

OVEREXCAUATION REPORT
TANKS 11, 12, 12A
actually, TRENCHINE exploration
report

January 7, 1993

Project No. 6-92-5442

Mr. Jim de Vos Buildings Manager Alameda County General Services Agency 4400 MacArthur Boulevard Oakland, CA 94619

SUBJECT: Vehicle Fueling Area, Old Graystone, Santa Rita Correctional Facility,

Dublin, California

Dear Mr. de Vos:

TRENCHINE

This report documents the results of overexcavation activities conducted by Environmental Science & Engineering, Inc. (ESE) on November 8th and 9th, 1992 at the subject facility. A workplan dated October 26, 1992 describing the proposed work to be conducted at a former underground storage tank (UST) location at the subject facility, commonly referred to as the Old Graystone Area, was submitted to the Alameda County General Services Agency (GSA) and the Alameda County Health Care Services Agency (HCSA). The purpose of the proposed excavation activities was to characterize and excavate soil impacted with petroleum hydrocarbons.

#### SITE BACKGROUND

The Santa Rita Correctional Facility, owned by GSA, is located along Interstate 580 in Dublin, California (Figure 1 - Location Map and Figure 2 - Site Map). GSA owned and operated one 10,000-gallon unleaded gasoline UST and one 11,000-gallon regular gasoline UST at the Old Graystone Area located at the southern portion of the facility (Figure 2 - Site Map). The unleaded gasoline UST, referred to as UST 2942-11, was of single wall fiberglass construction while the regular gasoline UST, referred to as UST 2942-12, was of single wall carbon steel construction wrapped with a tar-based coating (Figure 3 - Site Plan, Excavation Activities). Both UST's supplied fuel to dispensers at a fuel island formerly located between the two UST's. The installation date of each UST is unknown. In addition

Mr. Jim de Vos January 7, 1993 Page 2

to these two UST's, a 500-gallon waste oil UST was discovered during the excavation of UST 2942-12. This UST was designated 2942-12A and was located near the west end of UST 2942-12.

Under permit from the HCSA and the Doherty Regional Fire Authority (DRFA), ESE removed and disposed of UST's 2942-11 and 2942-12A on May 18, 1992. UST 2942-12 was removed on May 20, 1992. The HCSA and the DRFA witnessed the UST removal and soil sampling activities. Prior to removal, UST 2942-12 was found to contain approximately 2,000 gallons of regular leaded gasoline and UST 2942-12A was found to contain approximately 50 gallons of waste oil. All fluid from both UST's was evacuated, transported, and disposed as hazardous waste. UST 2492-11 was found to be empty.

ESE submitted a closure report for the three UST's at the Old Graystone Area to the HCSA on July 20, 1992. Under the direction of a HCSA representative, a total of five soil samples (11W, 11E, 12W, 12E, and 12A) were collected by ESE personnel and submitted for analysis (Figure 2). Laboratory results indicated detectable concentrations of total petroleum hydrocarbons as gasoline (TPH-G) using Environmental Protection Agency (EPA) analytical method 8015-modified and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA analytical method 8020 in all samples submitted. TPH-G concentrations were reported to range between 13 to 730 milligrams per kilogram (mg/Kg) and benzene concentrations were reported to range between 5 to 490 micrograms per kilogram (μg/Kg).

### SITE ACTIVITIES, SAMPLING PROCEDURES, AND RESULTS

In lieu of soil borings, ESE was contracted to characterize and excavate soils impacted with gasoline from the UST 2942-11, 2942-12, and 2942-12A excavations located at the Old Graystone Area in accordance with the workplan. Using an excavator provided and operated by Golden West Environmental, Inc. of Livermore, California, ESE personnel observed a solution of the soil in two test trenches. Test Trench 1 extended approximately 50 feet to the west from the western side of the UST 2942-11 excavation and Test Trench 2 extended approximately 35 feet to the southwest from the western side of the UST 2492-12A excavation (Figure 3 - Site Plan, Excavation Activities). ESE also excavated two test pits, Test Pit 1 and Test Pit 2, to a depth of 22 feet at the base of the UST 2942-11 and 2942-12 excavations.

