) / V.S. utility cyn. dia.	Description	USCS soil symbol	Well construction
1100						Asphalt		
	1					Base rock fill.		
	2					Sand - fine sand w/ very minor silt; dry, blue green to grey green, moist		
	3		ϕ					
	4							
	5		36			Silty sand - fine to med sand w/ silt up to 20%;		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 122
Bldg./Site:
Project Name:
Site 14/25 Remedial Investig

Boring # FP-CA13-DG01-05

Time	Depth (ft) bgs	Sample type and No.	~~Recovered Interval~~ PID	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5				▽	as above		
	6							
			∅					
	7							
	8					"		
	9							
10.20	10					TD = 10.0' set scrn 10.0' bgs		

Point Name: CA13-06
Sample Identification: Not collected

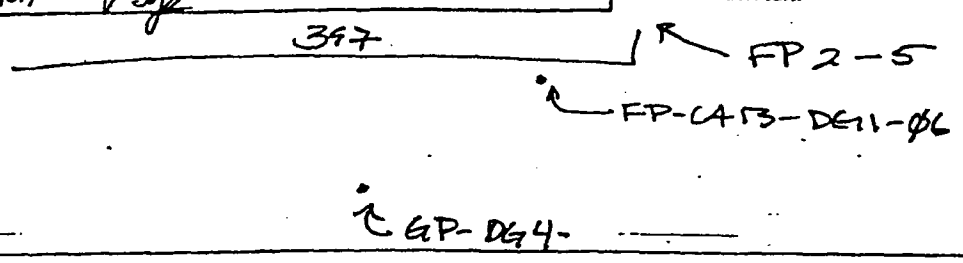
Sheet 1 OF 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 122
Bldg./Site:
Project Name: Site 14/25 Remedial In

Boring Number: FP-RCA13-DG1-06	Date Started: 6/21
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: (6/21)
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: (JCB)
Outer Diameter of Boring:	Drilling Subcontractor: Precisium Samplin
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.) 6'bgs	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches)	V.B. utility type, dia.	Description	USCS soil symbol	Well construction
1310							Asphalt		
							Baserock fill		
	1						Sand- fine, clean, sand Hi brown, loose, dry to moist.		
	2								
	3						Color change to greenish-gray to dive gray from Hi brown. Hi odor,		
	4								
	5								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 122
Bldg./Site:
Project Name:
Site 14/25 Remedial Investi

Boring # FP-CA13-DG1-06

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
	5					gravel - angular drain rock type gravel, poorly graded to 3cm; silty matrix, wet, strong HCodo		
	6					Sand - fine sand w/ increasing silt content (to 5% by TD.), medium dense, wet to moist, grey green to olive grey, w/ discoloration dk brown to dark grey.		
	7							
	8					no discoloration (from NAPL?)		
	9							
	10					TD = 10.0' bgs Set Screen to 10' bgs		

Point Name: CA13-07
Sample Identification: 030-CAP-200
Sample Identification: 030-CAP-376

Sheet 1 OF 2

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA13-DG3-01	Date Started: 4-26-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: -	Driller: J. Carlos
Depth to Water (ft./bgs.)	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
1215	0.5					0.0 to 0.5' bgs, concrete.		
	1.0					0.5 to 8.0' bgs, sand, gravelly sand, poorly graded, dry, loose, no cementation, no odor, no usable staining. 10YR 4/1, dark greenish gray	SP	0.
	2.0							
	3.0							
	4.0					Sand, as above, wet @ 4.5'	SP	0.
	4.5							
1200	5.0	030-CAP-200						
1210		030-CAP-376 (Dupe) -200						

U&A
ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
) LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Bldg. const (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet	SP	
	6.0							
	7.0					Sand, as above, wet	SP	
	8.0					Borehole terminated @ 8.0' bgs., grouted on 4.26.00		

Sheet 1 of 2

Point Name: CA13-09
Sample Identification: 030-CAP-201

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA13-DG3-02	Date Started: 4-26-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos.
Depth to Water (ft./bgs.) ~4.0' bgs.	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
08	0.0					0.0 to 8.0' bgs, sand, well graded sand, some gravel, dry, loose, no cementation, no odor, no visible staining 10Y 4/1, dark greenish grey.	SW	
	1.0							
	2.0							
	3.0							
	4.0							
1115	5.0	030-CAP-201				Sand, as above, wet @ 4.0' bgs	SW	

U&A
ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
10 LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet.	SW	
	6.0							
	7.0							
						Sand, as above, wet	SW	
	8.0					Borehole terminated @ 8.0' bgs., grouted on 4-26-00		

Point Name: CA13-08
Sample Identification: 030-CAP-200A
Sample Identification: 030-CAP-376A

Sheet 1 of 2

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA13-DG3-0XB	Date Started: 5-2-2000
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.0' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Blow count (per 6 inches) / V.S. utility type, dia.	Description	USCS soil symbol	Well construction
1340	0.0					0.0 to 0.5' bgs concrete		
	1.0					0.5 to 8.0' bgs, sand, gravelly sand, poorly graded, 10YR 3/1, dark greenish gray, dry, loose, no cementation, no odor, no visible staining	SP	C
	2.0							
	3.0							
	4.0					Sand, as above, wet @ 5.0' bgs	SP	O
	5.0							

Sheet 2 of 2

ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
70 LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	V.B. utility type, dia.	Description	USCS soil symbol	Well construction
1310	5.0					Sand, as above, water @ 5.0' bgs, no odor, no visible staining	SP	
	6.0				030-CAP-2.0A			
1315	7.0				030-CAP-3.0A			
	8.0					Sand, as above, slight odor from groundwater no visible staining.	SP	
						Borehole terminated @ 8.0' bgs.		

Point Name: CA13-10
Sample Identification: 030-CAP-202
Sample Identification: 030-CAP-203
Sample Identification: 030-CAP-204
Sample Identification: 030-CAP-377

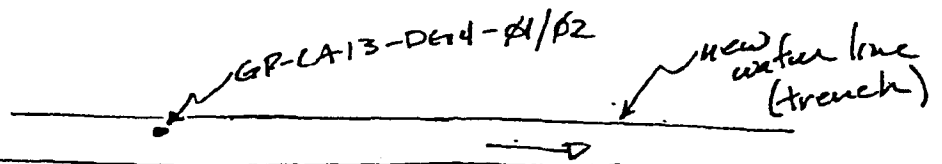
Sheet 1 of 2

CTO: ~~[illegible]~~ 030

BORING AND WELL INSTALLATION D VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name: ~~Site 11/25 Remedial In~~

Boring Number: GP-CA13-DG4-Ø1/Ø2	Date Started: 6/15
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: JCB
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow counts (per 6 inches) / V.R. utility type, etc.	Description	USCS soil symbol	Well construction	OVM
.0						asphalt			
	1					Base rock fill			
	2					Sand- clean, fine sand, no fines, dry, loose, tan to lt brown.			
	3								
13.11	4					GP-CA13-DG4-Ø1 030-CAP-202 as above			
	5								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~[illegible]~~ 030
Bldg./Site:
Project Name:
~~Site [illegible]~~ Stg

Boring # GP-CA13-DG4-Ø1/Ø2

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5					as above		
					▽			
	6					color change from tan to lt. brown to olive-grey + ~~greenish~~ greenish grey.		
			X			GP-CA13-DG4-Ø2 030-CAP-203		
	7							
.315	8			↓				
						TD = 8.0'		
						Set screen 3'-8' bgs		
						HP-CA13-DG4-Ø1 + Duplicate.		
						030CAP-204 + -377		

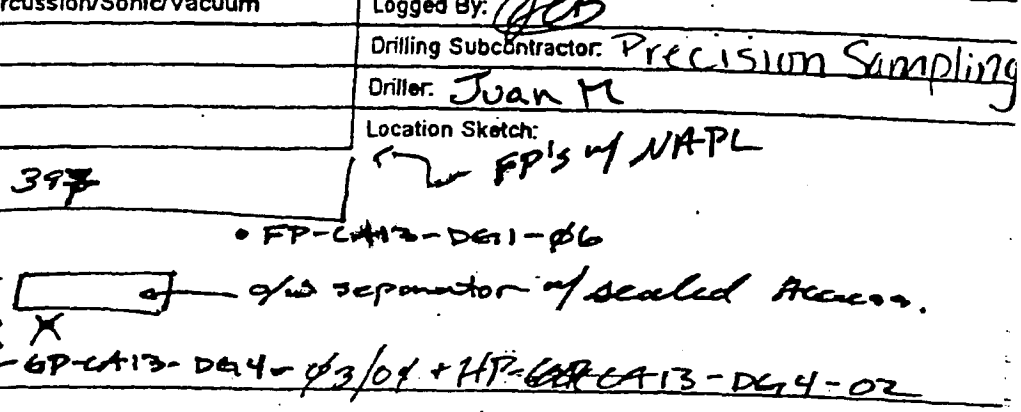
Sheet 1 of 2

Point Name: CA13-26
Sample Identification: 030-CAP-427
Sample Identification: 030-CAP-428
Sample Identification: 030-CAP-429

BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 122
Bldg./Site:
Project Name: Site 14/25 Remedial In

Boring Number: GP-CA13-DG4-03/04	Date Started: 6/21/00
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/21/00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: JCB
Outer Diameter of Boring:	Drilling Subcontractor: Precisium Sampling
Inner Diameter of Well Casing:	Driller: Juan M
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction
10						Asphalt		
						Base rock fill		
	1					Sand - clean fine to med sand. tan to lt. brown moist to wet, loose		
	2							
	3					Sandy gravel - angular gravel, some gravel pieces are crushed concrete to 3cm, sand (30%) med to coarse, green to olive gray moist, loose		
(910) 0832	4		X			GP-CA13-DG4-03, 030-CAP-427		
						~~as above~~ concrete		
0	5							

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 122
Bldg./Site:
Project Name:
Site 14/25 Remedial Investigation

Boring # GP-CA13-DG4-Ø3/Ø4

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	6					Sand - fine to med, clean sand, HC odor, loose, visible sheen on soil, wet.			
	4								
(9:15)	7		X NR			GP-CA13-DG4-Ø4, 030 CAP 428 silt - clayey silt - olive grey to greenish grey. streaks of black, wet, very soft, low plasticity. minor sand (5%).			
-40	8					TD = 8.0'			
9:00						Set Screen 3'-8' bgs HP-CA13-DG4-Ø2 ~~9:00~~ 030-CAP-429			

Point Name: CA13-11
Sample Identification: 030-CAP-205
Sample Identification: 030-CAP-206
Sample Identification: 030-CAP-225
Sample Identification: 030-CAP-379

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET ___ OF ___

LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE ID: GP-CA13-DGS-01
	CLIENT:	DEPTH TO WATER: ?
	SITE: Alameda Point	LOGGED BY: ACB
	SUBSITE: CAA-13	DRILLING DATE(S): 5/9
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				1050					asphalt
							1		base rock gravel fill, angular gravel, med to coarse sand 20 %; 5% fines; moist;
							2		some/slight HC odor; grey to brown
						X	3		030-CAP-205 -2.5-3.5
						X			color change to black; w/ strong HC odor
				1055			4		
							5		Sand - fine to med sand, medium dense loose, <5% fines; black tarry discoloration
		1/2					6		5-5.5 color change to green
						X	7		030-CAP-206 -7-8' bgs
				11.10		X	8		
		1/2					9		
				8.15			0		
							1		TD = 10.0' bgs
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Disciplines\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDO DN

Point Name: CA13-12
Sample Identification: 030-CAP-207
Sample Identification: 030-CAP-208
Sample Identification: 030-CAP-226
Sample Identification: 030-CAP-378

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET ____ OF ____

LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE ID: GP-CA13-DG5-03
	CLIENT:	DEPTH TO WATER: ~4' bgs
	SITE: Alameda Point	LOGGED BY: JCB
	SUBSITE: CAA-13	DRILLING DATE(S): 5/9
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				10:07					Asphalt
							1		sand, - fine sand to med sand; loose to medium dense.
							2		
							3		-very dark disidoration; gravel + wood debris in sand.
						X			
				10.10		X	4		030-CAP-207;
						D			sand - fine to med sand; no fines, H2odor grey to grey green, wet, loose
						X	5		
						X			030-CAP-207 + 030-CAP-378
						D	6		6.0 very black, NAPL type; taffy; liquid?
							7		
				10.15			8		
							9		
				10.30			10		Set 10' screen for FP test 5/10.
							1		HP-CA13-DG5-02; 030-CAP-226
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 03/23/2000 FORD DN.

Point Name: CA13-13
Sample Identification: 030-CAP-209
Sample Identification: 030-CAP-210
Sample Identification: 030-CAP-227

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET 1 OF 1

LOCATION OF BOREHOLE		
• GP-03,04	JOB NO.:	BOREHOLE ID: GP-CA13-DG5-03
• GP-05,06	CLIENT:	DEPTH TO WATER: 4.5'
	SITE: Alameda Point	LOGGED BY: JCB
	SUBSITE: CAA-13	DRILLING DATE(S): 5/4
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
							1	fill	asphalt + base rock fill
							2		sand - fine sand, loose, grey to grey green, wet
						X			
						X	3		GP-CA13-DG5-05
							4		
						X	5		GP-CA13-DG5-06
						X			
							6		
							7		wood debris, tarry sand
							8		refusal on wood + asphalt debris
									collect water sample 2.5-7.5' bgs screen
							9		HP-CA13-DG5-03
							0		
							1		
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDD DN

Point Name: CA13-14
Sample Identification: 030-CAP-211
Sample Identification: 030-CAP-212
Sample Identification: 030-CAP-228

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET ____ OF ____

LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE ID: GP-CA13-DG5-07
	CLIENT:	DEPTH TO WATER: 7' bgs
	SITE: Alameda Point	LOGGED BY: [illegible]
	SUBSITE: CAA-13	DRILLING DATE(S): 5/11
	DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
	PERSONNEL: Ivan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				12.58					asphalt & base rock fill.
							1		Tar/Asphalt
							2		Sand - fine sand, loose, no fines, moist,
						X	3		GP-CA13-DG5-07
				1300		X	4		
							5		
							6		
							7	I	asphalt & and brick debris, black + red orange, H odor
				1310		X	8		GP-CA13-DG5-08 — Sand - fine sand, 10% silt, loose, wet, green to grey green
							9		HP-CA13-DG5-04
									TD = 8.0 bgs
							0		
							1		
							2		
							3		sleeve shattered
							4		
							5		
							6		
							7		
							8		
							9		
							D		

S:\Geosciences Disciplines\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDD DH

Point Name: CA13-15
Sample Identification: 030-CAP-213
Sample Identification: 030-CAP-214
Sample Identification: 030-CAP-229

