



0.3  
**General Services Agency**

Darlene A. Smith, Director

October 11, 1995

*Request GSA to bring acct current  
(check w/ Comptroller on \$ owed to date)*

*Review for closure*

Ms. Eva Chu  
Hazardous Materials Specialist  
Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor bay Parkway, Second Floor  
Alameda, California 94502  
QIC 30440

**SUBJECT: Third Quarter Groundwater Monitoring Report  
Staples Ranch Property, October 1995**

Dear Ms. Chu:

Enclosed please find the third quarter monitoring report for the County property located at Staples Ranch, El Charro Road, Pleasanton. As you can see in the report, no detectable amounts of contamination were identified in the samples collected. This is the final round of sampling scheduled to be conducted. The report recommends that no additional sampling be conducted, and that case closure be granted for the site. On behalf of the County of Alameda, General Services Agency, I hereby formally request case closure for this site. As the County is seeking to sell this property, and closure of the sale will be pending on the closure of the monitoring wells on the site, I also request that this case closure be given a high priority for review. Once you have had a chance to review this case, please contact me at (510) 208-9520 (County tie line 2-9520), so that we may discuss the timeline for bringing this matter to resolution. Should you have any additional questions concerning this matter please contact me.

Sincerely,

Thomas McKimmy, REA  
Environmental Project Manager

enclosure

TCM:tm:g:\crspndc\tmlkimmy\ec1011.doc  
File: Project 7057, Building 1262

95 OCT 13 AM 9:22  
ENVIRONMENTAL  
PROTECTION

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**Report of Ground Water Monitoring**  
**Third Quarter 1995**

**Alameda County Services Agency**  
**Engineering and Environmental**  
**Management Department**  
**Staples Ranch Property, El Charro Road**  
**Pleasanton, California**

**County Project No. 7057**  
**County Building No. 1262**

95 OCT 13 AM 9:22  
ENVIRONMENTAL  
PROTECTION

Prepared for:  
Alameda County Services Agency and  
Environmental Management Department  
Staples Ranch Property, El Charro Road  
Pleasanton, California

Prepared by:  
Environmental Science & Engineering, Inc.  
4090 Nelson Avenue, Suite J  
Concord, California

October 5, 1995

ESE Project No. 6945353

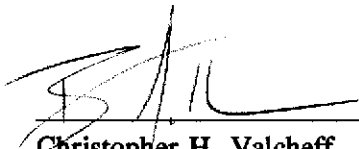
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**REPORT PREPARATION**

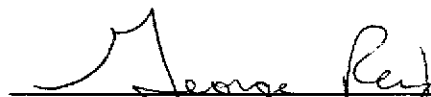
This quarterly report has been prepared by Environmental Science and Engineering, Inc. (ESE) for the exclusive use of the Alameda County General Services Agency as it pertains to their site known as the Staples Ranch Property located at El Charro Road, Pleasanton, California. This report was prepared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

**REPORT PREPARED BY:**

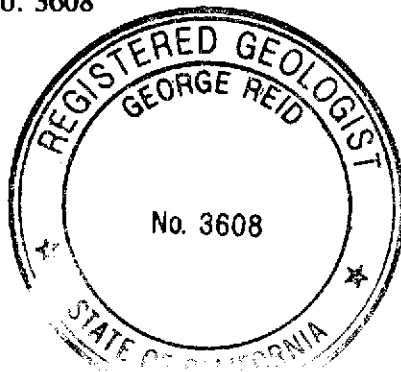
  
FOR: \_\_\_\_\_  
Christopher H. Valcheff  
Senior Staff Geologist

OCTOBER 5, 1995  
Date

**UNDER THE PROFESSIONAL SUPERVISION OF:**

  
George Reid, R.G No. 3608  
Senior Geologist

10-5-95  
Date



**PROJECT NO. 6-94-5353**

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## 1.0 Introduction

This report describes the activities and presents the findings of the Third Quarter, 1995 ground water monitoring event conducted by Environmental Science & Engineering, Inc. (ESE) for the Alameda County General Services Agency (GSA) at the Staples Ranch Property ("site") located in Pleasanton, California during September 1995 (Figure 1 - Location Map). The primary objectives of the ground water monitoring event were to measure the ground water elevations, determine ground water flow direction, and sample the ground water for hydrocarbon constituents beneath the area of a former aboveground storage tank (AGT) referred to as AGT-5. This report presents the procedures and methods used during this monitoring event and the results of the event. Previous investigations conducted at the site are summarized in Section 2.0 - Background.

### 1.1 Work Performed

For the third quarter of 1995 ground water monitoring event, ESE performed the following tasks:

- Measured depth to ground water in monitoring wells MW-1 through MW-4;
- Purged and sampled ground water from monitoring wells MW-1 through MW-4;
- Analyzed ground water samples for total petroleum hydrocarbons as diesel (TPH-D) and benzene, toluene, ethylbenzene, and total xylenes (BTEX); and
- Reviewed field and analytical data and prepared a report of the findings.

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## 2.0 Background

### 2.1 Site Setting

The site is located in the central portion of the Livermore Valley just east of Pleasanton, California. The approximate elevation of the site is 355 feet above mean sea level (MSL) in an area of relatively flat topography (U.S.G.S., 1980). It is situated in a rural area characterized by undeveloped grazing land (Figure 2 - Site Map).