Sediments at the Old Graystone Area are comprised of a silt unit having an approximate thickness of eight feet. The silt was noted as dry and containing approximately 15 percent medium-sized quartzose sand grains. A clay unit underlies the silt and was observed to extend to the bottom of both test trenches. The clay unit was noted to contain thin medium-grained sand lenses (less than two inches in thickness) at a depth of approximately 20 to 22 feet. The underlying clay unit was dry and of moderate plasticity.

Mr. Jim de Vos December 18, 1992 Page 3

A green discoloration and a petroleum hydrocarbon odor was noted at both test trenches throughout the silt unit. No discoloration or odor was observed in the clay unit directly beneath the silt-clay contact. A grey discoloration and a distinct gasoline odor were observed in clay occurring at a depth of approximately 22-feet below grade at both test pit locations. ESE collected three samples of the gasoline-impacted clay (T11-1-22', T12-1-22', and T12A-1-22') from the excavator bucket containing soil from Test Pit 1, Test Pit 2, and Test Trench 2, respectively.

Samples were collected using a slide hammer with a sample collection barrel fitted with a two-inch diameter brass ring. The brass sampling ring ends were covered with Teflon® tape and plastic end caps and sealed with duct tape. The samples were placed in a cooler with ice for cold transport to Chromalab, Inc. (a State-Certified Laboratory) under Chain of Custody documentation. The soil samples were analyzed for TPH-G using EPA method 8015-modified and BTEX using EPA method 8020. In addition, sample T12A-1-22 was also analyzed for oil and grease (O&G) using California Standard Methods for Water and Wastewater (SMWW) method 5520, halogenated volatile organic compounds (HVOCs) using EPA method 8010, semi-volatile organic compounds (SVOCs) using EPA method 8270, and five metals (cadmium, chromium, lead, nickel, and zinc) using EPA method 6010. The additional analyses for O&G, HVOCs, SVOCs, and metals was conducted because sample T12A-1-22 was collected in the immediate vicinity of the waste oil UST 2942-12A.

Analytical results indicated detectable concentrations of TPH-G and BTEX in all three soil samples collected (Attachment 1 - Analytical Results). No detectable concentrations of O&G and HVOCs were reported for sample T12A-1-22, however, minor detectable concentrations of SVOCs were observed. ESE suspects that the detected SVOCs could have been derived from leaching of the tar-based coating observed on UST 2942-12 and/or as a constituent of released fuel. All five metals analyzed in sample T12A-1-22, except nickel, were reported in concentrations of less than ten percent of California Code of Regulations (CCR) Title 26 Total Threshold Limit Concentration (TTLC) values. The nickel concentration in this sample was reported to be 27 mg/Kg.

In order to estimate the lateral extent of the petroleum hydrocarbon plume in near-surface vadose soil at this location, ESE extended Test Trench 1 to a total length of approximately 50 feet. No discoloration or fuel odor was noted in the near-surface silt at the westernmost extent of the trench. Clay samples collected with the excavator from a 22-foot deep pothole at the west end of Test Trench 1 were also observed not to be discolored or have any fuel odor though no samples were analyzed. In addition, ESE also extended Test Trench 2 to a total length of approximately 30 feet. No petroleum hydrocarbon impact was observed in the near-surface silt unit observed at the southwest end of the trench.

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Mr. Jim de Vos December 18, 1992 Page 4

No ground water was encountered in any of the test pits or trenches at a maximum depth of 22 feet. Upon completion of field observations and sampling, ESE backfilled all trenches with excavated material for safety purposes under the direction of a representative of GSA.

#### SUMMARY

In summary, it appears that shallow sediments in the upper eight foot silt layer may have been impacted by a fuel release. The presence of this discoloration and odor in shallow soils distant from the former tanks indicates this soil may have been impacted by a release unrelated to the USTs. A gasoline release from the UST 2942-11 area has impacted the clay unit at a depth of approximately 20 to 22 feet. Impacted clay is visually identified by a grey discoloration and has a strong gasoline odor. No ground water was intersected during these excavation activities and it remains unknown as to whether ground water has been impacted by the fuel releases.

Based on these findings, ESE recommends that a subsurface investigation be conducted at the site. The investigation should be focussed on determining the lateral extent of the near-surface silt unit impacted with petroleum hydrocarbons and the lateral and vertical extent of the petroleum hydrocarbon impact on the clay located at depth of below 20 feet.

Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other hydrogeologists and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report.

If you have any questions regarding the material presented in this report, please do not hesitate to contact the undersigned at (510) 685-4053.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Bart S. Miller

Senior Staff Geologist

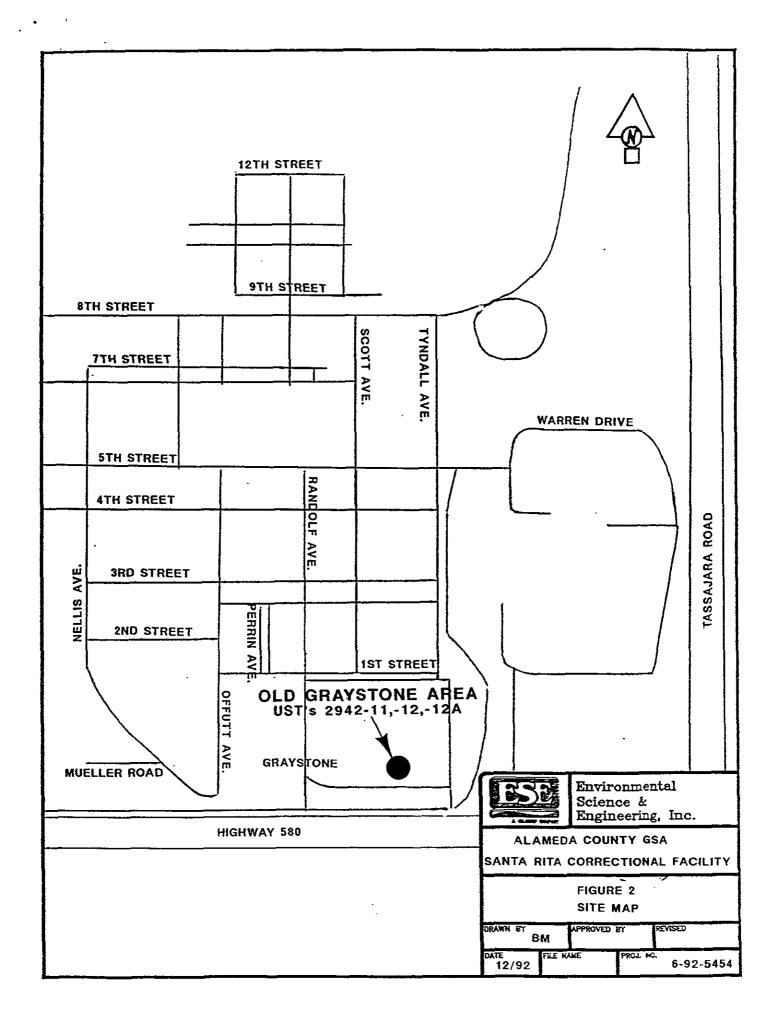
Susan S. Wickham, RG 3851

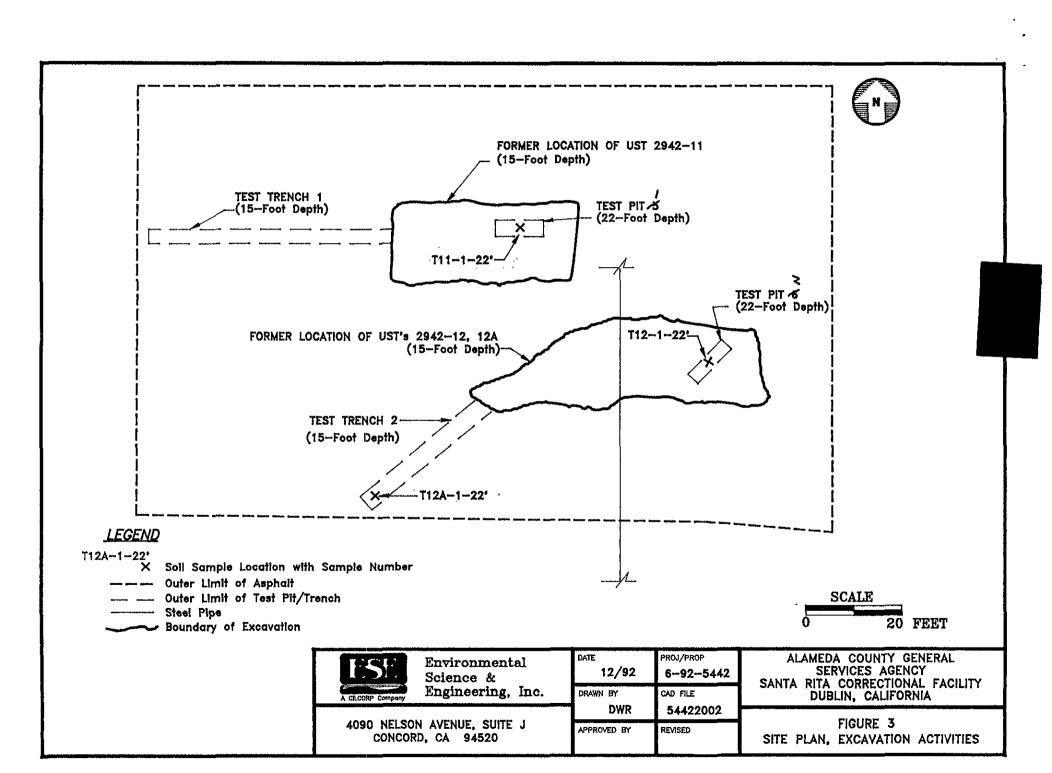
Senior Geologist

BSM/SSW:gm

Attachment (4)







### **ATTACHMENT 1**

Analytical Results and Chain of Custody Documentation



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Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 17, 1992

ChromaLab File No.: 1192066

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Attn: Pat Galvin

RE: Three soil samples for Gasoline and BTEX analysis

Project Name: ALAMEDA COUNTY - SANTA RITA JAIL

Project Number: 6-92-5423

Date Sampled: Nov. 9, 1992

Date Submitted: Nov. 9, 1992

Date Analyzed: Nov. 13, 1992

#### RESULTS:

| Sample             | Gasoline<br>(mg/Kg) | Benzene<br>(µg/Kg) | Toluene<br>(µg/Kg) | Ethyl<br>Benzene<br>(µq/Kq) | Total<br>Xylenes<br>(µg/Kg) |
|--------------------|---------------------|--------------------|--------------------|-----------------------------|-----------------------------|
| T11-1-22'          | 6600                | 0.600              | 140000             | 160000                      | 000000                      |
|                    | 6600                | 9600               | 140,000            | 160,000                     | 920,000                     |