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET ____ OF ____

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE ID: GP-CA13-DG5-Ø9
	CLIENT:	DEPTH TO WATER: 4' bgs
	SITE:	LOGGED BY: [illegible]
	SUBSITE:	DRILLING DATE(S): 5/11
	DRILLING CO.:	DRILLING METHOD:
	PERSONNEL:	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
									asphalt + base rockfill
							1		debris - gravel, brick, asphalt, wood all with a very tarry matrix including some sand. HC odor
							2		
							3		
						X			GP-CA13-DG5-Ø9
				1350		X	4	▽	
						X			GP-CA13-DG5-1Ø
						X	5		
							6		sand - fine sand, loose to medium dense, 10% fines, wet to moist,
							7		
				1400			8		TD = 8.0'
							9		
				1410			0		Water Sample HP-CA13-DG5-Ø5
							1		
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Gr...rences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2009 FORD DN

Point Name: CA13-16
Sample Identification: 030-CAP-215
Sample Identification: 030-CAP-216
Sample Identification: 030-CAP-230

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET ____ OF ____

LOCATION OF BOREHOLE: GP-CA13-DG5-01, GP-CA13-DG5-11

JOB NO.:	BOREHOLE ID: GP-CA13-DG5-11
CLIENT:	DEPTH TO WATER: ~3 bgs
SITE: Alameda Point	LOGGED BY: JCB
SUBSITE: CAA-13	DRILLING DATE(S): 5/11
DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				14:20					asphalt + base rock fill
							1		debris - gravel + tarry sand + broken glass, wood, HC odor;
						X	2		
						X			GP-CA13-DG5-11
							3	▽	
				14:25			4		GP-CA13-DG5-12
						X			
						X	5		
							6		
							7		Sand - fine sand, loose to medium dense, 10% fines, wet to moist
				14:35			8		TD = 8.0' bgs
				15:00			9		HP-CA13-DG5-06
							0		
							1		
							2		
							3		
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Disciplines\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORD DN

Sheet 1 of 2

Point Name: CA13-17
Sample Identification: 030-CAP-217
Sample Identification: 030-CAP-218
Sample Identification: 030-CAP-231

BORING AND WELL INSTALLATION VISUAL CLASSIFICATION LOG

CTO: ~~TEC~~ 030
Bldg./Site:
Project Name: ~~Site 14/25 Remedial In~~

Boring Number: GP-CA13-DGS-13/14	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: JCB/CJC
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller: Juan Fergro
Depth to Water (ft./bgs.)	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Blow count (per 6 inches) / V.S. utility type, etc.	Description	USCS soil symbol	Well construction
	1					Asphalt base rock fill w/ debris (brick + wood)		
	2					Silty gravelly sand - silty, fine sand w/ 10% gravel, 5% debris, ~~green~~ gray to black HC odor,		
	3		X	NR	▽			
	4		X			Silty Sand - fine sand w/ 20% silt, black, HC sheen, strong HC odor		
	5							

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~122~~ 0
Bldg./Site:
Project Name:
Site ~~11/105 Remedial Investig~~

Boring # GP-CA13-DG15-13/14

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	6					Silty sand - fine sand 20% silt, grey green Soft, wet		
	7							
	8					TD - 8.0.		
						screen 3-8 16gs		
						HP-DG13-CA5-07		
						030-CAP-231		
						Seen on some sample		

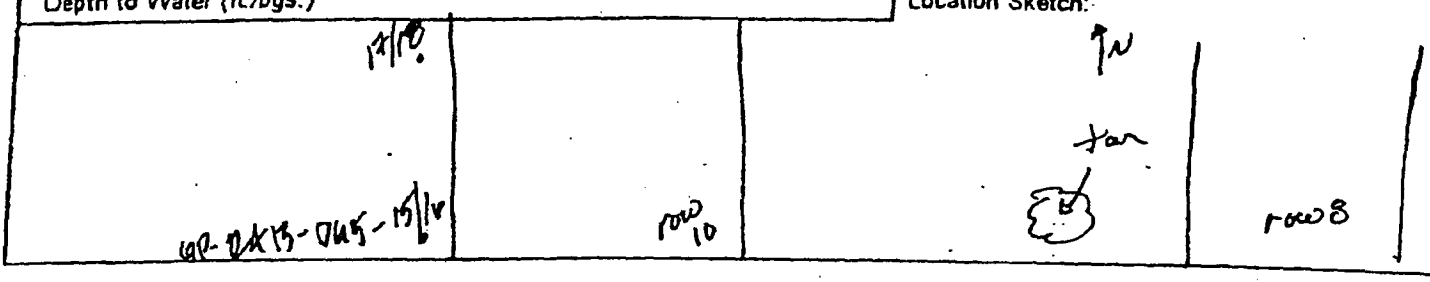
Point Name: CA13-18
Sample Identification: 030-CAP-219
Sample Identification: 030-CAP-220
Sample Identification: 030-CAP-232

BORING AND WELL INSTALLATION ID VISUAL CLASSIFICATION LOG

Sheet 1 of 2

CTO: ~~TTE~~ 030
Bldg./Site:
Project Name:
Site ~~11/25 Remedial In~~

Boring Number: GP-CA13-DG5-15/16	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: ACB
Outer Diameter of Boring:	Drilling Subcontractor: Precision Samplin
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction
						Asphalt		
	1					Caserock fill		
	2					Sandy gravel w/ debris – v. minor debris grey green sand + gravel angular to subangular Sand – fine to med sand, minor silt, tan to lt. brown loose moist		
	3		X			GP-CA13-DG5-15		
	4		X		▽			
	5		X			GP-CA13-DG5-16 as above, wet		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~122~~
Bldg./Site:
Project Name:

~~Site 11/25 Remedial Inv. stage~~

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.H. utility type, dia.	Boring # GP-CA13-DG5-15/16 Description	USCS soil symbol	Well construction	OVM (ppm)
	5					as above			
	6								
	7								
	8					Set screen 3'-8' bgs TD = 8' bgs HP-CA13-DG5-Ø8			

Point Name: CA13-19
Sample Identification: 030-CAP-221
Sample Identification: 030-CAP-222
Sample Identification: 030-CAP-233

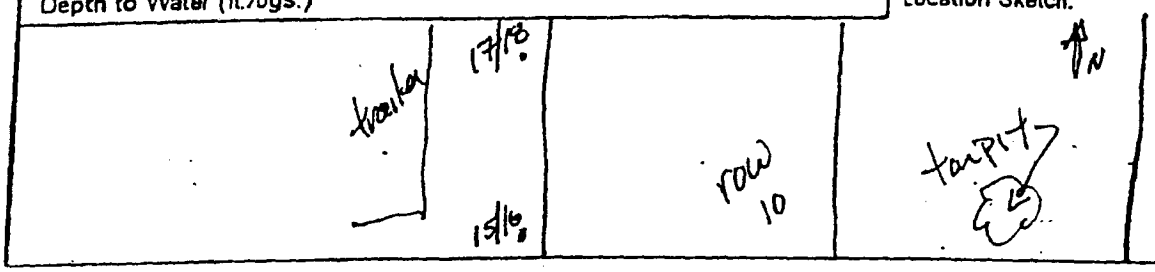
Sheet 1 of

CTO: ~~TEE~~ 030
Bldg./Site:
Project Name: ~~Site 14/25 Remedial Inv~~

TETRA TECH EM INC.

OIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: GP-CA13-DG5-17/18	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/14
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: AEB
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller: Joan/Sergio
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.O. utility type, dia.	Description	USCS soil symbol	Well construction
						Asphalt		
	1					Base rock fill		
	2					Sand - fine sand v. minor silt, loose, tan to lt. brown, moist		
	3					color changes to grey		
	4		NR					
	5				▽	Sand - fine sand v. minor silt, loose, wet, ~~color changes~~ grey to blue grey to tan		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 0030
Bldg./Site:
Project Name:

~~Site 14/RAS Remedial Investigation~~

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
	5					Boring # GP-CA13-DG5-17/18		
						as above.		
	6							
	7							
	8							
						TD = 8.0'		
						Set screen ~~#~~ @3 to 8' bgs		
						HP-CA13-DG5-@9		

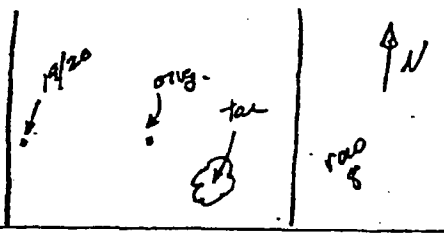
Point Name: CA13-20
Sample Identification: 030-CAP-223
Sample Identification: 030-CAP-224
Sample Identification: 030-CAP-234

BORING AND WELL INSTALLATION D VISUAL CLASSIFICATION LOG

Sheet 1 OP2

CTO: ~~TTE~~ 030
Bldg./Site:
Project Name: ~~Site 14/25 Remedial In~~

Boring Number: GP-CA13-DGS-19/20	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/14
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RD
Outer Diameter of Boring:	Drilling Subcontractor: Precision Samplin
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	~~Sample type and No.~~ PID	Recovered interval	Drive interval	Blow count (per 6 inches) / V.H. utility type, etc.	Description	USCS soil symbol	Well construction
						Asphalt		
	1					Roadbase/base rock fill		
	2					Sand - silty sand; fine w/ 30% silt.		
	3		X			gravelly sand - fine to med sand w/ gravel up to 2cm, gravel (25%) angular + debris (10%); black; wet; HCodor GP-CA13-DGS-19		
	4							
	5					as above		

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~[illegible]~~ JD
Bldg./Site:
Project Name:

~~Site 14/15 Remedial Inv.~~ Stg

Boring # GP-CA13-DG5-19/20

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM
	5					as above			
	6					~~[illegible]~~ GP-CA13-DG5-20			
			X			Sand - fine to medium sand, v. minor fines, wet, no odor, grey green to dk. grey; medium dense,			
	7								
	8					TD = 8.0' bgs Set screen 3'-8' bgs Sample HP-CA13-DG5-10			

Point Name: CA13-21
Sample Identification: 030-CAP-411
Sample Identification: 030-CAP-412
Sample Identification: 030-CAP-413

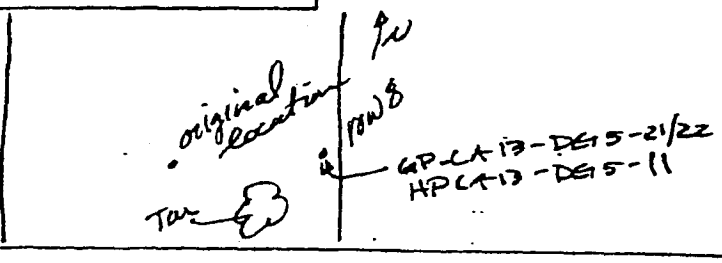
Sheet 1 OF 2

CTO: ~~[illegible]~~ 030

BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name: ~~Site 14/25 Remedial In~~

Boring Number: GP-CA13-DG5-21/22	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: [illegible]
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	0					Asphalt.		
	1					base rock fill		
	2					Sand - fine sand w/ silt (5%), loose, moist to wet, black; HC odor		
	3							
1426	4		X		~~[illegible]~~ ▽?	GP-CA13-DG5-21 ~~[illegible]~~ 030-CAP-411		
					=	as above, wet		
	5							

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~122~~ 03
Bldg./Site:
Project Name:
~~Site #75 Remedial Inv~~ Stg

Boring # GP-CA13-DG5-21/22

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction	OVM
	5								
			X			GP-CA13-DG5-22, 030CAP412			
	6								
	7					color change to grey green.			
14:30	8					TD = 8.0' bgs Setscreen 3'-8' bgs HP-~~GP~~CA13-DG1-11 030CAP-413			

S:\MINS\Forms\Soil Boring and Well Installation Log.doc

Point Name: CA13-22
Sample Identification: 030-CAP-414
Sample Identification: 030-CAP-415
Sample Identification: 030-CAP-416

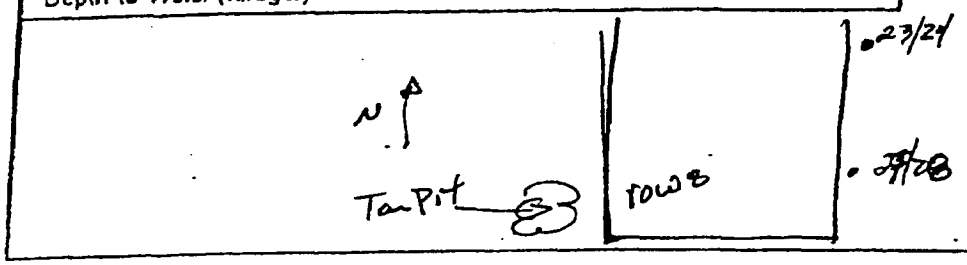
Sheet 1 of 2

CTO: ~~[illegible]~~ 052

BORING AND WELL INSTALLATION D VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name: ~~Site 14/25 Remedial In~~

Boring Number: GP-CA13-DG5-23/24	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/14
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: [illegible]
Outer Diameter of Boring:	Drilling Subcontractor: Precision Samplin
Inner Diameter of Well Casing:	Driller: Juan M.
Depth to Water (ft./bgs.)	Location Sketch:



Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches)	V.R. utility type, dia.	Description	USCS soil symbol	Well construction
						Asphalt		
						Baserock fill		
1								
2						Sand - fine to med clean sand; black w/ some areas grey green to olive grey.		
3								
4								
5		X				GP-CA13-DG5-23 030-CAP-414		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: 3
Bldg./Site:
Project Name:

Site ~~[illegible]~~

Boring # GPCA13DG5-23/24

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
	5							
	6							
	7							
			X			GP-CA13-DG5-24 030-CAP-415		
	8							
						TD=8.0 Set Screen 3'-8' HP-CA13-DG5-12 030-CAP-416 (6/15)		

S:\MINS\Forms\Soil Boring and Well Installation Log.doc

Point Name: CA13-23
Sample Identification: 030-CAP-417
Sample Identification: 030-CAP-418
Sample Identification: 030-CAP-419

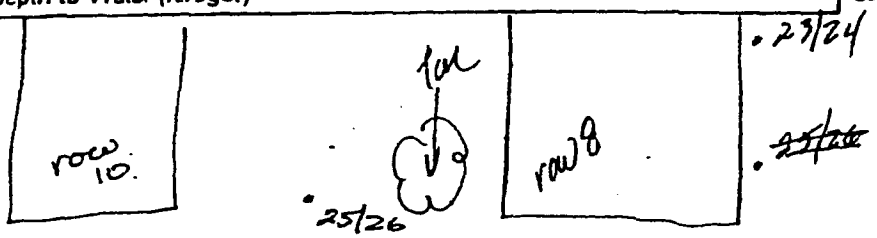
Sheet 1 of 2

CTO: ~~112~~ 030

BORING AND WELL INSTALLATION
AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:
Site ~~111/25 Remedial In~~

Boring Number: GP-CA13-DG5-25/26	Date Started:
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By:
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
						asphalt		
						Concrete fill		
	1					Sand - fine sand w/ minor fines, minor gravel & debris, medium dense, tarry-like matrix, strong HC odor, moist		
	2							
	3							
	4		X			Silty Sand - fine to med sand, grey green silt, loose, wet GP-CA13-DG5-25 ; 030CAP-417		
					▽	WL above		
	5							