The nearest surface waters are the Arroyo Las Positas (located on the northern portion of the site and flowing intermittently in an east-southeast direction) and the Arroyo Mocho (located on the southern portion of the site and flowing intermittently in an east-southeast direction). Both streams are considered to be major drainages for the Livermore Valley.

Regional ground water flow maps indicate that water in the uppermost aquifer beneath the site flows toward the southwest (Alameda County Flood Control and Water Conservation District, 1990-1991).

### 2.2 Site History

The County of Alameda owned and operated three AGTs (AGT-1, AGT-4 and AGT-5) of 250-gallon-capacity at the site. One underground storage tank (UST) of 500-gallon capacity, UST-2, was also identified at the site. The AGTs and the UST were of single-wall, carbon steel construction. Their installation dates are reportedly unknown. Heating oil was reportedly stored in both AGT-1 and AGT-4 and diesel fuel was reportedly stored in AGT-5 and UST-2.

A Phase I Preliminary Site Assessment was performed by Harza Kaldveer Consulting Engineers (Harza Kaldveer) at the site during 1993 (Harza Kaldveer, 1993). Soil samples collected from one soil boring, EB-5, located approximately five feet west of AGT-5, were reported to contain concentrations of total petroleum hydrocarbons as diesel fuel (TPH-D) ranging from 1.5 to 1,900 milligrams per kilogram (mg/Kg), to a depth of 40 feet below grade. The sediments in the unsaturated zone at EB-5 were reported to be comprised of a sequence of clays, silts, and sands. Ground water was reported to occur at a depth of 35 feet below grade. No other soil borings were drilled in the vicinity of AGT-5 during the Phase I. Soil samples collected from borings drilled at the other AGT and UST locations reported non-detected concentrations of TPH-D.

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Under permit from the Alameda County Health Care Services Agency (HCSA) and the Alameda County Fire Department, ESE directed the removal and disposal of the AGTs and UST on April 26 and October 20, 1994, respectively. The AGTs and UST were noted to be in good condition based on visual observations made during removal. Closure reports for the AGTs and UST were prepared by ESE and submitted to the GSA and the HCSA on June 8, 1994 for the AGTs and November 30, 1994 for the UST (ESE, 1994b and 1994c). Site closures for UST-2 and AGT-4 were obtained on July 14, 1994 and for AGT-1 on December 28, 1994.

A preliminary site investigation, consisting of eight soil borings, was performed by ESE at the AGT-5 location on April 28 and 29, 1994. Results confirmed that diesel fuel had been released to the ground surface at that location and that the diesel plume had migrated downward through the unsaturated zone and impacted the upper zone of ground water beneath the site at a depth of approximately 35 feet. The approximate dimensions of the diesel plume in the unsaturated zone were defined during the preliminary site investigation. ESE has estimated the volume of impacted soil to be approximately 200 cubic yards. These findings were documented in a site investigation report dated June 15, 1994 (ESE, 1994a) and submitted to the GSA and the HCSA.

Pursuant to the request of the HCSA, the GSA was requested to investigate the potential impact to local ground water beneath the site in the area of AGT-5. A workplan was prepared by ESE and submitted to GSA and HCSA on December 7, 1994 (ESE, 1994d). The proposed scope of work was intended to investigate the vadose zone and ground water lateral to the area of known impact.

ESE performed all field activities described in the workplan during December, 1994 and January, 1995. The results of the investigation indicated that the soils and ground water have apparently not been impacted in the areas of the four borings and ground water monitoring wells. ESE recommended that three additional ground water monitoring events be performed prior to requesting site closure from the HCSA (ESE, 1995a).



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## 3.0 Procedures

### 3.1 Ground Water Level Monitoring

On September 8, 1995, ESE's geologist measured the depth to ground water and checked for the presence of free-phase product in wells MW-1 through MW-4. An electric well sounder with a detection limit of 0.01 feet was used to measure the depth to ground water in each well.

### 3.2 Ground Water Sample Collection

On September 8, 1995, ESE's geologist sampled ground water from wells MW-1 through MW-4 after purging a minimum of three well-casing volumes of ground water from each well. Each well was purged using a disposable bailer.

During the well purging process, pH, conductivity, and temperature of the ground water were monitored and recorded for stabilization to ensure the collection of representative samples of the ground water surrounding each well. The ground water sampling data forms with recorded measurements of pH, conductivity, and temperature of the purged water from each well are included as Appendix A - Ground Water Sampling Data Forms. All purged ground water and equipment rinse solutions were contained onsite in DOT-approved 55-gallon drums pending receipt of analytical results.

Ground water samples were obtained from wells MW-1 through MW-4 by lowering a new disposable polyethylene bailer into each well. A new bailer was used to sample each of the 4-inch diameter wells. The ground water from the bailer was decanted into a laboratory-supplied one-liter glass container and two 40-milliliter glass vials for each of the wells sampled. The samples were then sealed with a Teflon-lined cap, labeled, placed on ice in a cooler and transported under chain-of-custody documentation to McCampbell Analytical, Inc. of Pacheco, California (a State-certified analytical laboratory) for the analysis requested. All ground water monitoring and sampling was performed in accordance with ESE Standard Operating Procedure No. 3 (Appendix B).