| T12-1-22'          | 110*                | N.D.               | N.D.               | <b>'</b> 580                | 350                         |
| T12A-1-22'         | 147                 | N.D.               | 180                | 2800                        | 14000                       |
| BLANK              | N.D.                | N.D.               | N.D.               | N.D.                        | N.D.                        |
| SPIKE RECOVERY     | 87%                 | 115%               | 118%               | 118%                        | 100%                        |
| DUP SPIKE RECOVERY |                     | 107%               | 106%               | 93%                         | 97%                         |
| DETECTION LIMIT    | 1.0                 | 5.0                | 5.0                | 5.0                         | 5.0                         |
| METHOD OF ANALYSIS | 5030/8015           | 8020               | 8020               | 8020                        | 8020                        |

<sup>\*</sup>Kerosine and/or diesel suspected to be in sample.

ChromaLab, Ing.

Billy Thach

Analytical Chemist

Eric Tam

Laboratory Director

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Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 14, 1992

ChromaLab File No.: 1192066

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Attn: Pat Galvin

RE: One soil sample for Oil & Grease analysis

Project Name: ALAMEDA COUNTY - SANTA RITA JAIL

Project Number: 6-92-5423

Date Sampled: Nov. 9, 1992

Date Submitted: Nov. 9, 1992

Date Analyzed: Nov. 13, 1992

RESULTS:

Sample Oil & Grease I.D. (mq/Kg)

T12A-1-22'

N.D.

BLANK DETECTION LIMIT METHOD OF ANALYSIS N.D. 50

STD METHOD 5520 E & F

ChromaLab, Inc.