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~112~~ 036
Bldg./Site:
Project Name:

~~SHEET 14/25 Remedial Inv~~

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Boring # GP-CA13-DG5-~~24~~ 25/26 Description	USCS soil symbol	Well construction	OVM (ppm)
	5					GP-CA13-DG5-26, 030 CAP 418			
						as above			
	6								
	7								
	8								
						TD = 8.0' bgs			
						Set Screen 3'-8' bgs			
	9					HP-CA13-DG5-13 030-CAP-419			
	10								

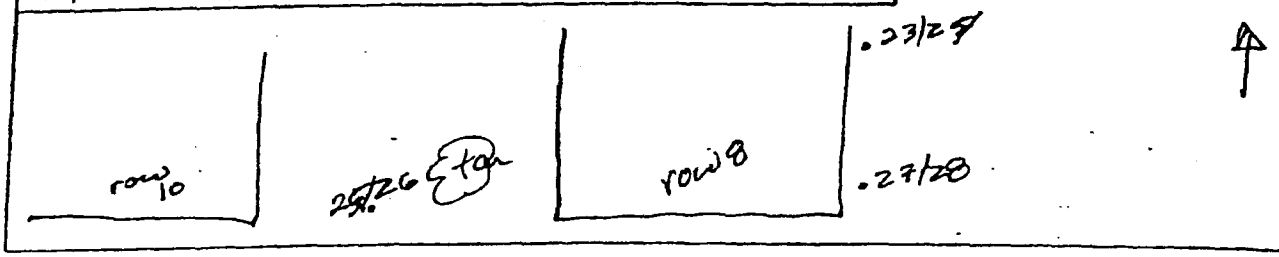
Point Name: CA13-24
Sample Identification: 030-CAP-420
Sample Identification: 030-CAP-421
Sample Identification: 030-CAP-422

Sheet 1 of 2

CTO: ~~[illegible]~~ 030
Bldg./Site:
Project Name: ~~Site [illegible] Remedial In~~

BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: GP-CA13-DG5-27/28	Date Started: 6/14
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: ACB
Outer Diameter of Boring:	Drilling Subcontractor: Precision Sampling
Inner Diameter of Well Casing:	Driller: Juan
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.E. utility type, dia.	Description	USCS soil symbol	Well construction
11:10						asphalt		
	1					base rock fill		
	2					sand - fine to med sand, loose, moist, tan to lt. brown		
11:15	3		X			GP-CA13-DG5-27, 030-CAP-420		
						as above.		
11:15	4		X			GP-CA13-DG5-28, 030-CAP-421		
	5					as above; color change to brown		

Sheet 2 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~[illegible]~~ 03

Bldg./Site:

Project Name:

Site ~~[illegible]~~

Boring # GP-CA13-DG5-27/28

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.H. utility type, dia.	Description	USCS soil symbol	Well construction	OVM
	5					as above; color change to dark grey to ~~[illegible]~~.			
	6								
	7								
11:20	8					Set Screen 3'-8' bgs TD= 8.0' bgs HP-~~R~~CA13-DG5-14 030-CAP-422			

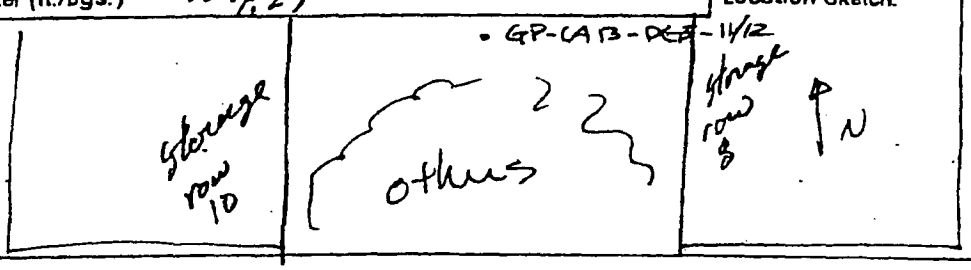
Point Name: CA13-25
Sample Identification: 030-CAP-424
Sample Identification: 030-CAP-425
Sample Identification: 030-CAP-426

Sheet 1 of 2

BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: ~~122~~
Bldg./Site:
Project Name: ~~Site 14/25 Remedial In~~

Boring Number: GP-CA13-DG5-~~X~~/~~Z~~ 29/30	Date Started: 6/14
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: JCB/CJC
Outer Diameter of Boring:	Drilling Subcontractor: Precision Samplin
Inner Diameter of Well Casing:	Driller: Ivan
Depth to Water (ft./bgs.) ~4.25'	Location Sketch:



Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.R. utility type, dia.	Description	USCS soil symbol	Well construction
	1					Asphalt backfill		
	2					gravelly sand - sand - med, w/gravel 20%, moist, loose,		
	3							
	4		X			Sand - fine sand - olive gray to grayish gray, loose, moist. Sample to lab GP-CA13-DG5-~~X~~ 29 JCB		
	5		X		▽	Sample to lab GP-CA13-DG5-~~Z~~ 30 JCB		

Sheet ___ of ___

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO: [redacted]
Bldg./Site:
Project Name:
Site 14/25 Remedial Investig.

Boring # GP-CA13-DG5-~~26~~/29/30

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	5					Sand - silt + sand fine to med. minor angular gravel. wet.			
	6								
	7								
	8					TD = 8.0'			
						Scrn 3'-8' bgs			
						HP-~~DG~~CA13-DG5-~~26~~ 15 JCB 6/15			
						030-CAP-~~2306~~ JCB			

Boring Logs for DGS Site 13

Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings
S13-DGS-DP01	S13-DGS-SG01	S13-DGS-VE01	
S13-DGS-DP02	S13-DGS-SG02	S13-DGS-VE02	
		S13-DGS-VE03	

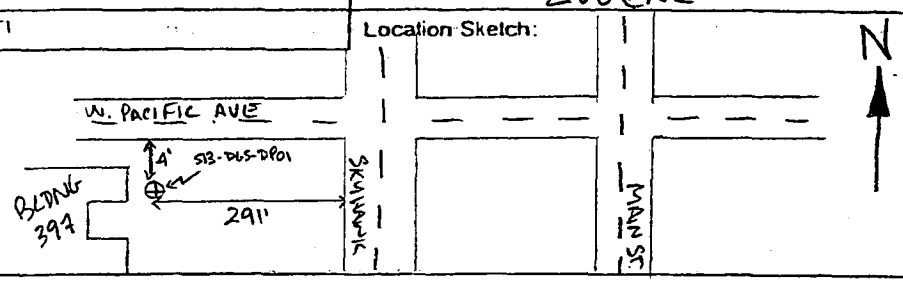
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13- DGS- DP01	Date Started: 8/16/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/16/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					ASPHALT			
2					SANDY SILT ; (10YR 3/4) ; SLT. MOIST; LOOSE; NON PLASTIC; SAND- 20%, SILT- 70%, GRAVEL - 10% - SUBROUNDED.	ML		
4				NA	SILTY SAND ; (5Y 5/4); MOIST; M. DENSE; WELL SORTED ; NON PLASTIC; SAND- 67% - FINE GRAINED, SILT- 30%, TRACE GRAVEL. BRICK FRAGMENTS @ 3' COLOR CHANGE @ 4' (7.5YR 2.5/1). WET @ 4.5', COLOR CHANGE (10YR 3/1), COLOR CHANGE @ 5', (2.5Y 4/3).	SM	NA	
6			385-S13 012					
8					TOTAL DEPTH = 7' BORING BACKFILLED w/ CONCRETE GROUT.			
10								

0830

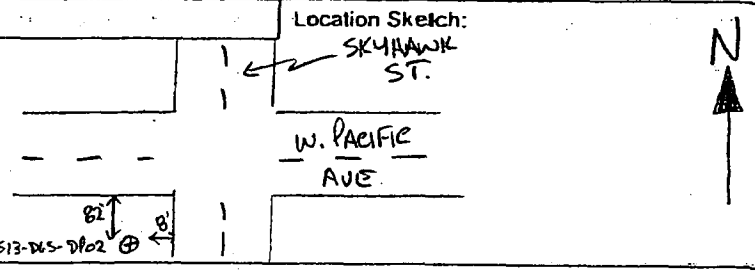
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13-DGS-D002	Date Started: 8/15/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.): 3'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2					SILTY SAND; BROWN (10YR 4/3); DRY; LOOSE; NON PLASTIC; SAND- 70% - FINE-M. GRAINED, 25% SILT, 5% ROOTS	SM		
	4				N/A	COLOR CHANGE @ 0.5' - LIGHT OLIVE BROWN (2.5Y 5/3), MOIST, M. DENSE WET @ 3.0' COLOR CHANGE @ 4.5' - DARK GREENISH GRAY (1 GLEY 10GY 4/1).		N/A	
	6					COLOR CHANGE @ 5.5' BLACK (1 GLEY N 2.5/1) VISIBLE CONTAMINATION	CL		
0830	8			385-S13 015		SANDY CLAY; BLACK (1 GLEY N 2.5/1); WET; SLT. PLASTIC; SOFT; 55% CLAY, 45% SAND			
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CONCRETE GROUT.			

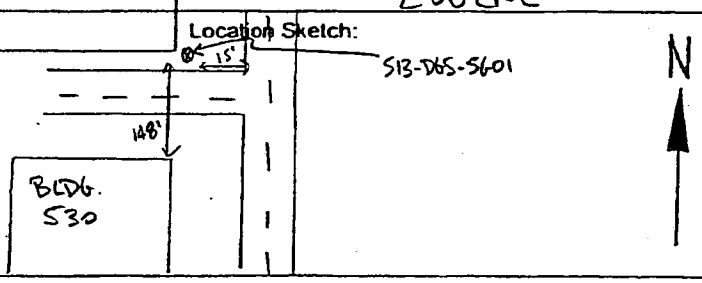
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13-DGS-SG01	Date Started: 7/10/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) NA	Location Sketch:



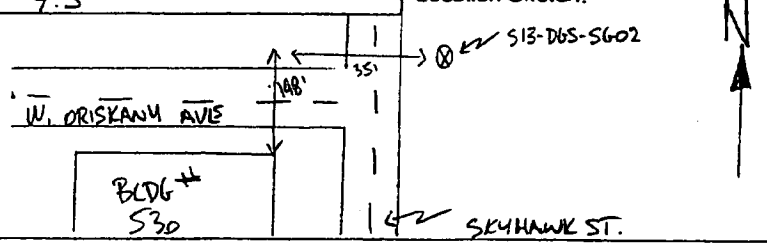
Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					CONCRETE			
1333 1			385-S13-018	NA	SAND; YELLOWISH BROWN (2.5Y 6/4); MOIST; LOOSE; MOD SORTED; FINE GRAINED, SAND-98%, SHELL FRAGMENTS- 2%	SP	NA	
2					TOTAL DEPTH = 2' BORING BACKFILLED W/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13-D6S-S602	Date Started: 7/10/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 7.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1341	2			385-S13 019	NA	SAND; YELLOWISH BROWN (2.5Y 6/4); SLT. MOIST, LOOSE; WELL SORTED; FINE GRAINED; SAND-98%, SHELL FRAGMENTS - 2%.	SP	NA	
	4					COLOR CHANGE @ 4.5' - DK. GREENISH GREY (1.GLEY 4/10GY)			
	6					CLAYEY SAND; DK. GREENISH GREY (1 GLEY 3/5GY); SLT. MOIST; M. DENSE; NON PLASTIC; SAND-60%, CLAY-40%, STRONG ODOR	SC		
	8					WET @ 7.5'			
	10					TOTAL DEPTH = 8' BORING BACKFILLED W/ CEMENT GROUT.			

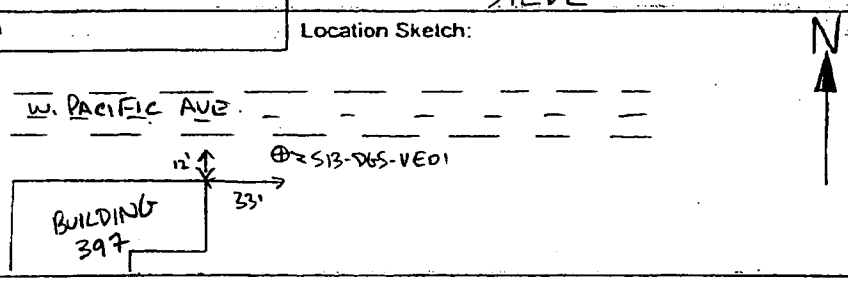
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13-DGS-VE01	Date Started: 8/8/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/8/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller: STEVE
Depth to Water (ft./bgs.) 5.5'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
2					CONCRETE SAND w/ SILT; OLIVE (5Y 4/4); MOIST; LOOSE, WELL SORTED; NON PLASTIC; SILT- 10%, SAND- 90%.			
4				N/A	A 12" DIAMETER PLASTIC(?) PIPE WAS ENCOUNTERED @ ~ 4.5' BGS		N/A	
0820 6 0830			385-S13 012 WATER SAMPLE 385-S13 014		GROUND WATER PARAMETERS DO- 5.07 mg/L CND - 1.07 mS/cm TMP- 19.3°C TRB - 7 999 NTU PH- 4.66 ORP- -37mV - LIGHT SHEEN.			
8 10					TOTAL DEPTH = 7.5' BORING BACKFILLED W/ CLEAN FILL MATERIAL & FINISHED W/ CONCRETE CAP			

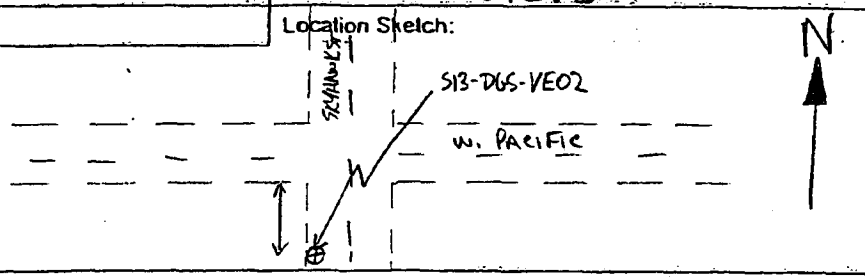
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S13- DGS- VE02	Date Started: 8/7/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller: STEVE
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
						SAND; DARK GREY (2GLEY N4/); WET; LOOSE; NON PLASTIC; FINE GRAINED; WELL SORTED;	SW		
	2								
						A METAL PIPE 12" DIAMETER WAS ENCOUNTERED @ 8.5' BGS.			
	4				NA			NA	
						GROUNDWATER PARAMETERS			
						TMP- 26.2°C PH- 7.26 CND- 0.79 mS/cm			
	6					TRB- 511 NTU DO- 0.15 mg/L ORP- -65 mV			
						- SLIGHT PETROL ODOR, LIGHT SHEEN.			
1135	8			385-S13 016					
1145				WATER SAMPLE 385-S13 0708017A					
	10								

TOTAL DEPTH = 10'
BORING BACKFILLED W/ CLEAN FILL & FINISHED W/ ASPHALT CAP.