### 3.3 Quality Control

One duplicate sample of ground water, collected from well MW-1, and a laboratory-supplied trip blank, consisting of deionized water, were submitted to the laboratory with the other samples. The duplicate sample and trip blank provide a quality control check on ESE's sample collection and handling procedures and laboratory handling procedures.

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## 4.0 Results

### 4.1 Ground Water Levels and Gradient

Ground water elevations in monitoring wells MW-1 through MW-4 for September 8, 1995, are presented in Table 1 and on Figure 3 (Ground Water Elevations: September 8, 1995). The elevation of ground water at the site ranged from 295.98 to 311.57 feet above MSL. Free-phase product was not found in any of the wells.

### 4.2 Ground Water Sample Analyses

Ground water samples, the duplicate sample and the trip blank were analyzed by the laboratory for TPH-D by EPA Method 8015 modified for diesel and BTEX by EPA Method 8020. The analytical results are presented in Table 2 while the laboratory reports with chain-of-custody documentation are presented in Appendix C.

No detectable concentrations of TPH-D were reported to occur in the ground water samples collected from wells MW-1 through MW-4.

No detectable concentrations of BTEX constituents were reported to occur in the ground water samples collected from wells MW-1 through MW-4.

### 4.3 Quality Control

The duplicate sample collected by ESE on September 8, 1995 was reported to contain no detectable analytes. The trip blank was also reported to contain no detectable analytes. These results indicate satisfactory sample handling and analytical quality control.

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## 5.0 Discussion

### 5.1 Ground Water Gradient

Significant differences in measured ground water elevations at the site suggests the influence of more than one water-bearing zone (Table 1). Ground water elevations in wells MW-1 and MW-2 (309.23 feet and 311.57 feet, respectively) were determined to be significantly different than in wells MW-3 and MW-4 (296.00 feet and 295.98 feet, respectively). The lack of three ground water elevation measurements collected from wells known to be completed over the same potential water-bearing zones prevents the determination of ground water gradient by a three-point solution method.

### 5.2 Ground Water Samples

The analytical results for ground water samples collected from MW-1 through MW-4 indicate that the ground water at the locations of these wells has not been impacted with diesel fuel and indicates that the plume has not migrated into the local ground water.

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## 6.0 Recommendations

Based on the results and conclusions of this ground water monitoring event for the Staples Ranch site and the established site history, ESE recommends the following:

- The GSA request case closure from the HCSA for this site and no further sampling be performed; and
- The GSA abandon all site wells upon receipt of case closure from the HCSA.

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## 7.0 References

- Alameda County Flood Control and Water Conservation District (Zone 7), 1990 - 1991.  
Regional Ground Water Flow Maps of the Livermore Valley.
- Environmental Science & Engineering, Inc. (ESE), 1994a. Site Assessment Report, Alameda County General Services Agency, Staples Ranch Property; June 15, 1994.
- Environmental Science & Engineering, Inc. (ESE), 1994b. UST/AGT Closure Report, Alameda County General Services Agency, Staples Ranch Property; June 24, 1994.
- Environmental Science & Engineering, Inc. (ESE), 1994c. UST/AGT Closure Report, Alameda County General Services Agency, Staples Ranch Property; November 30, 1994.
- Environmental Science & Engineering, Inc. (ESE), 1994d. Workplan for Additional Site Investigation, Alameda County General Services Agency, Staples Ranch Property; December 6, 1994.
- Environmental Science & Engineering, Inc. (ESE), 1995a. Report of Additional Site Assessment, Alameda County General Services Agency, Staples Ranch Property; February 13, 1995.
- Environmental Science and Engineering, Inc. (ESE), 1995b, Report of Ground Water Monitoring First Quarter 1995, Alameda County Services Agency, Engineering and Environmental Management Department, Staples Ranch Property, El Charro Road, Pleasanton, California.
- Harza Kaldveer Consulting Engineers, 1993. Unpublished Phase I Preliminary Site Assessment Report For Proposed Community Park Site, Pleasanton, California; November 9, 1993.
- USGS, 1980, 7.5-Minute Livermore Quadrangle Topographic Map.

TABLE 1

**GROUND WATER ELEVATION DATA**  
**Alameda County General Services Agency**  
**Staples Ranch Property, El Charro Road**  
**Pleasanton, California**

Well Number	Date	Top of Well Casing Elevation (feet AMSL)	Depth to Ground Water from Top of Casing (feet)	Ground Water Elevation (feet AMSL)
MW-1	1-Feb-95	347.6	37.65	309.95
	30-Mar-95		30.60	317.00
	28-Jun-95		36.56	311.04
	8-Sep-95		38.37	309.23
MW-2	1-Feb-95	348.34	35.77	312.57
	30-Mar-95		26.98	321.36
	28-Jun-95		34.17	314.17
	8-Sep-95		36.77	311.57
MW-3	1-Feb-95	348.37	53.69	294.68
	30-Mar-95		47.22	301.15
	28-Jun-95		50.92	297.45
	8-Sep-95		52.37	296.00
MW-4	1-Feb-95	348.59	53.90	294.69
	30-Mar-95		47.67	300.92
	28-Jun-95		51.18	297.41
	8-Sep-95		52.61	295.98