Carolyn M. House

Analyst

Eric Tam

Laboratory Director

CC

Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 17, 1992

ChromaLab File No.:

1192066

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Attn: Pat Galvin

RE: One soil sample for LUFT (5) Metals analysis

Project Name: ALAMEDA COUNTY - SANTA RITA JAIL

Project Number: 6-92-5423

Date Sampled: Nov. 9, 1992

Date Submitted: Nov. 9, 1992

Date Analyzed: Nov. 16, 1992

### RESULTS:

| Sample          | Cadmium<br>(mg/Kg) | Chromium<br>(mg/Kg) | Lead<br>(mg/Kg) | Nickel<br>(mg/Kg) | Zinc<br>(mg/Kg) |
|-----------------|--------------------|---------------------|-----------------|-------------------|-----------------|
| T12A-1-22'      | 0.4                | 25                  | 1.3             | 27                | 45              |
| BLANK           | N.D.               | N.D.                | N.D.            | N.D.              | N.D.            |
| DETECTION LIMIT | 0.05               | 0.50                | 0.50            | 0.50              | 0.50            |
| METHOD OF       | 3050/              | 3050/               | 3050/           | 3050/             | 3050/           |
| ANALYSIS        | 6010               | 6010                | 6010            | 6010              | 6010            |

ChromaLab, Inc.

Jack Kelly

Analytical Chemist

Refaat Mankarious

Inorganic Supervisor

CC

Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 14, 1992

ChromaLab File # 1192066

ENVIRONMENTAL SCIENCE & ENGINEERING, INC. Attn: Pat Galvin

Project Name: ALAMEDA COUNTY-SANTA RITA JAIL Project No: 6-92-5423 Method of Analysis: EPA 8010

Date Sampled: Nov. 9, 1992

Date Submitted: Nov. 9, 1992 Date of Analysis: Nov. 12, 1992

Matrix: Soil

Detection Limit: 25.0 µg/Kg

Sample I.D.: TANK 12 A-1-22'

Dilution Factor: 5

| COMPOUND NAME              | µq/Kq | Spike Recovery     |
|----------------------------|-------|--------------------|
| CHLOROMETHANE              | N.D.  |                    |
| VINYL CHLORIDE             | N.D.  |                    |
| BROMOMETHANE               | N.D.  |                    |
| CHLOROETHANE               | N.D.  | the spin spin      |
| TRICHLOROFLUOROMETHANE     | N.D.  |                    |
| 1,1-DICHLOROETHENE         | N.D.  | 89% 106%           |
| METHYLENE CHLORIDE         | N.D.  | <del>***</del> *** |
| 1,2-DICHLOROETHENE (TRANS) | N.D.  | ·                  |
| 1,2-DICHLOROETHENE (CIS)   | N.D.  | <del></del>        |
| 1,1-DICHLOROETHANE         | N.D.  |                    |
| CHLOROFORM                 | N.D.  |                    |
| 1,1,1-TRICHLOROETHANE      | N.D.  |                    |
| CARBON TETRACHLORIDE       | N.D.  |                    |
| 1,2-DICHLOROETHANE         | N.D.  | <del></del>        |
| TRICHLOROETHENE            | N.D.  | 95% 103%           |
| 1,2-DICHLOROPROPANE        | N.D.  |                    |
| BROMODICHLOROMETHANE       | N.D.  |                    |
| 2-CHLOROETHYLVINYLETHER    | N.D.  |                    |
| TRANS-1,3-DICHLOROPROPENE  | N.D.  |                    |
| CIS-1,3-DICHLOROPROPENE    | N.D.  |                    |
| 1,1,2-TRICHLOROETHANE      | N.D.  |                    |
| TETRACHLOROETHENE          | N.D.  | 113% 111%          |
| DIBROMOCHLOROMETHANE       | N.D.  |                    |
| CHLOROBENZENE              | N.D.  |                    |
| BROMOFORM                  | N.D.  |                    |
| 1,1,2,2-TETRACHLOROETHANE  | N.D.  | 116% 108%          |
| 1,3-DICHLOROBENZENE        | N.D.  |                    |
| 1,4-DICHLOROBENZENE        | N.D.  |                    |
| 1,2-DICHLOROBENZENE        | N.D.  |                    |

ChromaLab, Inc.