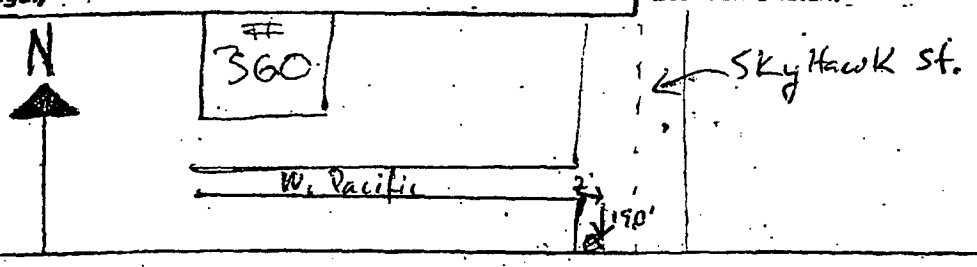
Sheet _____

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

Boring Number: S13-DGS-VE03	Date Started: 4/26/02
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4/26/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. Cruickshank
Outer Diameter of Boring:	Drilling Subcontractor: Miller Pipeline
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Vacuum Excavation/GW Sample

Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction
					385-S13-027 PH: 8.19 DO: 11.39 mg/kg CND. 505 uS/cm ORP: 85.9 mV TRB: 153.9 NTU Temp: 17.07°C GW: Clear; no odor; no sheen (screened @ 3'-7')		
2							
4			385 S13- 027	screened	Sand: Dark Olive brown (2.5Y 3/3); moist; poorly graded; loose; trace shell fragments; 5% silt; fine to med. grained sand	SP	
6					Metal pipe found @ 7' bgs Total Depth: 7' (3'-7') Boring backfilled w/ baserock/coldpatch		
8							
10							

1840

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B001

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	9.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590583		9:55:00 AM				1		**CLAYEY SAND with GRAVEL (SC)**: Very dark grayish brown [10YR 3/2], moist, fine grained sand, fine angular gravel, 15% gravel, 65% sand, 30% fines. (FILL).	FID background = 0.5 ppm Hole backfilled with cement grout after completion
C0590584		9:58:00 AM				2		**SAND with GRAVEL (SP)**: Light olive brown [2.5Y 5/6], moist, poorly graded, fine grained sand, fine gravel, angular, 15% gravel, 75% sand, 10% fines. (FILL).	IDW Generated = 4-gallons soil from hand auger, 1-gallon soil from direct push.
C0590585		10:02:00 AM		▽		3			
						4		**SAND (SP)**: Very dark grayish brown [2.5Y 3/2], wet, 0% gravel, 90% sand, 10% fines.	
						5			
						6			
C0590586		10:06:00 AM				7			
						8			
						9		**CLAYEY SAND (SC)**: Light olive brown [2.5Y 5/6], moist to wet, fine grained sand, 0% gravel, 70% sand, 30% fines.	
								TOTAL DEPTH = 9.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B001

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B002

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-24-03	7-24-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/24/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590587		10:17:00 AM						SAND (SP): Very dark grayish brown [10YR 3/2], moist, poorly graded, fine grained sand, trace gravel, 90% sand, 10% fines. (FILL).	FID background = 1.2 ppm Hole backfilled with cement grout after completion
						1			
C0590588		10:21:00 AM							
						2		at 2.0 ft.: Light olive brown [2.5Y 5/4], 0% gravel, 90% sand, 10% fines.	IDW Generated = 4-gallons soil from hand auger, 1-gallon of soil from direct push.
						3			
C0590589		10:28:00 AM							
						4			
				▽		5		at 5.0 ft.: wet.	
						6		CLAY with SAND (CL): Olive brown [2.5Y 4/3], soft, wet, fine grained sand, low plasticity, mottled Bluish black [GLEY2 2.5/1], 0% gravel, 15% sand, 85% fines. (FILL).	
C0590590		10:32:00 AM						SAND (SP): Very dark grayish brown [2.5Y 3/2], wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
						7			
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B002

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:02:36 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B003

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	9.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590592 C0590591		1:20:00 PM				1		SILTY SAND with GRAVEL (SM): Olive brown [2.5Y 4/4], moist, fine grained sand, fine angular gravel, 20% gravel, 50% sand, 30% fines. (FILL).	FID background = N/A Hole backfilled with cement grout after completion
C0590593		1:23:00 PM				2		GRAVELLY CLAY (CL): Light olive brown [2.5Y 5/4], moist, fine angular gravel, 30% gravel, 10% sand, 60% fines. (FILL).	IDW Generated = 4-gallons of soil from hand auger, 1-gallon of soil from direct push
C0590594		1:30:00 PM		▽		3 4		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL). at 4.5 ft.: wet.	
C0590595		1:42:00 PM				5 6 7		SILTY SAND (SM): Very dark gray [2.5Y 3/1], moist to wet, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
						8 9		SAND (SP): Light olive brown [2.5Y 5/4], wet, fine grained sand, 0% gravel, 90% sand, 10% fines.	
								TOTAL DEPTH = 9.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B003

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B004

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590596		10:42:00 AM						SAND (SP): Dark brown [10YR 3/3], moist, poorly graded, fine grained sand, fine angular gravel, 10% gravel, 80% sand, 10% fines. (FILL).	FID background = 0.9 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Light yellowish brown [2.5Y 6/3], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	
C0590597		10:45:00 AM							
						2			IDW Generated = 4-gallon sof soil from hand auger, 1-gallon of soil from direct push
						3			
C0590598		10:51:00 AM							
						4		SILTY SAND (SM): Light olive brown [2.5Y 5/6], moist to wet, fine grained sand, trace gravel, 70% sand, 30% fines. (FILL).	
				▽		5		at 5.0 ft.: Greenish gray [GLEY 1 4/1], wet.	
						6			
C0590599		10:54:00 AM							
						7		CLAY (CL): Black [GLEY1 2.5/black], stiff, wet, low plasticity, 0% gravel, 10% sand, 90% fines.	
						8		SAND (SP): Very dark gray [10YR 3/1].	
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B004

Report form: CTP-459 ALAMEDA BORING LOG Time: 4:01:35 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B005

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590600		11:03:00 AM				1		SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine angular gravel, 10% gravel, 60% sand, 30% fines. (FILL).	FID Generated = 0.5 ppm Hole backfilled with cement grout after completion
C0590601 C0590602		11:06:00 AM				2		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	IDW Generated = 4-gallons of soil from hand auger, 1-gallon of soil from direct push
						3			
C0590603		11:09:00 AM				4			
				▽				at 4.5 ft.: wet.	
						5		CLAY (CL): Dark greenish gray [GLEY1 4/1] and Black [GLEY1 2.5/black], very soft, wet, 0% gravel, 10% sand, 90% fines, sulfur odor. (FILL).	
						6		SILTY SAND (SM): Dark brown [10YR 3/3], wet, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
C0590604		11:15:00 AM				7		SAND (SP): Light olive brown [2.5Y 5/4], wet, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B005

Report Name: CT

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B006

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 5.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590605		11:29:00 AM						**SILTY SAND (SM)**: Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, trace gravel, 70% sand, 30% fines. (FILL).	FID background = 0.2 ppm Hole backfilled with cement grout after completion
						1		**SAND (SP)**: Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
C0590606		11:32:00 AM							
						2			IDW Generated = 4-gallons of soil from hand auger, 1-gallon of soil from direct push
						3			
C0590607		11:35:00 AM							
						4			
				▽		5		at 5.0 ft.: wet.	
								SILTY SAND (SM): Dark brown [10YR 3/3], wet, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
						6			
C0590608		11:39:00 AM							
								SAND (SP): Light olive brown [2.5Y 5/3], wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
						7			
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B006

Report Form: CTI-249 ATLANTIX BORINGLOG Time: 4:51:00 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B007

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590609		3:56:00 PM						**ASPHALT**	
								GRAVELLY SAND (SW): Dark brown [10YR 3/3], moist, well graded, fine grained sand, fine gravel, angular, 30% gravel, 60% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1		**SILTY SAND with GRAVEL (SM)**: Dark yellowish brown [10YR 4/4], moist, fine grained sand, fine angular gravel, 20% gravel, 50% sand, 30% fines.	
C0590610		3:57:00 PM							
						2			IDW Generated = 4-gallons of soil
C0590611 C0590612		3:58:00 PM				3		**SAND (SP)**: Olive brown [2.5Y 4/4], moist to wet, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	
				∇		4		at 4.5 ft.: wet.	
						5			
C0590613		3:59:00 PM				6			
						7			
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B007

Report Form: CTH

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B008

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590614		1:54:00 PM						**SILTY SAND (SM)**: Very dark grayish brown [10YR 3/2], moist, fine grained sand, shell fragments, 0% gravel, 70% sand, 30% fines. (FILL).	FID background = N/A Hole backfilled with cement grout after completion
						1		**SAND (SP)**: Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	
C0590615		1:58:00 PM							
						2			IDW Generated = 4-gallonsof soil from hand auger, 1-gallon of soil from direct push
						3			
C0590616		2:00:00 PM							
				▽		4		at 4.0 ft.: wet.	
						5			
						6			
C0590617		2:08:00 PM							
						7		**SILTY SAND (SM)**: Very dark gray [2.5Y 3/1], wet, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B008

Report Name: CTD-059 ALAMEDA BORING LOG Time: 6/03:48 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B009

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590618		2:15:00 PM				1		SAND with SILT (SP): Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, 0% gravel, 85% sand, 15% fines. (FILL).	FID background = 2.60 ppm Hole backfilled with cement grout after completion
C0590619		2:18:00 PM				2		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	IDW Generated = 4-gallons of soil from hand auger, 1-gallon of soil from direct push
C0590620		2:23:00 PM		▽		3			
						4		SILTY SAND (SM): Very dark gray [2.5Y 3/1], wet, fine grained sand, shell fragments, 0% gravel, 65% sand, 35% fines. (FILL).	
C0590622 C0590621		2:28:00 PM				5			
						6			
						7		SAND (SP): Olive brown [2.5Y 4/3], wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B009

Report form: CTE BORING LOG Time: 6:01:48 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B010

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-25-03	7-25-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	9.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590623		3:14:00 PM						GRAVELLY CLAY (GC): moist, fine gravel, angular, 30% gravel, 10% sand, 60% fines. (ROAD BASE).	FID background = 0.7 ppm Hole backfilled with cement grout after completion
						1		SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, trace gravel, 70% sand, 30% fines. (FILL).	
C0590624						2			IDW Generated = 4-gallons of soil from hand auger, 1-gallon of soil from direct push
						3		at 3.0 ft.: Very dark gray [10YR 3/1].	
C0590625				▽		4		at 4.0 ft.: wet.	
						5			
						6			
C0590626						7			
						8		CLAYEY SAND (SC): Dark yellowish brown [10YR 4/6] mottled [10YR 5/1], moist, fine grained sand, 0% gravel, 65% sand, 35% fines.	
						9			
								TOTAL DEPTH = 9.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B010

Report form: CTO-059 ALAMEDA BORING.FRG Time 4/07/20 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B011

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 6.5 ft / ft	Tina Takagi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590627		9:50:00 AM						SAND (SP): Light olive brown [2.5Y 5/6], moist, poorly graded, homogenous.	FID background = 0.5 ppm Hole backfilled with cement grout after completion
						1			
C0590628		9:52:00 AM							
						2			IDW Generated = 0.5 buckets
C0590629		9:54:00 AM				3			
						4			
						5			
C0590630		9:56:00 AM				6			
				∇				at 6.5 ft.: wet	
						7			
								at 7.5 ft.: Dark greenish gray [5GY 4/1], saturated.	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B011

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B012

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-25-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590632 C0590631		2:35:00 PM						**SILTY SAND (SM)**: Dark olive gray [5Y 3/2], loose, moist, fine grained sand, subrounded, trace (2%) root, 0% gravel, 70% sand, 30% fines. (FILL).	Hole backfilled with cement grout after completion
						1			
C0590633		2:40:00 PM						**SAND (SP)**: Olive [5Y 5/4], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	
						2			IDW Generated = 3 gallons
C0590634		2:45:00 PM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
								at 5.5 ft.: Dark grayish brown [10YR 4/2], 0% gravel, 90-95% sand, 5-10% fines. (FILL).	
C0590635		2:50:00 PM				6			
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B012

Report form: CTI-059 ALAMEDA BORING LOG Time: 6:02:55 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B013

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-25-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
∇ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590636		2:15:00 PM						**SILTY SAND (SM)**: Dark olive gray [5Y 3/2], loose, moist, fine grained sand, subrounded, trace (2%) roots, 0% gravel, 70% sand, 30% fines. (FILL).	FID background = 1.3 ppm Hole backfilled with cement grout after completion
						1		**SAND (SP)**: Olive [5Y 5/3], loose to medium dense, moist, poorly graded, fine grained sand, subrounded.	
C0590637		2:20:00 PM							
						2			IDW Generated = 3 gallons
C0590638		2:25:00 PM				3			
						4			
				∇		5		at 5.0 ft.: wet.	
C0590639		2:30:00 PM				6			
						7		at 6.8 ft.: Dark grayish brown [10YR 4/2].	
						8		**TOTAL DEPTH = 8.0 FEET**	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B013

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B014

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-25-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/25/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590640		1:35:00 PM						SILTY SAND (SM): trace (2%) roots. (FILL).	FID background = 0.98 ppm
								SAND (SP): Light olive brown [2.5Y 5/4], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	Hole backfilled with cement grout after completion
						1			
C0590642 C0590641		1:50:00 PM							
						2			IDW Generated = 3 gallons
C0590643		1:55:00 PM				3		at 3.0 ft.: black tar balls 0.5" in diameter.	
				▽		4		at 4.0 ft.: wet.	
						5		at 5.0 ft.: trace tar balls.	
								at 5.5 ft.: Dark olive brown [2.5Y 3/3], with 15% Silt.	
C0590644		2:00:00 PM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B014

Report form: CTT-059 ALAMEDA BORING LOG Time: 4:03:38 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B015

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 7.0 ft / ft		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590645		2:08:00 PM						SANDY GRAVEL (GW): Olive brown [2.5Y 4/3], moist, well graded, angular, up to 1" in diameter, 50% gravel, 30% sand, 20% fines.	FID background = 1.0 ppm
						1		SANDY GRAVEL (SM): Olive brown [2.5Y 4/3], moist, angular, gravel up to 0.5" in diameter, 45% gravel, 30% sand, 20% fines.	
C0590646		2:10:00 PM							
						2		SAND (SP): Olive brown [2.5Y 4/3], wet, 0% gravel, 95% sand, 5% fines.	
C0590647		2:12:00 PM				3			
								SILTY SAND (SM): Very dark gray [2.5Y 3/1], wet, 0% gravel, 85% sand, 15% fines.	
						4		SAND (SP): Light olive brown [2.5Y 5/3], wet, trace gravel, 90% sand, 10% fines.	
						5			
C0590648		2:14:00 PM				6		at 6.0 ft.: Dark gray [2.5Y 4/0].	
				▽		7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B015