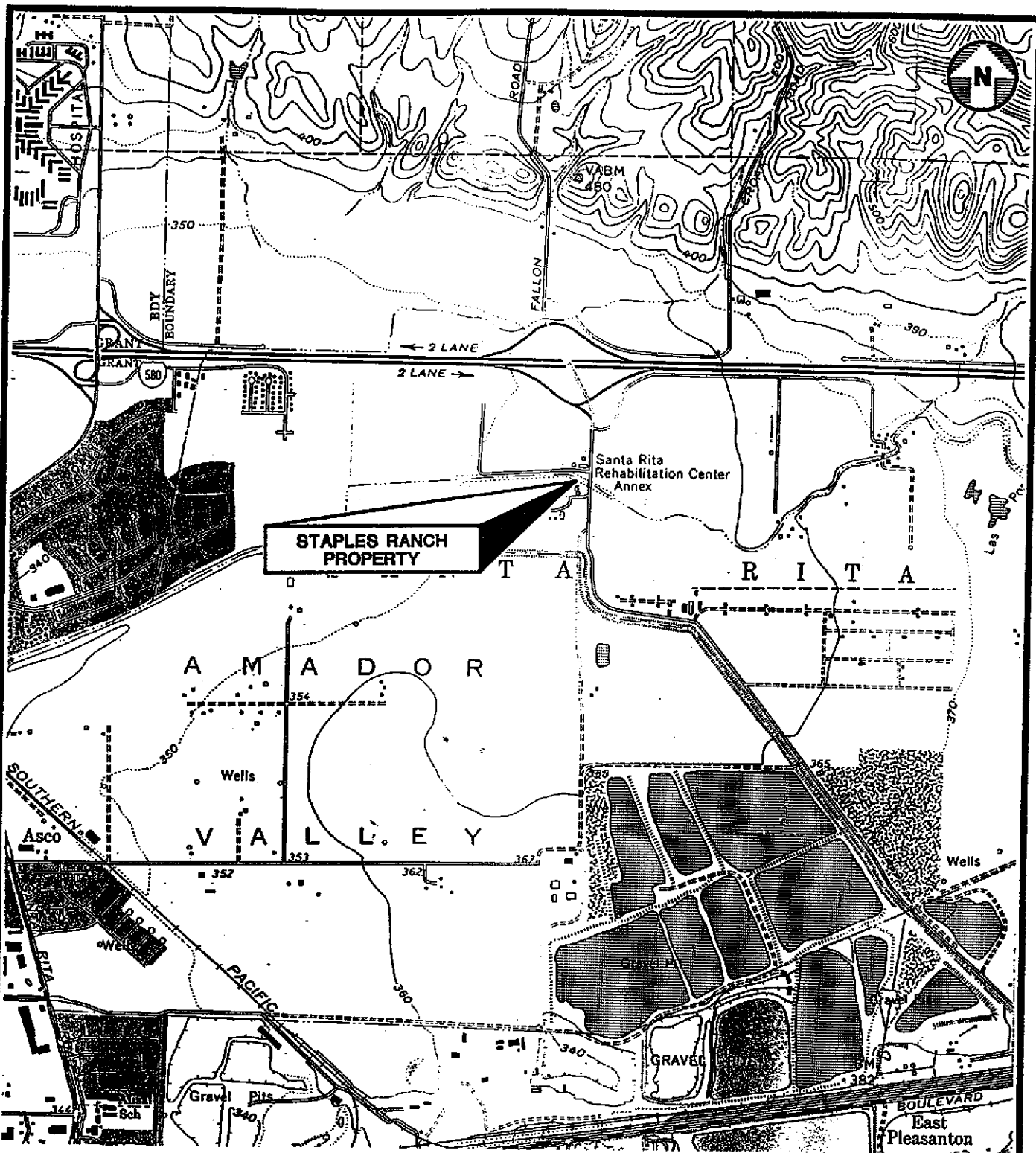
Note: (1) Elevation based on an arbitrary datum of 350 feet above Mean Sea Level (MSL)

**TABLE 2**

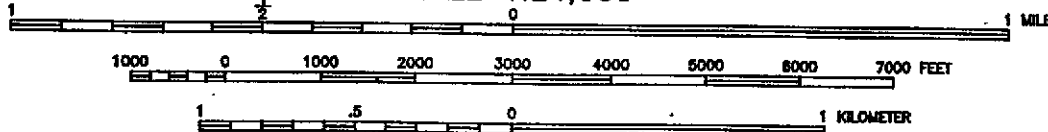
**ANALYTICAL RESULTS FOR GROUND WATER SAMPLES  
Alameda County General Services Agency  
Staples Ranch Property, El Charro Road  
Pleasanton, California**

Well No.	Date Sampled	TPH-D (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-1 Dup	12/30/94	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	12/30/94	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Dup	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
MW-2	12/30/94	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
MW-3	12/30/94	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
MW-4 Dup	12/30/94	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Trip	12/30/94	NA	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	03/30/95	NA	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	06/28/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
	09/08/95	ND (0.05)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)

- Notes:
- (1) TPH-D is total petroleum hydrocarbons as diesel analyzed using EPA Method 8015 modified per CA LUFT.
  - (2) Benzene, Toluene, Ethylbenzene, and Total Xylenes analyzed using EPA Method 8020.
  - (3) mg/L refers to milligrams per liter.
  - (4) ND (0.05) indicates not detected at method detection limit of 0.05 mg/L.
  - (5) NA stands for not analyzed for in the sample.
  - (6) Analytical reports are presented in Appendix C of this report.