Mary Cappelli

Analytical Chemist

Eric Tam

Lab Director

5 DAYS TURNAROUND

Environmental Laboratory (1094)

ChromaLab File # 1192066 November 17, 1992

Environmental Science & Engineering, Inc. Client:

Attn: Pat Galvin

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Nov. 09, 1992 Date Submitted: Nov. 09, 1992 Date Sampled: Nov. 14, 1992 Date Analyzed: Date Extracted: Nov. 14, 1992

Santa Rita Jail, Project Name: Alameda County Address: Engineer's Hill

Project No: 6-92-5423

Sample I.D.: T12A-1-22'

Matrix: soil Method of Analysis: EPA 8270

|                               | Sample | MDL   | Spike     |
|-------------------------------|--------|-------|-----------|
| COMPOUND NAME                 | mg/kg  | mq/kq | Recovery  |
| PHENOL                        | N.D.   | 0.05  |           |
| BIS (2-CHLOROETHYL) ETHER     | N.D.   | 0.05  | 102% 110% |
| 2-CHLOROPHENOL                | N.D.   | 0.05  |           |
| 1,3-DICHLOROBENZENE           | N.D.   | 0.05  |           |
| 1,4-DICHLOROBENZENE           | N.D.   | 0.05  |           |
| BENZYL ALCOHOL                | N.D.   | 0.10  |           |
| 1,2-DICHLOROBENZENE           | N.D.   | 0.05  |           |
| 2-METHYLPHENOL                | N.D.   | 0.05  |           |
| BIS (2-CHLOROISOPROPYL) ETHER | N.D.   | 0.05  |           |
| 4-METHYLPHENOL                | N.D.   | 0.05  |           |
| N-NITROSO-DI-N-PROPYLAMINE    | N.D.   | 0.05  |           |
| HEXACHLOROETHANE              | N.D.   | 0.05  |           |
| NITROBENZENE                  | N.D.   | 0.05  |           |
| ISOPHORONE                    | N.D.   | 0.05  |           |
| 2-NITROPHENOL                 | N.D.   | 0.05  |           |
| 2,4-DIMETHYLPHENOL            | 0.18   | 0.05  |           |
| BENZOIC ACID                  | N.D.   | 0.25  |           |
| BIS (2-CHLOROETHOXY) METHANE  | N.D.   | 0.05  | 89% 93%   |
| 2,4-DICHLOROPHENOL            | N.D.   | 0.05  |           |
| 1,2,4-TRICHLOROBENZENE        | N.D.   | 0.05  |           |
| NAPHTHALENE                   | 1.1    | 0.05  |           |
| 4-CHLOROANILINE               | N.D.   | 0.10  |           |
| HEXACHLOROBUTADIENE           | N.D.   | 0.05  |           |
| 4-CHLORO-3-METHYLPHENOL       | N.D.   | 0.10  |           |
| 2-METHYLNAPHTHALENE           | 1.1    | 0.05  |           |
| HEXACHLOROCYCLOPENTADIENE     | N.D.   | 0.05  |           |
| 2,4,6-TRICHLOROPHENOL         | N.D.   | 0.05  |           |
| 2,4,5-TRICHLOROPHENOL         | N.D.   | 0.05  |           |
| 2-CHLORONAPHTHALENE           | N.D.   | 0.05  |           |
| 2-NITROANILINE                | N.D.   | 0.25  |           |
| DIMETHYL PHTHALATE            | N.D.   | 0.05  |           |
| ACENAPHTHYLENE                | N.D.   | 0.05  |           |
| 3-NITROANILINE                | N.D.   | 0.25  |           |
| ACENAPHTHENE                  | N.D.   | 0.05  | 108% 106% |
| 2,4-DINITROPHENOL             | N.D.   | 0.25  |           |
| 4-NITROPHENOL                 | N.D.   | 0.25  |           |
| DIBENZOFURAN                  | N.D.   | 0.05  |           |
| (continued on next page)      |        |       |           |



Environmental Laboratory (1094)

5 DAYS TURNAROUND Page 2

ChromaLab File # 1192066

Project Name: Alameda Clunty

Address: Santa Rita Jail, Engineer's Hill

Project No: 6-92-5423 Sample I.D.: T12A-1-22'