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B016

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz.)**	**ABANDON DATE**
▼ 5.5 ft / ft		Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590649		10:27:00 AM						**SAND (SP)**: Light olive brown [2.5Y 5/3], loose, dry, 10% gravel, 90% sand, trace fines, some surface roots present.	
						1		**SAND with GRAVEL** at 0.5 ft.: Dark bluish gray [5B 4/1], some large rocks, 20% gravel, 80% sand, trace fines.	
C0590650		10:32:00 AM							
						2		at 2.0 ft.: Very dark brown [10YR 2/2], moist, 10% gravel, 85% sand, 5% fines.	
C0590652 C0590651		10:34:00 AM				3			
						4		**SAND (SP)**: Olive brown [2.5Y 4/3], loose, wet, 5% gravel, 95% sand, trace fines.	
								at 4.5 ft.: dry, 6" Layer.	
						5			
				▽				at 5.5 ft.: wet.	
C0590653		10:37:00 AM				6			
								at 6.5 ft.: Black [10YR 2/1], dense, saturated, 0% gravel, 90% sand, 10% fines.	
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B016

Report form: CTD-059 ALAMEDA BORING LOG Time: 6:03:06 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B017

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 5.5 ft / ft	Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590654		3:08:00 PM						**GRAVEL with SAND (GM)**: Light olive brown [2.5Y 5/6], moist, angular, gravel to 1" in diameter, 60% gravel, 20% sand, 20% fines. (FILL).	
						1		**GRAVELLY SAND (SP)**: Olive brown [2.5Y 4/4], moist, angular, 30% gravel, 60% sand, 10% fines, gravel to 1" in diameter. (FILL).	
C0590655		3:10:00 PM							
						2		**SILTY SAND (SM)**: Very dark gray [5Y 3/1], hydrocarbon odor, wood debris, <5% gravel, 75-80% sand, 20% fines.	
C0590656		3:12:00 PM				3			
								at 3.5 ft.: wood debris.	
						4		at 4.0 ft.: Olive [5Y 4/4], 5% gravel, 75% sand, 20% fines. (FILL).	
								at 4.5 ft.: Very dark gray [5Y 3/1], wet.	
						5			
				∇				at 5.5 ft.: saturated.	
C0590657		3:14:00 PM				6			
						7			
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B017

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B018

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590658		1:04:00 PM						**GRAVELLY SAND (SP)**: Olive brown [2.5Y 4/3], loose, dry, 30% gravel, 70% sand, trace fines.	
								at 0.5 ft.: Gray to Dark gray.	
						1			
C0590659		1:10:00 PM							
						2		**SILTY SAND (SM)**: at 2.0 ft.: Black [10YR 2/1], stiff, moist, <5% gravel, 80% sand, 15% fines.	
C0590660		1:12:00 PM				3			
						4		at 4.0 ft.: Gray [10YR 5/1], loose, dry, 0% gravel, 85% sand, 15% fines.	
				▽		5		at 5.0 ft.: Black [10YR 2/1], wet.	
C0590662 C0590661		1:15:00 PM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B018

Report Form: CTD-459 ATASKDA BORING1.FRG Time: 4:03:10 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B019

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 6.0 ft / ft		Tina Takagi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590663		10:38:00 AM						SAND (SP): Light yellowish brown [2.5Y 6/4], moist, homogeneous, 0% gravel, 100% sand, 0% fines.	FID background = 0.5 ppm Hole backfilled with cement-bentonite grout after completion
						1			
C0590664		10:40:00 AM							
								WELL GRADED SAND (GW): angular, gravel to 1" in diameter, oxidized rock fragments.	
						2		SAND (SP): Light yellowish brown [2.5Y 6/4], moist, homogeneous, 0% gravel, 100% sand, 0% fines, oxidation.	IDW Generated = 0.5 buckets
C0590665		10:42:00 AM				3			
						4			
						5			
C0590666		10:45:00 AM		▽		6		at 6.0 ft.: wet.	
						7		at 7.5 ft.: Dark greenish gray [5GY 4/1].	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B019

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B020

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590667		1:20:00 PM						SAND (SP): Light yellowish brown [2.5Y 6/4], moist, poorly graded, fine grained sand, shell fragments, roots, trace gravel, 90% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590668		1:21:00 PM							
						2			IDW Generated = 4-gallons of soil
C0590669		1:24:00 PM				3			
				∇		4		at 4.0 ft.: Light olive brown [2.5Y 5/4], wet.	
						5			
C0590670		1:36:00 PM				6			
						7			
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B020

Report form: CTH-069 ALAMEDA DRILLING LOG Time: 4/15/14 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B021

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	3 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590672 C0590671		2:56:00 PM						**SAND (SP)**: Light yellowish brown [2.5Y 6/4], moist, poorly graded, fine grained sand, shell fragments, trace gravel, 90% sand, 10% fines.	FID background = 0 ppm
						1			
C0590673		2:59:00 PM							
						2			IDW Generated = 4-gallons of soil
C0590674		3:00:00 PM				3			
								SILTY SAND (SM): Black [10YR 2/1], moist, fine grained sand, hydrocarbon odor.	
						4		**GRAVELLY CLAY (CL)**: Dark greenish gray [10GY 3/1] [GLEY1 4/1], moist to wet, fine angular gravel, 35% gravel, 15% sand, 50% fines. hydrocarbon odor.	
				▽		5		at 5.0 ft.: wet.	
C0590675		3:18:00 PM				6			
						7			
						8		**TOTAL DEPTH = 8.0 FEET**	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B021

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B022

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	4.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ Dry at time of drilling	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590676		9:15:00 AM						**SILTY SAND (SM)**: Dark yellowish brown [10YR 4/6], moist, fine grained sand, shell fragments, roots, trace gravel, 70% sand, 30% fines. (FILL).	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590677		9:16:00 AM							
						2		**SAND (SP)**: Yellowish brown [10YR 5/6], moist, fine grained sand, wood pieces, 10% gravel, 80% sand, 10% fines. (FILL).	IDW Generated = 4-gallons of soil
C0590678		9:17:00 AM				3			
						4		**TOTAL DEPTH = 4.0 FEET**	Note: Hand augers hit refusal at 1.5 feet bgs in similar locations

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B022

Report form: CTO-059 ALAMEDA DRILLING LOG Thur 1-09-31 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B023

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
∇ 4.5 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590680		1:05:00 PM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, 0% gravel, 75% sand, 25% fines. (FILL).	
								SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, trace (2%) shells. (FILL).	Hole backfilled with cement grout after completion
						1			
C0590682 C0590681		1:10:00 PM							
						2			IDW Generated = 3 gallons
C0590683		1:15:00 PM				3			
						4			
				∇				at 4.5 ft.: wet.	
						5		at 5.0 ft.: Greenish black [10GY 2.5/1], 5% Silt, product visible, strong hydrocarbon odor.	
C0590684		1:20:00 PM				6			
						7			
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B023

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B024

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590685		9:20:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, subrounded, 0% gravel, 70% sand, 30% fines, trace shells. (FILL).	FID/PID background = 2.2 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive [5Y 5/3], medium dense to dense, moist, poorly graded, fine grained sand, subrounded, vague layering of darker magnetite-rich laminations. (FILL).	
C0590686		9:23:00 AM							
						2			IDW Generated = 3 gallons
C0590687		9:29:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
C0590688		9:32:00 AM				6			
						7		at 6.8 ft.: Dark greenish gray [10Y 4/1].	
								0.5" seam of FAT CLAY at 7.5 ft.: (FILL).	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B024

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B025

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590689		9:57:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], medium dense, moist, fine grained sand, trace shells, 0% gravel, 70% sand, 30% fines. (FILL).	FID/PID background = 1.4 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, fine grained sand, subrounded, vague laminations. (FILL).	
C0590690		10:00:00 AM							
						2			IDW Generated = 3 gallons
C0590692 C0590691		10:05:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
C0590693		10:10:00 AM				6			
						7		at 7.0 ft.: Greenish gray [5GY 5/1]. at 7.5 ft.: Greenish black [10Y 2.5/1].	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B025

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B026

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.5 ft / ft		Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590694		8:50:00 AM						SANDY GRAVEL (GW): Grayish-brown, loose, moist, 60% gravel, 40% sand, trace fines.	
								SAND (SP): Light olive brown, loose, moist, 10% gravel, 90% sand, trace fines.	
						1			
C0590695		8:52:00 AM							
						2		at 2.0 ft.: Olive brown, medium dense, 0% gravel, 90% sand, 10% fines.	
C0590696		8:53:00 AM				3			
						4		at 4.0 ft.: moist.	
				▽				at 4.5 ft.: wet.	
						5		at 5.0 ft.: Grayish brown.	
C0590697		8:55:00 AM				6		at 6.0 ft.: Gray.	
						7		at 7.0 ft.: Black, odor.	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B026

Report form: CTO-459 ALAMEDA BORING LOG Time: 4:01:50 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B027

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								GRAVELLY CLAY (CL): Grayish brown [2.5Y 5/2], moist, fine gravel, angular, 35% gravel, 10% sand, 55% fines.	FID/PID background = 0 ppm
C0590698		9:58:00 AM				1		**SAND (SP)**: Olive brown [2.5Y 4/4], moist, poorly graded, fine grained sand, trace gravel, 90% sand, 10% fines.	Hole backfilled with cement grout after completion
C0590699		10:01:00 AM				2			IDW Generated = 4-gallons of soil
						3		**SILTY SAND with GRAVEL (SM)**: Black [2.5Y 2.5/1], moist, fine grained sand, fine gravel, angular, 15% gravel, 55% sand, 30% fines.	
C0590700		10:03:00 AM		▽		4		at 4.0 ft.: wet, sheen, hydrocarbon odor.	
						5			
						6		at 6.0 ft.: roots.	
C0590702 C0590701		10:05:00 AM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B027

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B028

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID background = 0 ppm
C0590703		10:25:00 AM				1		**GRAVELLY SAND (SW)**: Dark yellowish brown [10YR 3/6], moist, well graded, fine grained sand, fine angular gravel, shell fragments, 35% gravel, 55% sand, 10% fines.	Hole backfilled with cement grout after completion
C0590704		10:30:00 AM				2		**SAND (SP)**: Light olive brown [2.5Y 5/6], moist, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines.	IDW Generated = 4-gallons of soil
C0590705		10:32:00 AM		▽		3		**SILTY SAND (SM)**: Black [2.5Y 2.5/1], moist, fine grained sand, roots, shell fragments, trace gravel, 65% sand, 35% fines.	
						4		at 4.0 ft.: wet.	
						5			
						6			
C0590706		10:39:00 AM							
						7		**SILTY SAND (SM)**: Very dark grayish brown [10YR 3/2], wet, poorly graded, fine grained sand, shell fragments, 0% gravel, 80% sand, 20% fines.	
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B028

Report Form: CTO-059 ALAMEDA BORING LOG Time: 4:03:34 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B029

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 6.0 ft / ft	Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
		3:00:00 PM						SAND (SP): Dark olive brown, loose, moist, poorly graded, 0% gravel, 95% sand, 5% fines.	
		3:02:00 PM						at 0.5 ft.: Dark gray, strong odors.	
						1			
		3:04:00 PM				2		at 2.0 ft.: Black, strong odors.	
						3			
		3:07:00 PM				4		SILTY SAND (SM): Black, dense, moist, strong odors, 0% gravel, 80% sand, 20% fines.	
				▽		5			
						6		at 6.0 ft.: wet.	
								at 6.5 ft.: Greenish-gray, very dense, saturated, strong odor.	
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B029

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B030

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
∓ 5.0 ft / ft		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590712 C0590711		2:22:00 PM						SAND (SP): Dark olive brown [2.5Y 3/3], moist, poorly graded, rounded gravel to 0.5 inches, rootlets and wood fragments from 0-0.3 feet bgs, 5% gravel, 95% sand, 0% fines. at 0.5 ft.: Light olive brown [2.5Y 5/4], 2% gravel, 95% sand, 3% fines.	
						1			
C0590713		2:24:00 PM							
						2			IDW Generated = 5/8 bucket
C0590714		2:26:00 PM				3			
								SANDY CLAY (CL): Light olive brown [2.5Y 5/4], stiff, low plasticity, 0% gravel, 50% sand, 50% fines.	
						4			Slumping of surface into top 6" of core, exclude from sample
				∇		5		CLAY (CL): Dark greenish gray [5G 4/1], wet, 5% gravel, 10% sand, 90% fines.	
C0590715		2:28:00 PM				6		GRAVELLY SAND (SP): Dark greenish gray [5GY 4/1], wet, poorly graded, fine gravel, subangular, gravel to 0.5 inches, 5% gravel, 90% sand, 5% fines, 1 large dark red rock fragment. SILTY ORGANIC CLAY (OL): Black [2.5Y 2.5/1], rootlets, marsh crust, 0% gravel, 70% sand, 30% fines.	
						7		SAND (SP): Very dark gray [5Y 3/1], wet, rootlets and organic matter to 2 inches, 0% gravel, 90% sand, 10% fines.	Marsh crust and below excluded from samples (6.5-8 ft. bgs)
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B030

Report form: CTI-059 ALAMEDA BORING.FDG Time: 4/03/01 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B031

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A JR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 6.5 ft / ft	Tina Takagi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590716		11:06:00 AM						SAND (SP): Light yellowish brown [2.5Y 6/4], dry, poorly graded, 0% gravel, 100% sand, 0% fines.	FID background = 0.5 ppm Hole backfilled with cement grout after completion
								at 0.5 ft.: moist.	
						1			
C0590717		11:08:00 AM							
						2		at 2.0 ft.: Light olive brown [2.5Y 5/4].	IDW Generated = 0.5 buckets
C0590718		11:10:00 AM				3			
						4			Excluded top 1/3 of recovered sample, slumped into hole from ground surface
						5			
C0590719		11:15:00 AM				6		at 6.0 ft.: wet.	
				▽				at 6.5 ft.: saturated.	
						7			
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B031

Report Form: CTF
WORKING LOG Time 4:03:43 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B032

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590720		1:57:00 PM						SAND (SP): Light yellowish brown [2.5Y 6/4], moist, poorly graded, fine grained sand, shell fragments, trace gravel, 90% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590722 C0590721		1:58:00 PM							
						2			IDW Generated = 4-gallons of soil
C0590723		2:00:00 PM				3			
				▽		4		at 4.0 ft.: Light olive brown [2.5Y 5/4], wet, fine grained sand.	
						5			
C0590724		2:09:00 PM				6			
						7		at 7.5 ft.: Dark greenish gray [GLEY1 4/1].	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B032

Report form: C:\TI-059 AL\ALAMEDA NEW\NSC1.DG Time: 6:05:48 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B033