SCALE 1:24,000



ADAPTED FROM U.S.G.S. LIVERMORE, CALIFORNIA 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP, 1961, PHOTOREVISED 1980.



**Environmental  
Science &  
Engineering, Inc.**

4090 NELSON AVENUE, SUITE J  
CONCORD, CA 94520

DATE

4/94

REVISED

CAD FILE

52281001

LOCATION MAP

ALAMEDA COUNTY GENERAL SERVICES AGENCY  
STAPLES RANCH PROPERTY  
EL CHARRO ROAD, PLEASANTON, CALIFORNIA

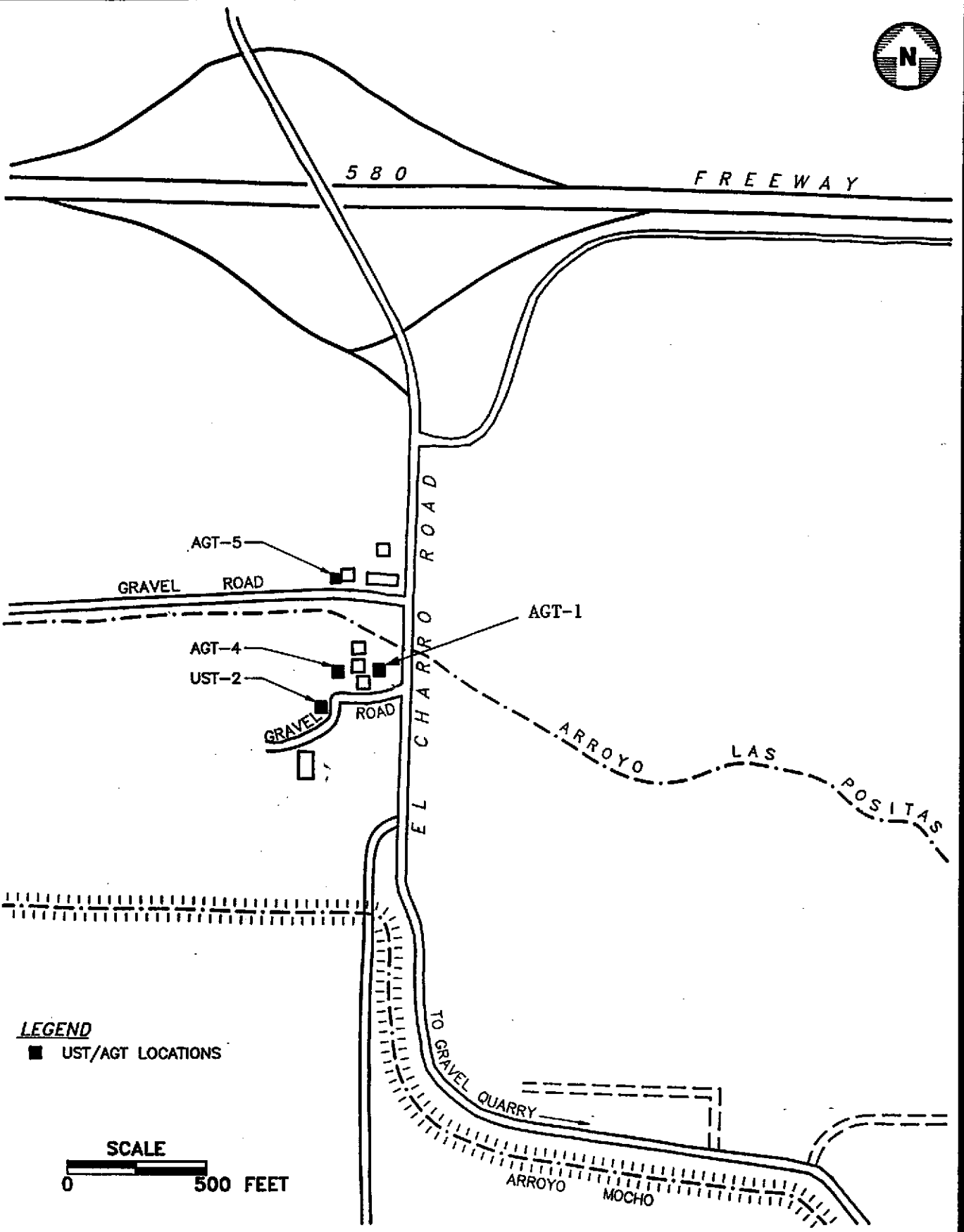
FIGURE NO.

1

PROJ. NO.