Method of Analysis: EPA 8270

Matrix: soil

|                              | Sample | MDL   | Spike    |
|------------------------------|--------|-------|----------|
| COMPOUND NAME                | mg/kg  | mq/kq | Recovery |
| 2,4-DINITROTOLUENE           | N.D.   | 0.05  |          |
| 2,6-DINITROTOLUENE           | N.D.   | 0.05  | 91% 105% |
| DIETHYL PHTHALATE            | N.D.   | 0.05  |          |
| 4-CHLORO-PHENYL PHENYL ETHER | N.D.   | 0.05  |          |
| FLUORENE                     | N.D.   | 0.05  |          |
| 4-NITROANILINE               | N.D.   | 0.25  |          |
| 4,6-DINITRO-2-METHYL PHENOL  | N.D.   | 0.25  |          |
| N-NITROSODIPHENYLAMINE       | N.D.   | 0.05  |          |
| 4-BROMOPHENYL PHENYL ETHER   | N.D.   | 0.05  |          |
| HEXACHLOROBENZENE            |        | 0.05  |          |
| PENTACHLOROPHENOL COST Date  |        | 0.25  |          |
| PHENANTHRENE                 | N.D.   | 0.05  |          |
| ANTHRACENE Carcino           | 0.093  |       |          |
| DI-N-BUTYL PHTHALATE         | N.D.   | 0.05  |          |
| FLUORANTHENE                 | 0.086  |       |          |
| PYRENE                       | 0.078  |       |          |
| BUTYLBENZYLPHTHALATE         | N.D.   | 0.05  |          |
| 3,3'-DICHLOROBENZIDINE       | N.D.   | 0.10  |          |
| BENZO (A) ANTHRACENE         | N.D.   | 0.05  |          |
| BIS (2-ETHYLHEXYL) PHTHALATE | N.D.   | 0.05  |          |
| CHRYSENE                     | N.D.   | 0.05  | 101% 86% |
| DI-N-OCTYLPHTHALATE          | N.D.   | 0.05  |          |
| BENZO (B) FLUORANTHENE       | N.D.   | 0.05  |          |
| ✓ BENZO (K) FLUORANTHENE     | 0.070  | 0.05  |          |
| BENZO (A) PYRENE             | N.D.   | 0.05  |          |
| INDENO(1,2,3 C,D)PYRENE      | N.D.   | 0.05  |          |
| DIBENZO (A, H) ANTHRACENE    | N.D.   | 0.05  |          |
| BENZO(G,H,I)PERYLENE         | N.D.   | 0.05  |          |
|                              |        |       |          |

ChromaLab, Inc.