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 3.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590725		2:26:00 PM						SAND (SP): Light yellowish brown [2.5Y 6/4], moist, poorly graded, fine grained sand, shell fragments, trace gravel, 90% sand, 10% fines.	FID background = 1 ppm Hole backfilled with cement grout after completion
						1			
C0590726		2:29:00 PM							
						2			IDW Generated = 4-gallons of soil
C0590727		2:31:00 PM				3			
				▽				at 3.5 ft.: Light olive brown [2.5Y 5/4], wet.	
						4			
						5			
C0590728		2:40:00 PM				6			
						7			
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B033

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B034

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 3.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590729		1:15:00 PM						**SILTY SAND (SM)**: Brown [10YR 5/3], moist, fine grained sand, fine angular gravel, roots, shell fragments, trace gravel, 70% sand, 30% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
C0590730		1:18:00 PM				1			
						2			IDW Generated = 4-gallons of soil
C0590732 C0590731		1:18:00 PM		▽		3		at 3.5 ft.: Black [10YR 2/1], wet, hydrocarbon odor.	
						4			
						5		**SAND (SP)**: Dark bluish gray [GLEY 2 4/1], wet, poorly graded, fine grained sand, hydrocarbon odor, shell fragments.	
C0590733		1:22:00 PM				6			
						7			
						8		**TOTAL DEPTH = 8.0 FEET**	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B034

Report Form: CTI-059 ALAMEDA DRILLING.LOG Date: 4/05/04 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B035

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590734		1:50:00 PM						SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, trace shells. (FILL).	FID background = 2.1 ppm Hole backfilled with cement grout after completion
						1			
C0590735		1:55:00 PM							
						2			IDW Generated = 3-gallons
C0590736		2:00:00 PM				3			
								at 3.5 ft.: Greenish gray [5G 5/1].	
						4			
				▽				at 4.5 ft.: wet.	
						5		at 5.0 ft.: Greenish black [10Y 2.5/1], strong hydrocarbon odor, product.	
C0590737		2:05:00 PM				6			
						7			
								at 7.5 ft.: Black.	
						8			

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B035

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B036

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ NA	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590738		11:15:00 AM						SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, trace (2%) shells. (FILL).	FID/PID background = 1.8 ppm Hole backfilled after completion on 7/28/03
						1			
C0590739		11:20:00 AM							
						2			IDW Generated = 3-gallons
C0590740		11:23:00 AM				3			
						4			
						5		at 5.0 ft.: wet.	
C0590742 C0590741		11:25:00 AM				6		at 6.0 ft.: Greenish black [10Y 2.5/1], moderate hydrocarbon odor, some (5%) Silt.	
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B036

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:03:54 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B037

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590743		10:35:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, trace shells, 0% gravel, 75% sand, 25% fines. (FILL).	FID/PID background = 1.8 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	
C0590744		10:40:00 AM							
						2			IDW Generated = 3-gallons
C0590745		10:45:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
C0590746		10:45:00 AM				6		at 6.0 ft.: Greenish gray [5GY 5/1].	
						7		at 7.0 ft.: Greenish black [10Y 2.5/1], slight hydrocarbon odor, some (5%) Silt.	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B037

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B038

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 6.5 ft / ft		Andrew Liu	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590747		9:36:00 AM						SANDY GRAVEL (GW): Light olive brown, loose, moist, 50% gravel, 50% sand, trace fines.	
								SAND (SP): Olive brown, loose, moist, 5% gravel, 95% sand, trace fines.	
						1			
C0590748		9:38:00 AM							
						2		at 2.0 ft.: 0% gravel, 100% sand, trace fines.	
C0590749		9:40:00 AM				3			
						4		at 4.0 ft.: medium dense, wet, 0% gravel, 95% sand, 5% fines.	
						5			
C0590750		9:44:00 AM				6			
				▽				at 6.5 ft.: wet.	
						7			
								at 7.7 ft.: Dark gray, very dense, saturated.	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B038

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B039

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								GRAVELLY CLAY with SAND (CL): Light olive brown [2.5Y 5/4], moist, fine angular gravel, 35% gravel, 15% sand, 50% fines.	FID background = 0 ppm
C0590752 C0590751		11:15:00 AM				1		SILTY SAND (SM): Olive brown [2.5Y 4/4], moist, fine grained sand, angular gravel, shell fragments, 10% gravel, 60% sand, 30% fines.	Hole backfilled with cement grout after completion
C0590753		11:19:00 AM				2			IDW Generated = 4-gallons of soil
						3		SILTY SAND with GRAVEL (SM): Very dark grayish green [GLEY 1 3/2], moist, fine angular gravel, 20% gravel, 50% sand, 30% fines.	
C0590754		11:24:00 AM				4		SILTY SAND (SM): Very dark brown [10YR 2/2], moist, fine grained sand, 0% gravel, 85% sand, 15% fines.	
				▽				at 4.5 ft.: wet.	
						5		at 5.0 ft.: Black [10YR 2/1], moderate hydrocarbon odor, roots.	
C0590755		11:30:00 AM				6			
						7			
						8		SAND at 8.0 ft.: Black [10YR 2/1], wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines.	
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B039

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B040

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ Dry at time of drilling	Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590756		9:55:00 AM						GRAVELLY SAND (SP): Olive brown [2.5Y 4/4], wet, poorly graded, gravel to 0.5-in., 40% gravel, 60% sand, trace fines.	FID background = 2.0 ppm
								at 0.5 ft.: Dark gray [5Y 4/1], gradational color change. SAND (SP): Greenish gray [5G 5/1], gradational color change, 0% gravel, 100% sand, 0% fines.	
						1			
C0590757		9:57:00 AM							
						2		CLAYEY SAND (SC): Very dark grayish brown [10YR 3/2], wet, strong hydrocarbon odor, 0% gravel, 80% sand, 20% fines.	IDW Generated = 5/8 bucket
C0590758		9:59:00 AM				3			
						4		at 4.2 ft.: Greenish gray [5GY 5/1].	
								CLAYEY GRAVEL (GC): Black [5Y 2.5/1], strong hydrocarbon odor, gravel to 0.5-inch.	
						5		SILTY SAND (SM): wet, 0% gravel, 85% sand, 15% strong hydrocarbon odor, fines, oily sheen and consistency to core. Trace wood fragments and oxidized rock fragments.	
C0590759		10:02:00 AM				6			
						7		at 7.0 ft.: rootlets.	
								SAND (SP): Dark gray [5Y 4/1], wet, poorly graded, strong hydrocarbon odor, 0% gravel, 100% sand, 0% fines.	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B040

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:04:09 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B041

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz.)**	**ABANDON DATE**
▼ 4.0 ft / ft		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590760		9:20:00 AM						SAND (SP): Dark yellowish brown [10YR 4/4], moist, poorly graded, gravels to 0.5-inches, 5% gravel, 90% sand, 5% fines, trace shell fragments (0-0.5 ft. bgs).	FID background = 2.0 ppm
						1			
C0590762 C0590761		9:22:00 AM							
						2		at 2.0 ft.: Light olive brown [2.5Y 5/4].	IDW Generated = 5/8 of a bucket
C0590763		9:24:00 AM				3			
				▽		4		2.5" layer of CLAY (CL): Dark gray [5Y 4/1], hard, moist, low plasticity, 0% gravel, 20% sand, 80% fines. SAND (SP): Olive brown [2.5Y 4/4], saturated, 0% gravel, 90% sand, 10% fines. at 4.5 ft.: Dark greenish gray [5GY 4/1]. CLAY (CL): Dark greenish gray [5GY 4/1], soft, low plasticity.	
						5		ORGANIC CLAY (OL): Black, low plasticity, 5% rootlets, wood fragments, hydrocarbon odor.	
C0590764		9:30:00 AM				6		CLAYEY SAND (SC): Dark olive brown [2.5Y 3/3], wet, moderate hydrocarbon odor, wood fragments, 0% gravel, 80% sand, 20% fines.	
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B041

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B042

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 6.0 ft / ft	Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590765		3:08:00 PM						SAND (SP): Dark yellowish brown [10YR 3/6], moist, poorly graded, fine grained sand, wood chips (15%) to 1-inch, 0% gravel, 100% sand, 0% fines.	
								at 0.5 ft.: Olive brown [2.5Y 4/4], moist, rounded gravel to 0.25-inches, 10% gravel, 85% sand, 5% fines.	
						1		at 1.0 ft.: Light olive brown [2.5Y 5/4].	
C0590766		3:10:00 PM							
						2			IDW Generated = 5/8 bucket
C0590767		3:12:00 PM				3			
						4		at 4.0 ft.: Dark gray [5Y 4/1], wet, 0% gravel, 100% sand, 0% fines.	Top 6" of core sample recovered is slumped material from surface, excluded from sample
								at 4.5 ft.: Black [5Y 2.5/1], 0& gravel, 90% sand, 10% fines, organic fragments up to 3-inches (5%), Marsh Crust.	
						5		at 5.0 ft.: slight hydrocarbon odor.	Sample below 5 feet bgs excluded from sample because of Marsh Crust
								CLAYEY SAND (SC): rounded gravel to 0.5-inches, 5% gravel, 80% sand, 15% fines.	
C0590768		3:14:00 PM		▽		6		SAND (SP): Very dark gray [5Y 3/1], saturated, poorly graded, organic fragments up to 2.5-inches, intermittent, 0% gravel, 90% sand, 10% fines.	
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B042

Report form: CTT-459 ALAMEDA DRILLING LOG Thu: 6/8/11 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B043

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590769		11:15:00 AM						SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, roots, trace gravel, 90% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590770		11:16:00 AM							
						2			IDW Generated = 4-gallons of soil
C0590771		11:18:00 AM				3			
						4			
				▽				at 4.5 ft.: no roots.	
						5			
C0590773 C0590772		11:20:00 AM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B043

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B044

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590774		11:52:00 AM						SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, trace gravel, 90% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590775		11:55:00 AM							
						2			IDW Generated = 4-gallons of soil
C0590776		11:57:00 AM				3			
						4			
				▽				at 4.5 ft.: wet.	
						5			
C0590777		11:58:00 AM				6			
						7			
								at 7.5 ft.: Dark greenish gray [GLEY1 4/1].	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B044

Report form: CTI-489 ALAMEDA BORING LOG Time: 4/04/15 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B045

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590778		9:42:00 AM						SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, roots, trace gravel, 70% sand, 30% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
C0590779		9:43:00 AM				1		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	
						2			IDW Generated = 4-gallons of soil
C0590780		9:47:00 AM				3			
				▽		4		at 4.5 ft.: wet.	
						5			
C0590782 C0590781		9:49:00 AM				6			
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B045

BORING LOG Time 4/6/17 PM
Report form: CT

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B046

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590783		2:25:00 PM						GRAVELLY SAND (SP): Dark yellowish brown [10YR 4/4], moist, fine grained sand, fine angular gravel, shell fragments, 35% gravel, 55% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590784		2:28:00 PM							
						2		SAND (SP): Olive brown [2.5Y 4/3], moist to wet, poorly graded, fine grained sand, shell fragments, roots, 0% gravel, 90% sand, 10% fines.	IDW Generated = 4-gallons of soil
C0590785		2:30:00 PM				3			
				▽		4		at 4.0 ft.: wet.	
						5		at 5.0 ft.: Dark greenish gray [GLEY1 4/1], hydrocarbon odor.	
C0590786		2:31:00 PM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B046

Report form: CTD-059 ALAMEDA BORING LOG Times 4/4/03 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B047

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.5 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590787		2:45:00 PM						**SILTY SAND (SM)**: Dark olive gray [5Y 3/2], dense, moist, fine grained sand, trace shells, 0% gravel, 75% sand, 25% fines.	FID/PID background = 1.8 ppm
								SAND (SP): Olive [5Y 5/4], loose to medium dense, moist, poorly graded, fine grained sand.	Hole backfilled with cement grout after completion
						1			
C0590788		2:50:00 PM							
						2			IDW Generated = 4-gallons
C0590789		2:55:00 PM				3		at 3.0 ft.: 2-inch thick brick.	
								at 3.5 ft.: Greenish gray [5GY 5/1].	
				▽		4			
								at 4.5 ft.: wet.	
						5		at 5.0 ft.: Black, product, strong hydrocarbon odor.	
C0590790		3:00:00 PM				6			
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B047

DRILLLOG Time: 6:04:31 PM
Report Form: CT

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B048

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-28-03	7-28-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/28/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590792 C0590791		3:20:00 PM						SAND (SP): Olive [5Y 5/3], loose, moist, poorly graded, fine grained sand, subrounded.	FID/PID background = 0.9 ppm Hole backfilled withcement grout after completion
						1			
C0590793		3:25:00 PM							
						2			IDW Generated = 3-gallons
C0590794		3:30:00 PM				3			
						4			
				▽		5		at 5.0 ft.: wet. at 5.5 ft.: Greenish gray [5GY 5/1].	
C0590795		3:35:00 PM				6		at 6.3 ft.: Black, product, strong hydrocarbon odor.	
						7		at 7.3 ft.: Greenish gray, Silty (Native?).	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B048

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:04:35 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B049

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590796		9:50:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, trace shells, moderate cementation, 0% gravel, 75% sand, 25% fines. (FILL).	FID/PID background = 1.2 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive [5Y 5/3], loose, moist, poorly graded, fine grained sand, (FILL).	
C0590797		9:55:00 AM							
						2			IDW Generated = 3-gallons
C0590798		10:00:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
C0590799		10:05:00 AM				6		at 6.0 ft.: Greenish gray [5GY 5/1].	
						7		at 7.0 ft.: Black, product, tar balls, strong hydrocarbon odor.	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B049

ROBINS LOG Times 4/04/27 PM
Report format: CT

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B050

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590800		2:45:00 PM				1		SILTY SAND (SM): Dark olive brown, dense, moist, fine grained sand, trace <2% shells, 0% gravel, 75% sand, 25% fines.	Hole backfilled with cement grout after completion
								SAND (SP): Olive [5Y 5/3], medium dense, moist, poorly graded, fine grained sand, trace (<2%) shells.	
C0590802 C0590801		2:50:00 PM				2			IDW Generated = 3-gallons
						3			
C0590803		3:00:00 PM				4			
				▽				at 4.5 ft.: wet.	
						5		at 5.5 ft.: Greenish gray [5GY 5/1], trace silt.	
						6		at 6.0 ft.: Black, product, strong hydrocarbon odor.	
C0590804		3:05:00 PM							
						7		at 7.3 ft.: Greenish gray [5GY 5/1].	
						8		at 8.0 ft.: Olive [5Y 5/3].	
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B050

Report form: CTI-459 ALAMEDA BORING LOG Time: 4:04:38 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B051