6-94-5228





**LEGEND**

■ UST/AGT LOCATIONS

**SCALE**



**Environmental  
Science &  
Engineering, Inc.**

4090 NELSON AVENUE, SUITE J  
CONCORD, CA 94520

DATE

4/94

REVISED

CAD FILE

52281002

**SITE MAP**

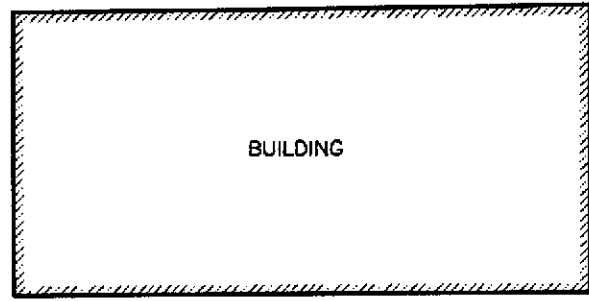
ALAMEDA COUNTY GENERAL SERVICES AGENCY  
STAPLES RANCH PROPERTY  
EL CHARRO ROAD, PLEASANTON, CALIFORNIA

FIGURE NO.

**2**

PROJ. NO.

6-94-5228



MW-1  
309.23

MW-3  
296.00

MW-4  
295.98

MW-2  
311.57



LOCATION OF FORMER  
ABOVE GROUND STORAGE TANK AGT-5

GRAVEL ROAD

GRASSY AREA

GRASSY AREA

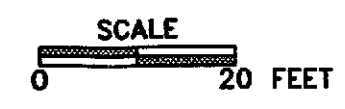


ARROYO LAS POSITAS

BRIDGE

**LEGEND**

- APPROXIMATE GROUND WATER MONITORING WELL LOCATION
- SURFACE WATER FLOW DIRECTION
- 309.23 RELATIVE GROUND WATER ELEVATION IN FEET



	Environmental Science & Engineering, Inc.	DATE 4/26/95	GROUND WATER ELEVATIONS SEPTEMBER 8, 1995	FIGURE NO. <b>3</b>
	4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED 9/19/95		ALAMEDA COUNTY GENERAL SERVICES AGENCY STAPLES RANCH PROPERTY EL CHARRO ROAD, PLEASANTON, CALIFORNIA
		CAD FILE 53530002		

**APPENDIX A**

**GROUND WATER SAMPLING DATA FORMS**



Environmental  
Science &  
Engineering, Inc.

### SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - STAPLES PLANT  
PROJECT NO.: 6-99-5353  
DATE: 9-8-95

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

#### CASING DIAMETER

2" \_\_\_\_\_  
4" X  
Other \_\_\_\_\_

#### SAMPLE TYPE

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

#### WELL VOLUMES PER UNIT

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

DEPTH TO PRODUCT: \_\_\_\_\_ (ft.) PRODUCT THICKNESS: \_\_\_\_\_ (ft.) MINIMUM PURGE VOLUME  
DEPTH TO WATER: 38.37 (ft.) WATER COLUMN: 22.94 (ft.) 3 or 4 WCV: 44.93 (gal)  
DEPTH OF WELL: 61.31 (ft.) WELL CASING VOLUME: 4.98 (gal) ACTUAL VOLUME PURGED: 45 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (x1000) (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other (LEAK)
<u>10:42</u>	<u>0</u>	<u>8.58</u>	<u>2.59</u>	<u>68.8</u>	_____	_____
<u>10:47</u>	<u>10</u>	<u>8.31</u>	<u>1.41</u>	<u>63.2</u>	_____	_____
<u>10:52</u>	<u>20</u>	<u>8.27</u>	<u>2.18</u>	<u>63.6</u>	_____	_____
<u>11:00</u>	<u>30</u>	<u>8.38</u>	<u>2.210</u>	<u>67.6</u>	_____	_____
_____	<u>40</u>	_____	_____	_____	_____	_____

#### INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9302A DATE: 9-8-95 TIME: 0600 BY: CHV  
TURBIDITY: TYPE \_\_\_\_\_ UNIT# \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ BY: \_\_\_\_\_

#### PURGE METHOD

Displacement Pump \_\_\_\_\_ Other \_\_\_\_\_  
Bailer (Teflon/PVC/SS) \_\_\_\_\_ X Submersible Pump

#### SAMPLE METHOD

Bailer (Teflon/PVC/SS) \_\_\_\_\_ Dedicated \_\_\_\_\_  
X Bailer (Disposable) \_\_\_\_\_ Other \_\_\_\_\_

#### SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>MW-1</u>	<u>11:15</u>	<u>9-8-95</u>	<u>McCAMPBELL</u>	_____
SPLIT	<u>DUP</u>	<u>11:15</u>	<u>9-8-95</u>	<u>McCAMPBELL</u>	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: \_\_\_\_\_

SAMPLER: Chris Valcheff

PROJECT MANAGER: Bob Miller



Environmental  
Science &  
Engineering, Inc.