Yiu Tam

Analytical Chemist

Éric Tam Lab Director

CHROMALAB FILE # 1192066
ORDER #

| DATE 11 /09 /92 PAGE 1 OF          |          |                                 |             | CHA         | 7TN          | OF       | CU       | STO                                          |           | ŒC    | ORD    |            |             |             |                         | Environmental                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : ;      |
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| PROJECT NAME ALAMEDA COUNTY        | A        | ANALYSES TO BE PERFORMED MATRIX |             |             |              |          |          |                                              | Science & |       |        |            |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| ADDRESS SANTA RITA JAIL            | TPH-d    |                                 | <b>1</b> √∤ | #           | Ħ            | 11       | φ        | 310                                          |           |       | M      | N          | CONTAIN     |             | & CUCORD organ          | Engineering, Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |
| ENGINEER'S HILL                    | 'I 14    | 162                             | -e-         | EPA.        | EPA          | LUFT-    | 8270     | 8                                            |           |       | Ä      | Į M        | Ĭ Ň         | 400         | 0 Nelson Avenue         | (415) 695,4052                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |
| PROJECT NO. 6-92-5423              | (80150)  |                                 | 8           |             |              |          | 0.       | (552                                         |           |       | MATRIX |            | Ā           | Sui<br>Co   | te J<br>ncord, CA 94520 | Fax (415) 685-5323                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |
| SAMPLED BY BART MILES              | 19       |                                 | 25.6        | †           | 8010         | 5 mi     |          | 20                                           |           |       | Χ̈́    |            | Ñ           |             | <del></del>             | TRACTION NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |
| LAB NAME - CHROMA LAB              |          | <i></i>                         | VV >        |             |              | utal     |          | £ t                                          |           |       |        | F          | ERS         |             | I<br>CONTATNI           | REMARKS<br>ER, SIZE, ETC.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| SAMPLE # DATE TIME LOCATION        | X        | 8-                              | 更           |             |              | 8        |          | <u>r)</u>                                    |           |       | MATRI  | X          |             | <u>'</u>    |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -<br>-   |
| T23-1-SP 11/9/92 9:20 TANK23       | V        |                                 |             |             |              |          |          | <u>                                     </u> |           |       | 5016   |            | 1           | 2           | "diameter               | brass sleeve                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -35.     |
| T11-1-22' 11/9/92 14:20 TANKII     |          | <b>2</b>                        |             | 1           |              |          | <u> </u> | ļ                                            |           |       | 5014   |            | 1           |             | ()                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| T12-1-22 11/9/92 14:25 TANK 12     |          | 4                               | /           | 1           |              |          | <u> </u> | <u> </u>                                     |           |       | 5014   | _          | 1           | <u> </u>    |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| TIZA-1-22' 11/9/92 14:30 TAJK 12 A | J        |                                 | V           | 4           | $\times$     | X        | ×        | X                                            |           |       | 5011-  | _          | 1           | ļ           | 4                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    | <u> </u> |                                 |             | 1           |              |          |          |                                              |           |       |        | _ _        |             | ļ           |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| ·   ·                              |          |                                 |             |             |              |          |          | <u> </u>                                     |           |       |        | _          |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    | 1        | -                               |             | $\zeta q$   |              |          | ļ        | <u> </u>                                     |           |       |        | 4          |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    |          |                                 |             | 25          |              |          |          | <u> </u>                                     |           |       |        | _          |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    |          |                                 |             | 0           |              |          |          | _                                            |           | Russe |        | _          |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    |          |                                 |             |             |              |          |          |                                              |           |       |        |            | ·           | <u> </u>    | <del></del>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
|                                    | <b></b>  | _                               |             |             |              |          |          | ļ                                            |           |       |        | $\dashv$   | <del></del> |             | <del></del>             | MANAGE AND A STATE OF THE STATE |          |
|                                    |          |                                 |             |             |              | <u> </u> | <u> </u> | <u> </u>                                     |           | T     |        |            | ,           |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| RELINQUISHED BY: (signature) R     | ECEI     | VED                             | BY          | <b>':</b> ( | (819<br>(7)  | ynai     | tur      | e)                                           | 11/01/    | 42 I  | time   | 4          |             |             |                         | BER OF CONTAINER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>S</u> |
| 25                                 | /_       | 7                               | ~           | _           |              |          |          |                                              |           |       | 5.02 R | RE<br>VESU | LT          | RT<br>5 TO: | SPECIAL<br>REQUIRE      | L SHIPMENT<br>EMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |
| 3.1/2                              | · ·      |                                 |             | I           | <del>\</del> |          |          |                                              | 11/9/     | 72 /  | 6:49 P | 24T 6      | 6AL         | 111         | COLD                    | THANSPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |
| 4.                                 |          |                                 |             | _1/         | <u> </u>     | w        |          |                                              | 167       |       | •      |            |             |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| 5.                                 |          |                                 | ······      |             |              |          |          |                                              |           |       |        |            |             |             |                         | SAMPLE RECEIPT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |
| INSTRUCTIONS TO LABORATORY (har    | dlin     | ıg,                             | ana         | lys         | es,          | , s1     | tor      | age                                          | , et      | c.    | ):     |            |             |             | CHAIN O                 | OF CUSTODY SEALS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| NORMAL T.A T.                      |          |                                 |             |             |              |          |          |                                              |           |       |        |            |             |             | REC'D                   | GOOD CONDTN/COLD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
|                                    |          |                                 |             |             |              |          |          |                                              |           |       |        |            |             |             | CONFORM                 | MS TO RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |





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Environmental Science & Engineering, Inc.

ALAMEDA COUNTY GSA SANTA RITA JAIL FACILITY DUBLIN, CA

> FIGURE 1 LOCATION MAP

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|-----------------|----------|---------|-----------|
| DATE<br>6/25/92 | PHE RAVE | PROL R  | 6-92-5442 |