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz.)**	**ABANDON DATE**
▼ Dry at time of drilling		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590805		10:54:00 AM						GRAVELLY SAND with SILT (SP): Light yellowish brown [2.5Y 6/3], dry, gravel to 1.5-inches, 40% gravel, 40% sand, 20% fines. at 0.5 ft.: Light olive brown, gravels to 0.5-inches.	FID background = 2.0 ppm
						1		SANDY GRAVEL with SILT (GP): Yellowish brown [10YR 5/4], moist, subangular gravel to 1-inch, 50% gravel, 30% sand, 20% fines.	
C0590806		10:56:00 AM							
						2		CLAYEY GRAVEL (GC): Yellowish brown [10YR 5/6], moist, subangular gravels to 1-inch, 50% gravel, 10% sand, 40% fines, completely oxidized.	IDW Generated = 5/8 bucket
								CLAYEY SAND (SC): Dark grayish brown [10YR 4/2], moist, 0% gravel, 70% sand, 30% fines.	
C0590807		10:58:00 AM				3		CLAY (CL): Olive [5Y 4/3], stiff, moist, low plasticity, no gravel, some sand, 60% fines.	
						4		CLAY (CL): Dark greenish gray [5GY 4/1], soft, 0% gravel, 10% sand, 90% fines.	slumping from above ground; exclude 1/3 of core from sample (dry sand and gravels with oxidized portions)
						5		CLAYEY SAND (SC): Black [5Y 2.5/2], wet, 0% gravel, 70% sand, 30% fines.	
C0590808		11:00:00 AM				6			
						7		at 7.0 ft.: slight hydrocarbon odor.	
								SAND (SP): Dark olive gray [5Y 3/2], wet, poorly graded, 0% gravel, 90% sand, 10% fines.	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B051

BORING LOG Thur 4:04:34 PM
Report Form: C

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B052

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ Dry at time of drilling		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590809		11:41:00 AM						GRAVELLY SAND (SP): Dark yellowish brown [10YR 4/6], moist, poorly graded, subangular gravels to 0.75-inches, 40% gravels, 60% sand, 0% fines.	FID background = 3.0 ppm
						1			
C0590810		11:42:00 AM						SAND (SP): Light olive brown [2.5Y 5/4], wet, well graded, rounded gravel to 0.5-inches, 5% gravel, 90% sand, 5% fines.	
						2		SILTY SAND (SM): Very dark grayish brown [2.5Y 3/2], wet, rounded gravels to 0.5-inches, slight hydrocarbon odor, 5% gravel, 80% sand, 15% fines.	IDW Generated = 5/8 bucket
C0590811		11:44:00 AM				3			
						4		at 4.0 ft.: Black [5YR 2.5/1], intermittent 1-3" cemented portions, strong hydrocarbon odor, 0% gravel, 50% sand, 50% fines, wood fragments, oxidized brick fragments, shiny, oily sheen.	
						5			
C0590812		11:50:00 AM				6			
						7			
						8		SAND (SP): Dark olive gray [5Y 3/2], wet, poorly graded, 0% gravel, 95% sand, 5% fines.	
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B052

Report form: C70-A59 ALAMEDA DRILLING.LOG Time: 8:04:34 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B053

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	2.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 5.0 ft / ft		Tina Takagi	E. Johansen, R.G. 6643	Vertical	Unknown

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590814		1:30:00 PM						GRAVELLY SAND (SW): Dark yellowish brown [10YR 3/4], moist, rounded gravel to 0.5-inches, 20% gravel, 80% sand, 0% fines.	
						1		GRAVEL with CLAY (GM): Olive brown [2.5Y 4/3], moist, subangular gravel to 1-inch, 50% gravel, 30% sand, 20% fines. CONGLOMERATE (GP): Very pale brown [10YR 7/4], cemented.	
C0590815		1:32:00 PM						SAND (SP): Black [10YR 2/1], moist, poorly graded, gravel to 1/3-inch, 5% gravel, 85% sand, 10% fines.	
						2			IDW Generated = 5/8 bucket
C0590816		1:34:00 PM				3		SAND with GRAVEL (SP): Dark greenish gray [5GY 4/1], wet, poorly graded, rounded gravel to 1-inch, 20% gravel, 80% sand, 0% fines.	
						4		at 4.0 ft.: shell fragments, red rock fragments.	
				▽		5		CLAY (CL): Dark greenish gray [5GY 4/1], stiff, wet, medium plasticity, no gravel, some sand.	
C0590817		1:36:00 PM				6		CLAYEY SAND (SC): Very dark gray [5Y 3/1], slight hydrocarbon odor, 0% gravel, 85% sand, 15% fines, suspected Bay Mud.	
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B053

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B054

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Geoprobe 5400	OU-2A IR Site 13	Alameda Point	7-31-03	7-31-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	2.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ Dry at time of drilling	Tina Takagi	E. Johansen, R.G. 6643	Vertical	7/31/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590818		2:55:00 PM						GRAVELLY SAND (SW): Brown [10YR 5/3], wet, well graded, rounded gravel to 1-inch, 40% gravel, 50% sand, 10% fines.	
								at 0.5 ft.: 10% gravel, 85% sand, 5% fines.	Hole backfilled with cement grout after completion
						1			
C0590819		2:57:00 PM							
						2			IDW Generated = 1/8 bucket
C0590820		2:59:00 PM				3			
						4			
						5		at 5.0 ft.: Dark greenish gray [5GY 4/1].	
								SILTY SAND (SM): Black [2.5Y N2/], wet, organic matter to 1-inch composing 5% of material, 0% gravel, 80% sand, 20% fines (Marsh Crust).	Marsh Crust from 5.5-7 feet bgs, 5.5-8 feet bgs, excluded from sample
C0590822 C0590821		3:01:00 PM				6			
						7		SAND (SP): Dark greenish gray [5GY 4/1], wet, 0% gravel, 90% sand, 10% fines.	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B054

Report form: CTD-859 ALAMEDA BORING LOG Time: 8:04:43 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B055

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590823		11:03:00 AM						GRAVELLY CLAY (CL): Light olive brown [2.5Y 5/4], moist, fine angular gravel, 30% gravel, 10% sand, 60% fines.	FID background = 0 ppm
								SAND (SP): Light olive brown [2.5Y 5/4], moist, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	Hole backfilled with cement grout after completion
						1			
C0590824		11:05:00 AM							
						2			IDW generated = 4-gallons of soil
C0590825		11:07:00 AM				3			
						4			
				∇				at 4.5 ft.: wet.	
						5			
C0590826		11:09:00 AM				6			
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B055

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B056

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	3 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.0 ft / ft		Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590827		10:27:00 AM						SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, roots, trace gravel, 70% sand, 30% fines.	FID background = 0 ppm
								SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	Hole backfilled with cement grout after completion
						1			
C0590828		10:28:00 AM							
						2			IDW generated = 4-gallons soil
C0590829		10:31:00 AM				3			
				▽		4		at 4.0 ft.: Dark grayish brown [2.5Y 4/2], wet.	
						5			
C0590830		10:33:00 AM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B056

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:04:46 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B057

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	3 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.0 ft / ft		Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590832 C0590831		10:12:00 AM						SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine grained sand, shell fragments, roots, trace gravel, 90% sand, 30% fines.	
						1		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	
C0590833		10:13:00 AM							
						2			
C0590834		10:14:00 AM				3			
				▽		4		at 4.0 ft.: wet.	
						5			
C0590835		10:15:00 AM				6			
						7			
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B057

DRILLING LOG Tiles 4/4/48 PM

Report form: CT

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B058

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590836		2:54:00 PM						SILTY SAND (SM): Dark brown [10YR 3/3], moist, fine grained sand, trace gravel, 70% sand, 30% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
						1			
C0590837		2:56:00 PM						SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines.	
						2			IDW Generated = 4-gallons of soil
C0590838		2:57:00 PM				3			
				▽		4		at 4.0 ft.: wet.	
						5			
C0590839		2:53:00 PM				6			
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B058

Report form: C3D-069 ALAMEDA BORING LOG Time: 8/04/03 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B059

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590840		11:20:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, trace shells, moderate cementation, 0% gravel, 75% sand, 25% fines.	FID/PID background = 1.3 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive [5Y 5/3], loose, moist, poorly graded, fine grained sand, (FILL).	
C0590842 C0590841		11:25:00 AM							
						2			IDW Generated = 3-gallons
C0590843		11:30:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
C0590844		11:35:00 AM				6			
						7			
						8		at 7.5 ft.: Yellowish red [5YR 4/6]. at 7.8 ft.: Black, product. strong hydrocarbon odor. CLAY (CH): Greenish gray [5GY 5/1], moist, high plasticity.	

TOTAL DEPTH = 8.0 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B059

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B060

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590845		10:45:00 AM						SAND (SP): Olive [5Y 5/4], loose, moist, poorly graded, fine grained sand, subrounded, trace shells (<2%). (FILL).	FID/PID background = 0.97 ppm Hole backfilled with cement grout after completion
						1			
C0590846		10:50:00 AM							
						2			IDW Generated = 3-gallons
C0590847		10:55:00 AM				3			
						4			
				∇		5		at 4.5 ft.: Greenish gray [5GY 5/1], fine to medium grained sand. at 5.0 ft.: wet.	
C0590848		11:00:00 AM				6		at 6.0 ft.: Black, product. strong hydrocarbon odor.	
						7			
						8		at 7.5 ft.: Pale olive [5Y 6/4], very dense, moderately cemented.	
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B060

Report form: CTH-459 ALAMEDA BORING LOG Time: 6-9-04 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B061

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
C0590849		10:15:00 AM						SILTY SAND (SM): Dark olive gray [5Y 3/2], dense, moist, fine grained sand, trace shells, moderate cementation, 0% gravel, 75% sand, 25% fines.	FID/PID background = 0.83 ppm
								SAND (SP): Olive [5Y 5/3], loose, moist, poorly graded, fine grained sand, subrounded, (FILL).	hole backfilled with cement grout after completion
						1			
C0590850		10:20:00 AM							
						2			IDW Generated = 3-gallons
C0590852 C0590851		10:25:00 AM				3			
						4			
				▽		5		at 5.0 ft.: wet.	
								at 5.5 ft.: Greenish gray [10Y 5/1], occasional seams of 1/4" high plasticity Fat Clay (CH).	
C0590853		10:30:00 AM				6			
								at 6.5 ft.: Very dark gray [N3], slight hydrocarbon odor, shiny-product, strong diesel-like smell. (FILL).	
						7			
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B061

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B062

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID/PID background = 0.7 ppm
C0590854		2:15:00 PM				1		SAND (SP): Olive [5Y 5/3], loose to medium dense, moist, fine grained sand, trace (<2%) shells.	Hole backfilled with cement grout after completion
C0590855		2:20:00 PM				2			IDW Generated = 3-gallons
						3			
C0590856		2:25:00 PM				4			
				▽				at 4.5 ft.: wet.	
						5			
						6		SILTY SAND (SM): Greenish gray [10Y 5/1], dense to very dense, wet, poorly graded, 0% gravel, 80% sand, 20% fines.	
C0590857		2:30:00 PM							
						7			
						8		at 8.0 ft.: trace black matter, strong hydrocarbon odor.	
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B062

Report format: CTI-009 ALAMEDA BORING1.DG Time: 6:05:01 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B063

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.0 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ NA		Pete Holland	E. Johansen, R.G. 6643	Vertical	

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
						1, 2, 3, 4		SAND with GRAVEL (SP): Olive [5Y 5/3], dense, moist, fine grained sand, fine angular gravel is mostly greenish gray (Greenstone?) and occurs in 2-3" layers.	IDW Generated = 5 gallons
						5, 6, 7, 8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B063

BORING LOG Tbase 4.06.03.prj
Report form: C

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B064

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590863		1:45:00 PM						GRAVELLY SAND (SW): Olive brown [2.5Y 4/3], moist, well graded, fine grained sand, 30% fine angular gravel, 55% sand, 15% fines. (FILL).	FID background = 0 ppm Hole backfilled with cement grout after completion
						1		SAND (SP): Olive brown [2.5Y 4/3], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	
C0590864		1:46:00 PM							
						2		SILTY SAND (SM): Black [10YR 2/1], moist, fine grained sand, shell fragments, weeds, roots, moderate hydrocarbon odor, trace fine angular gravel, 70% sand, 30% fines.	IDW Generated = 4-gallons of soil
						3			
C0590865		1:49:00 PM							
						4		CLAY (CL): Very dark greenish gray [GLEY1 3/1], stiff, moist, low to medium plasticity, moderate hydrocarbon odor, 0% gravel, 10% sand, 90% fines. (BAY MUD).	
						5			
				▽				SAND (SP): Dark brown [10YR 3/3], wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines.	
						6			
C0590866		2:03:00 PM							
						7			
						8			
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B064

Report form: CTD-059 ATLANTA MINING LOG Time: 4:05:05 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B065

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-31-03	7-31-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/31/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590867		1:55:00 PM				1		GRAVELLY SAND (SW): Dark brown [10YR 3/3], moist, well graded, fine grained sand, fine gravel, 35% gravel, 55% sand, 10% fines.	FID background = 0 ppm Hole backfilled with cement grout after completion
C0590868		1:58:00 PM				2		SILTY SAND with GRAVEL (SM): Light olive brown [2.5Y 5/4], moist, fine to coarse grained sand, 15% angular gravel, 55% sand, 30% fines.	IDW Generated = 4-gallons of soil
C0590869		2:01:00 PM		▽		3		at 3.0 ft.: Dark greenish gray [GLEY1 4/1].	
						4		SILTY SAND (SM): Dark greenish gray [GLEY1 4/1], wet, fine grained sand, moderate hydrocarbon odor, 0% gravel, 70% sand, 30% fines.	
C0590870		2:01:00 PM				5			
						6			
						7			
						8		CLAY (CL): Dark greenish gray [GLEY1 4/1] and Black [GLEY1 4/1], soft, moist, 0% gravel, 0% sand, 100% fines.	