**SAMPLE COLLECTION LOG**

PROJECT NAME: ALAMEDA GSA - STAPLES RANCH  
PROJECT NO.: 6945353  
DATE: 9-8-95

SAMPLE LOCATION I.D.: MW-2  
SAMPLER: CHRIS VACCHIEFF  
PROJECT MANAGER: BART MINSER

**CASING DIAMETER**

2" \_\_\_\_\_  
4" X  
Other \_\_\_\_\_

**SAMPLE TYPE**

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

**WELL VOLUMES PER UNIT**

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

DEPTH TO PRODUCT: - (ft.) PRODUCT THICKNESS: - (ft.) MINIMUM PURGE VOLUME  
DEPTH TO WATER: 36.77 (ft.) WATER COLUMN: 24.48 (ft.) (3) or AWCV: 47.94 (gal)  
DEPTH OF WELL: 61.25 (ft.) WELL CASING VOLUME: 1590 (gal) ACTUAL VOLUME PURGED: 50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1146</u>	<u>0</u>	<u>8.63</u>	<u>1.15</u>	<u>63.7</u>	_____	<u>CLEAR</u>
<u>1148</u>	<u>10</u>	<u>8.75</u>	<u>1.20</u>	<u>63.6</u>	_____	_____
<u>1150</u>	<u>20</u>	<u>8.74</u>	<u>1.21</u>	<u>63.4</u>	_____	_____

**INSTRUMENT CALIBRATION**

pH/COND./TEMP.: TYPE HYDRA UNIT# 9308A DATE: 9-8-95 TIME: 0600 BY: CAV  
TURBIDITY: TYPE \_\_\_\_\_ UNIT# \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ BY: \_\_\_\_\_

**PURGE METHOD**

\_\_\_ Displacement Pump  
\_\_\_ Bailer (Teflon/PVC/SS) X Submersible Pump  
\_\_\_ Other

**SAMPLE METHOD**

\_\_\_ Bailer (Teflon/PVC/SS) X Bailer (Disposable)  
\_\_\_ Dedicated Other

**SAMPLES COLLECTED**

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	<u>MW-2</u>	<u>1150</u>	<u>9-8-95</u>	<u>Melrose</u>	_____
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

**COMMENTS:**

\_\_\_\_\_

SAMPLER: Chris Vacchieff  
4090 Nelson Avenue, Suite J

Concord, CA 94520

PROJECT MANAGER: Bart Minsler

Phone (510) 685-4053

Fax (510) 685-5323



Environmental  
Science &  
Engineering, Inc.

**SAMPLE COLLECTION LOG**

PROJECT NAME: Alameda GSA - Staples Ranch  
PROJECT NO.: 6-99-5353  
DATE: 9-8-95

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

**CASING DIAMETER**

2" \_\_\_\_\_  
4" X  
Other \_\_\_\_\_

**SAMPLE TYPE**

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

**WELL VOLUMES PER UNIT**

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

DEPTH TO PRODUCT: \_\_\_\_\_ (ft.) PRODUCT THICKNESS: \_\_\_\_\_ (ft.) MINIMUM PURGE VOLUME  
DEPTH TO WATER: 52.37 (ft.) WATER COLUMN: 10.33 (ft.) (3) or 4 WCV: 20.23 (gal)  
DEPTH OF WELL: 62.70 (ft.) WELL CASING VOLUME: 6.74 (gal) ACTUAL VOLUME PURGED: 21 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>11:02</u>	<u>3</u>	<u>7.80</u>	<u>19.45</u>	<u>69.4</u>	_____	<u>CLEAR</u>
<u>11:15</u>	<u>15</u>	<u>8.11</u>	<u>3.05</u>	<u>72.0</u>	_____	_____
<u>11:25</u>	<u>21</u>	<u>8.14</u>	<u>2.70</u>	<u>70.6</u>	_____	_____

**INSTRUMENT CALIBRATION**

pH/COND./TEMP.: TYPE H70AC UNIT# 9300 DATE: 9-8-95 TIME: 8:00 BY: CV  
TURBIDITY: TYPE \_\_\_\_\_ UNIT# \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ BY: \_\_\_\_\_

**PURGE METHOD**

\_\_\_\_ Displacement Pump \_\_\_\_\_ Other  
\_\_\_\_ Bailer (Teflon/PVC/SS) X Submersible Pump

**SAMPLE METHOD**

\_\_\_\_ Bailer (Teflon/PVC/SS) \_\_\_\_\_ Dedicated  
X Bailer (Disposable) \_\_\_\_\_ Other

**SAMPLES COLLECTED**

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	<u>MW-3</u>	<u>11:40</u>	<u>9-8-95</u>	<u>McLennan</u>	_____
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

**COMMENTS:**

\_\_\_\_\_

SAMPLER: Chris Vaughan PROJECT MANAGER: Bart Miller  
4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323



Environmental Science & Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: ALAMEDA GSA - STAPLES PLANT  
PROJECT NO.: 6-94-5353  
DATE: SEPT, 8, 1995

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

CASING DIAMETER

2" \_\_\_\_\_  
4" X  
Other \_\_\_\_\_

SAMPLE TYPE

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

WELL VOLUMES PER UNIT

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

DEPTH TO PRODUCT: \_\_\_\_\_ (ft.) PRODUCT THICKNESS: \_\_\_\_\_ (ft.) MINIMUM PURGE VOLUME  
DEPTH TO WATER: 52.20 (ft.) WATER COLUMN: 15.03 (ft.) (3 or 4 WCV): 29.43 (gal)  
DEPTH OF WELL: 67.64 (ft.) WELL CASING VOLUME: 9.81 (gal) ACTUAL VOLUME PURGED: 30 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Microhmhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1215</u>	<u>0</u>	<u>8.73</u>	<u>0.95</u>	<u>66.3</u>	_____	<u>CLEAR</u>
<u>1218</u>	<u>15</u>	<u>7.57</u>	<u>1.21</u>	<u>66.8</u>	_____	<u>↓</u>
<u>1222</u>	<u>30</u>	<u>7.55</u>	<u>1.22</u>	<u>67.1</u>	_____	<u>↓</u>

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HydAC UNIT# 9308A DATE: 9-8-95 TIME: 0600 BY: CHV  
TURBIDITY: TYPE \_\_\_\_\_ UNIT# \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ BY: \_\_\_\_\_

PURGE METHOD

\_\_\_\_ Displacement Pump \_\_\_\_\_ Other  
\_\_\_\_ Bailer (Teflon/PVC/SS) X Submersible Pump

SAMPLE METHOD

\_\_\_\_ Bailer (Teflon/PVC/SS) \_\_\_\_\_ Dedicated  
X Bailer (Disposable) \_\_\_\_\_ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	<u>MW-4</u>	<u>1230</u>	<u>9-8-95</u>	<u>Melampell</u>	_____
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: \_\_\_\_\_

SAMPLER: Chris Valcheff PROJECT MANAGER: Bart Miller  
4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

**APPENDIX B**

**ESE STANDARD OPERATING PROCEDURE NO. 3**



**ENVIRONMENTAL SCIENCE & ENGINEERING, INC.  
CONCORD, CALIFORNIA OFFICE**

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

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

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

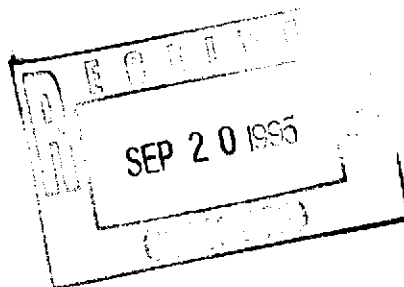
Ground-water samples are collected by lowering a new (precleaned), disposable polyethylene bailer into the well using new, disposable nylon cord. The filled bailer is retrieved, emptied, then filled again. The ground water from this bailer is decanted into appropriate laboratory supplied glassware and/or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

**APPENDIX C**

**LABORATORY ANALYTICAL REPORTS:  
GROUND WATER SAMPLES**

McCAMPBELL ANALYTICAL INC.

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



09/15/95

Dear Bart:

Enclosed are:

- 1). the results of 6 samples from your # 6-94-5353; Alameda GSA-Staples Ranch project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

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

Yours truly,

Edward Hamilton





## QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/08/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	109.0	98.7	100	109	99	9.9
Benzene	0	9.9	9.5	10	99.0	95.0	4.1
Toluene	0	9.8	9.4	10	98.0	94.0	4.2
Ethyl Benzene	0	9.8	9.4	10	98.0	94.0	4.2
Xylenes	0	31.1	29.4	30	103.7	98.0	5.6
TPH (diesel)	0	166	163	150	111	108	2.0
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

DATE SEPT. 8, 1995 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

4823 AESEX 208

PROJECT NAME ALAMEDA GSA - STABLES Bldg II

ADDRESS Santa Rita Correctional Facility

Livermore, CA

PROJECT NO. 694-5353

SAMPLED BY CHRIS VALCHER

LAB NAME McCambeck

ANALYSES TO BE PERFORMED

MATRIX

MATRIX

NUMBER OF CONTAINERS



Environmental Science & Engineering, Inc.

4890 Nelson Avenue  
Suite J  
Concord, CA 94520

Phone (510) 685-4053  
Fax (510) 685-5323

REMARKS (CONTAINER, SIZE, ETC.)

SAMPLE #	DATE	TIME	LOCATION	EPA 8015 (TCLP)	EPA 8013 (DTE)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW1	9-8-95	1115	ALAMEDA GSA	✓	✓	H <sub>2</sub> O	3	2 VOLS w/ 1 Amber Lid
MW2		1150	↓	✓	✓		3	
MW3		1140	↓	✓	✓		3	
MW4		1230	↓	✓	✓		3	
DUP		1115	↓	✓	✓		3	
TRIP					✓		1	1 VOL
								56195
								56196
								56197
								56198
								56199
								56200

ICEF:  GOOD CONDITION  
 HEAD SPACE ABSENT:   
 PRESERVATIVE:  APPROPRIATE CONTAINERS:

RELINQUISHED BY: (signature) 1. <u>Chris Valcher</u>	RECEIVED BY: (signature) <u>Debi Mica</u>	date <u>9/8/95</u>	time <u>1500</u>	16	TOTAL NUMBER OF CONTAINERS
2.					
3.					
4.					
5.					

REPORT RESULTS TO:  
BART MILLER  
ESE

SPECIAL SHIPMENT REQUIREMENTS  
COLD TRANSPORT / SURFACE

SAMPLE RECEIPT

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):

NORMAL T.A.T. INVOICE TO ALAMEDA CO. GSA

CHAIN OF CUSTODY SEALS

REC'D GOOD CONDITN/COLD

CONFORMS TO RECORD