TOTAL DEPTH = 8.3 FEET

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B065

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B066

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	FID background = 0 ppm
C0590872, C0590871		2:02:00 PM				1		SAND (SP): Light olive brown [2.5Y 5/4], moist, poorly graded, fine grained sand, shell fragments, trace fine angular gravel, 90% sand, 10% fines. (FILL).	Hole backfilled with cement grout after completion
C0590873		2:03:00 PM				2			IDW generated = 4-gallons of soil
						3			
C0590874		2:07:00 PM		▽		4		at 4.0 ft.: Dark brown [10YR 3/3], wet.	
						5			
						6			
C0590875		2:12:00 PM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B066

Report Form: CTD-059 AT ALAMEDA BORING LOG: Date: 6/05/10 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B067

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID/PID background = 1.3 ppm
C0590876		11:50:00 AM				1		SILTY SAND (SM): Dark olive brown, dense, moist, fine grained sand.	Hole backfilled with bentonite-cement grout after completion
								SAND (SP): Olive [5Y 5/3], medium dense, moist, fine grained sand, subrounded.	
C0590877		11:55:00 AM				2			IDW Generated = 3-gallons
						3			
C0590878		12:00:00 PM				4		at 4.0 ft.: Greenish gray [10Y 5/1].	
				▽		5		at 5.0 ft.: Black, wet, product, strong hydrocarbon odor.	
						6			
C0590879		12:05:00 PM				7		at 6.5 ft.: Greenish gray.	
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B067

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B068

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	FID/PID background = 1.73 ppm
C0590880		1:45:00 PM				1		SILTY SAND (SM): Dark olive brown, dense, moist, fine grained sand, 0% gravel, 75% sand, 25% fines.	Hole backfilled with cement grout after completion
C0590882 C0590881		1:50:00 PM				2		SAND (SP): Olive [5Y 5/3], medium dense, moist, poorly graded, fine grained sand.	IDW Generated = 3-gallons
C0590883		1:55:00 PM				3			
						4		at 4.5 ft.: Greenish gray [10Y 5/1].	
				▽		5		at 5.0 ft.: wet.	
						6		at 6.0 ft.: Black, product, strong hydrocarbon odor.	
C0590884		2:00:00 PM						at 6.5 ft.: Greenish gray [10Y 5/1].	
						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B068

Report form: CTI-459 ALAMEDA BORING LOG Time: 4:05:18 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B069

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT and BASEROCK	
						1		**SAND (SP)**: Very dark grayish brown [10YR 3/2], dense, moist, poorly graded, fine grained sand, subrounded, slight hydrocarbon odor, darker from hydrocarbon staining, about 10% fine subangular gravel. slight hydrocarbon odor (FILL).	Hole backfilled with cement grout after completion
						2			
						3			
				▽		4		at 4.0 ft.: wet.	
						5		**SILTY SAND (SM)**: Dark greenish gray [10GY 4/1], dense, wet, fine grained sand, 0% gravel, 80% sand, 20% fines.	
						6			
						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B069

DRILLING LOG Thors 4.06.518 PM
Report format C

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B070

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.2 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 5.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590889		1:21:00 PM						SILTY SAND with GRAVEL (SM): Brown [10YR 4/3], moist, fine grained sand, Asphalt pieces, 15% fine angular gravel, 55% sand, 30% fines. (FILL).	FID background = 0 ppm. Hole backfilled with cement grout after completion
						1			
C0590890		1:23:00 PM							
						2			IDW Generated = 4-gallons of soil
						3		SAND (SP): Very dark greenish gray [GLEY1 3/1], moist, poorly graded, fine grained sand, shell fragments, moderate hydrocarbon odor, trace gravel, 90% sand, 10% fines. (FILL).	
C0590892 C0590891		1:30:00 PM							
						4			
				▽		5		at 5.0 ft.: wet.	
						6			
C0590893		1:35:00 PM							
						7		SILTY SAND (SM): Very dark greenish gray [GLEY1 3/1], wet, fine grained sand, moderate hydrocarbon odor, 0% gravel, 70% sand, 30% sand. (FILL).	
						8			
								TOTAL DEPTH = 8.2 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B070

Report form: CTT-.89 ALAMEDA DRINSG1.FRC Time: 4:05:38 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B071

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-31-03	7-31-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	3 in			not surveyed	1.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
∓ NA		Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/31/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
						1		**REFUSAL** Hand auger refusal to maximum depth of 1-1.5' ft bgs in three attempted locations.	Holes backfilled with cement grout after completion
								TOTAL DEPTH = 1.5 FEET	IDW Generated = 4-gallons of soil

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B071

BORING LOG Tbase 4/05/03 DS

Report format: CL

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B072

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-29-03	7-29-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
∇ 4.0 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/29/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	FID/PID background = 0 ppm
C0590898		2:18:00 PM				1		SAND (SP): Light olive brown [2.5Y 4/4], moist, poorly graded, fine grained sand, shell fragments, 0% gravel, 90% sand, 10% fines. (FILL).	hole backfilled with cement grout after completion
C0590899		2:19:00 PM				2			IDW generated = 4-gallons of soil
						3			
C0590900		2:20:00 PM		∇		4		at 4.0 ft.: Dark brown [10YR 3/3], wet.	
						5		at 5.0 ft.: Light olive brown [2.5Y 4/4], wet, (FILL).	
						6			
C0590902 C0590901		2:24:00 PM 2:26:00 PM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B072

Report form: CTO-459 ALAMEDA BORING LOG Time: 08:24 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B073

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz.)**	**ABANDON DATE**
▼ 4.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590903		2:10:00 PM				1		**SAND (SP)**: Olive [5Y 5/3], dense, moist, poorly graded, fine grained sand, subrounded, trace (<2%) shells.	Hole backfilled with cement grout after completion
C0590904		2:15:00 PM				2			IDW Generated = 3-gallons
						3			
C0590905		2:20:00 PM		▽		4		at 4.0 ft.: wet.	
								6" thick layer at 4.3 ft.: Black, product, strong hydrocarbon odor.	
						5		at 5.0 ft.: Greenish gray, trace medium to coarse grained sand.	
						6			
C0590906		2:25:00 PM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B073

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B074

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590907		10:33:00 AM						GRAVELLY SAND (SW): Light olive brown [2.5Y 5/6], moist, well graded, fine grained sand, 35% fine angular gravel, 50% sand, 15% fines. (FILL).	FID background = 0 ppm Hole backfilled with cement grout after completion
						1		SILTY SAND (SM): Very dark gray [2.5Y 3/1], moist, fine grained sand, 5% gravel, 65% sand, 30% fines. (FILL).	
C0590908		10:34:00 AM							
						2			IDW Generated = 4-gallons of soil
						3			
C0590909		10:38:00 AM							
				▽		4		SAND (SP): Dark greenish gray [GLEY1 4/1], moist to wet, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines.	
						5		SILTY SAND (SM): Dark greenish gray [GLEY1 4/1], wet, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
						6			
C0590910		10:46:00 AM							
						7		at 7.0 ft.: Black [GLEY1 2.5/black].	
						8			
								TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B074

Report form: CTO-059 ALAMEDA BORING LOG Time: 6:05:39 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B075

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Precision DA-2	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	3 in		not surveyed	8.3 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.5 ft / ft	Lynelle Onishi	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C0590912 C0590911		10:14:00 AM						**GRAVELLY SAND (SW)**: Dark brown [10YR 3/3], moist, well graded, fine grained sand, 35% fine angular gravel, 50% sand, 15% fines. (FILL).	Fld b abckground = 0 ppm Hole backfilled with cement grout after completion
						1		**SAND (SP)**: Dark greenish gray [GLEY1 4/1], moist, poorly graded, fine grained sand, 0% gravel, 90% sand, 10% fines. (FILL).	
C0590913		10:17:00 AM							
						2			IDW Generated = 4-gallons of soil
								SILTY SAND (SM): Very dark gray [10YR 3/1], moist, fine grained sand, 0% gravel, 70% sand, 30% fines. (FILL).	
						3			
C0590914		10:20:00 AM							
						4		at 4.0 ft.: Dark bluish gray [GLEY2 4/1], moist to wet, moderate hydrocarbon odor (FILL).	
				▽				at 4.5 ft.: wet.	
						5			
						6			
C0590915		9:54:00 AM							
						7			
						8		at 8.0 ft.: Black [GLEY1 2.5/black] mottles.	
								TOTAL DEPTH = 8.3 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B075

BORING LOG Time: 4:05:33 PM
Report Name: C

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B076

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 3.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	FID/PID background = 2.1 ppm
C0590916		9:55:00 AM				1		SAND (SP): Olive [5Y 5/3], medium dense, moist, poorly graded, fine grained sand, (FILL).	Hole backfilled with cement grout after completion
C0590917		10:00:00 AM				2			IDW Generated = 3-gallons
						3			
C0590918		10:05:00 AM		▽				at 3.5 ft.: wet.	
						4		at 4.0 ft.: Very dark gray [2.5Y 3/1].	
								at 4.5 ft.: Olive [5Y 5/3].	
						5		SILTY SAND (SM): Greenish gray [10GY 5/1], medium dense, wet, fine grained sand, 0% gravel, 80% sand, 20% fines. slight hydrocarbon odor (FILL).	
C0590919		10:10:00 AM				6			
						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B076

Report format: CTO-459 ALAMEDA BORING LOG Time: 6:05:34 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B077

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 3.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	FID/PID background = 2.0 ppm
C0590920		9:20:00 AM				1		**SAND (SP)**: Light olive brown [2.5Y 5/4], dense, moist, poorly graded, fine grained sand, (FILL).	Hole backfilled with cement grout after completion
C0590922 C0590921		9:25:00 AM				2			IDW Generated = 3-gallons
						3			
C0590923		9:30:00 AM		▽				at 3.5 ft.: wet.	
						4			
						5		**SILTY SAND (SM)**: Yellowish brown [10YR 5/6] and Greenish gray [10BG 5/1], medium dense, wet, fine grained sand, mottled, 0% gravel, 70% sand, 30% fines.	
								at 5.5 ft.: Yellowish brown [10YR 5/6].	
						6			
C0590924		9:30:00 AM							
						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B077

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B078

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 4.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT and BASEROCK	FID/PID background = 2.9 ppm
C0590925		1:30:00 PM				1		SAND (SP): Olive [5Y 5/3], medium dense, moist, poorly graded, fine grained sand, subrounded, trace (<2%) shells, (FILL).	Hole backfilled with cement grout after completion
C0590926		1:35:00 PM				2			IDW generated = 3-gallons
						3			
C0590927		1:40:00 PM				4			
				▽		5			
						6			
C0590928		1:45:00 PM				7		at 6.5 ft.: very dense.	
						8		at 8.0 ft.: Greenish gray [5GY 6/1].	
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B078

Report form: CTI-A59 ALAMEDA BORING LOG Time: 4:05:40 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B079

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.0 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz.)	ABANDON DATE
▼ 4.0 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT	
C05900929		12:10:00 PM				1		SAND (SP): Olive [5Y 5/3], dense, moist, poorly graded, fine grained sand, subrounded, vague laminations. (FILL).	FID/PID background = 2.7 ppm Hole backfilled with cement grout after completion
C05900930		12:15:00 PM				2			IDW Generated = 3-gallons
						3			
C05900932 C05900931		12:20:00 PM		▽		4		at 4.0 ft.: wet. at 4.5 ft.: Greenish gray [10GY 5/1].	
						5			
						6			
C05900933		12:25:00 PM				7		SAND and GRAVEL (SW): Greenish gray [10GY 5/1], wet, fine grained sand, fine and coarse gravel, strong hydrocarbon odor, gravel composed of sandstone, shiny product.	
						8		TOTAL DEPTH = 8.0 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B079

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B080

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	Unknown	Unknown
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz.)**	**ABANDON DATE**
▼ 4.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT and BASEROCK	FID/PID background = 2.6 ppm
C0590934		11:30:00 AM				1		SAND (SP): Black, moist, poorly graded, fine grained sand, subrounded, oil saturated. trace wood (old lumber), red brick.	
C0590935		11:35:00 AM				2			IDW generated = 3-gallons
						3			
C0590936		11:40:00 AM		▽		4		3" Layer of WOOD at 3.5 ft.: (Peat?). at 4.0 ft.: wet.	
						5		SILTY SAND (SM): Yellowish brown [10YR 5/6] mottled strong brown [7.5YR 4/6], dense, wet, fine grained sand, 0% gravel, 80% sand, 20% fines.	
						6			
C0590937		11:45:00 AM				7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS

Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83
Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929

HOLE NUMBER C3S013B080

Report format: CTO-459 ALASKA DRILLING LOG Time: 4:05:45 PM

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B081

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03
DRILLING METHOD	**HOLE DIAMETER**	**COORDINATES**		**ELEVATION**	**TOTAL DEPTH**
Direct-Push	1.5 in			not surveyed	8.5 ft
DEPTH / ELEVATION TO WATER		**LOGGED BY**	**REVIEWED BY**	**ANGLE (from Horiz)**	**ABANDON DATE**
▼ 4.0 ft / ft		Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								ASPHALT and BASEROCK	FID/PID background = 0 ppm
C0590938		10:55:00 AM				1		**SAND (SP)**: Olive [5Y 5/3], dense, moist, poorly graded, fine grained sand, trace brick and wood debris, some (5%) silt pockets, 0% gravel, 95% sand, 5% fines.	Hole backfilled with bentonite-cement grout after completion
C0590939		11:00:00 AM				2			IDW generated = 3-gallons
						3			
C0590940		11:05:00 AM		▽		4		at 3.5 ft.: Brown [10YR 5/3], strong hydrocarbon odor. at 4.0 ft.: Black, wet, 4 - 6 feet bgs product.	
						5			
						6			
C0590942 C0590941		11:10:00 AM				7		at 6.3 ft.: Greenish gray [10GY 5/1], sample effervesing (bubbling), 0% gravel, 85% sand, 15% fines (silt).	
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B081

Continue

PROJECT	JOB NUMBER	SHEET NUMBER	HOLE NUMBER
CLEAN 3	23818-059	1 of 1	C3S013B082

DRILLING COMPANY	DRILLING RIG	SITE	LOCATION	BEGUN	FINISHED
Precision Sampling, Inc.	Truck Mounted Geoprobe	OU-2A IR Site 13	Alameda Point	7-30-03	7-30-03

DRILLING METHOD	HOLE DIAMETER	COORDINATES	ELEVATION	TOTAL DEPTH
Direct-Push	1.5 in		not surveyed	8.5 ft

DEPTH / ELEVATION TO WATER	LOGGED BY	REVIEWED BY	ANGLE (from Horiz)	ABANDON DATE
▼ 3.5 ft / ft	Pete Holland	E. Johansen, R.G. 6643	Vertical	7/30/2003

SAMPLE ID	SAMPLER ADVANCE INTERVAL/RECOVERY	SAMPLE TIME	PID READING (PPM)	WATER LEVEL ATD	ELEVATION IN FEET	DEPTH IN FEET	GRAPHICS SYMBOL	DESCRIPTION and CLASSIFICATION	NOTES
								CONCRETE	FID/PID background = 3.9 ppm Hole backfilled with cement grout after completion
C0590943		10:30:00 AM				1		**SAND (SP)**: Olive [5Y 5/3], dense, moist, poorly graded, fine grained sand, subrounded, (FILL).	
C0590944		10:35:00 AM				2			IDw Generated = 3-gallons
						3			
C0590945		10:40:00 AM		▽		4		at 3.5 ft.: wet. at 4.0 ft.: loose.	
						5		**SILTY SAND (SM)**: Yellowish brown [10YR 5/6], dense, wet, fine grained sand, 0% gravel, 75% sand, 25% fines. (FILL).	
C0590946		10:45:00 AM				6			
						7			
						8			
								TOTAL DEPTH = 8.5 FEET	

SEE EXPLANATION FOR SYMBOLS AND ABBREVIATIONS	Horizontal Coordinates: CA State Plane Coordinate System Zone 5, NAD83 (1992), CCS83 Vertical Coordinates: North Geodetic Vertical Datum (NGVD) 1929	HOLE NUMBER C3S013B082

Report form: CTD-059 ALAMEDA BORING LOG Time: 4:05:50 PM