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October 21, 1996
961152NA

Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Health Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

**Subject: Report of Soil Excavation and Confirmation Sampling - No Further Action Request in Relation to 1,1-DCA**

**Re: Encinal Terminals Site, Alameda, California**

Dear Ms. Logan:

Wooward-Clyde Consultants (WCC), on behalf of Encinal Terminals Corporation (Encinal), is pleased to submit this report of soil excavation and confirmation sampling at the site located at 1521 Buena Vista Avenue, Alameda, California (the site). The excavation of soil impacted by 1,1-DCA in the area where 1,1-DCA was detected at concentration up to 1.7 mg/kg was one of the activities required by you to obtain a no further action (NFA) notice for the site. The purpose of the excavation was to remove soil in an area where the extent of soil impacted by the solvent has not been adequately characterized by previous investigations, and complete the delineation of the potential source of 1,1-DCA in soil.

The screening-level human health risk assessment (Geomatrix 1995) and the results of the recent contaminant fate and transport modeling (WCC 1996b) indicated that detected concentrations of 1,1-DCA in soil and groundwater **do not pose** a significant risk to human health or the environment. It is Encinal's intention to remove and treat by on-site aeration 1,1-DCA-impacted soil, to the maximum extent practicable, even though the results of the risk-based evaluations demonstrate that the levels of 1,1-DCA currently detected at the site do not pose a significant potential risk to humans or the environment.

The site consists of an area where soil and shallow groundwater have been impacted by volatile organic compounds (VOCs), mainly 1,1-DCA. According to existing documentation, a considerable amount of investigation and remediation work has been performed at the site. That work included previous site soil and groundwater characterization by Geomatrix Consultants (Geomatrix 1995), and excavation and on-site stockpiling of several hundred cubic yards of impacted soil.


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This letter has been prepared to report the results of the excavation and confirmation sampling activity performed on September 12 and 13, 1996 for your review and approval. Based on the information presented in this report, it is our opinion that **no further action** is needed in relation to residual 1,1-DCA detected in site soil and shallow groundwater. We recommend that you issue a no further action letter for the 1,1-DCA portion of the site, and we request the permission to stop monitoring and properly remove all of the groundwater monitoring wells located at the site.

## DESCRIPTION OF ACTIVITIES AND RESULTS

The activities performed included the following:

- Soil potentially impacted by 1,1-DCA was excavated and stockpiled on-site. Approximately 200 cubic yards of soil were excavated from an area about 24 feet wide, 27 feet long, and of about 10 feet average and 14 feet maximum depth (see attached Figure 1). Several wood piles were encountered in the northwest corner of the excavation. The excavator could not remove the piles. Soil around the piles was removed to the extent practicable.

- We utilized an on-site certified laboratory to analyze confirmation samples to document the extent of 1,1-DCA in the soil and to characterize residual soil concentrations. A total of 12 confirmation samples were collected from the wall and the bottom of the pit (see Figure 2 for the sampling locations and analyses results; only the samples representing residual concentrations are shown). The results of the analyses (see Attachment A for the laboratory report) indicate that 1,1-DCA was non-detectable in 9 of the samples, and the maximum detected concentration was 0.15 mg/kg, well below the residual concentration after the previous removal activities.

- After stockpiling, the excavated soil was sampled and analyzed for characterization. A total of 8 samples were collected and composited into two samples. The results of the analyses (see Attachment A for the laboratory report) indicate that 1,1-DCA was non-detectable in one of the composited samples, and detected concentration in the other was 0.055 mg/kg.

The excavation will be backfilled as soon as possible with imported clean fill or with the soil stockpiled on-site as a result of previous excavations (Geomatrix 1995). WCC has characterized the soil and found that it is usable for fill at the site (WCC 1996a).

**CONCLUSIONS AND RECOMMENDATIONS**

1) Based on the results of risk assessment (Geomatrix 1995) and fate and transport modeling activity (WCC 1996b), residual 1,1-DCA currently detected at the site do not pose significant potential risk to human health or the environment.

2) It is our opinion that extent and magnitude of 1,1-DCA in soil have been adequately characterized. Concentrations detected in confirmation samples are significantly lower that risk-based target levels protective of human health and the environment.

3) Soil stockpiled on-site as a result of this excavation has been characterized. Concentrations detected in the characterization samples are significantly lower that target levels protective of human health and the environment, therefore the analysis results indicate that the stockpiled soil can be used as fill at the site.

4) We recommend that the County issue a no further action notice for 1,1-DCA at the site.

5) We request the permission to stop monitoring and properly remove all of the groundwater monitoring wells located at the site.

We appreciate your consideration of this report. If you have any questions, please do not hesitate to contact Marco at (510) 874-3254 or Al at (510) 874-3125.

Sincerely,

Marco C. Lobascio, R.E.A.
Project Manager

Albert P. Ridley, C.E.G.
Senior Consultant

cc: Mr. Chengben Wang, Encinal Terminal Co.

## REFERENCES

Alameda County Health Care Services. 1996. Letter from M. Logan to P. Wang. May 18.

Geomatrix Consultants. 1995. Semi-Annual Monitoring Report and Site Characterization Report. August.

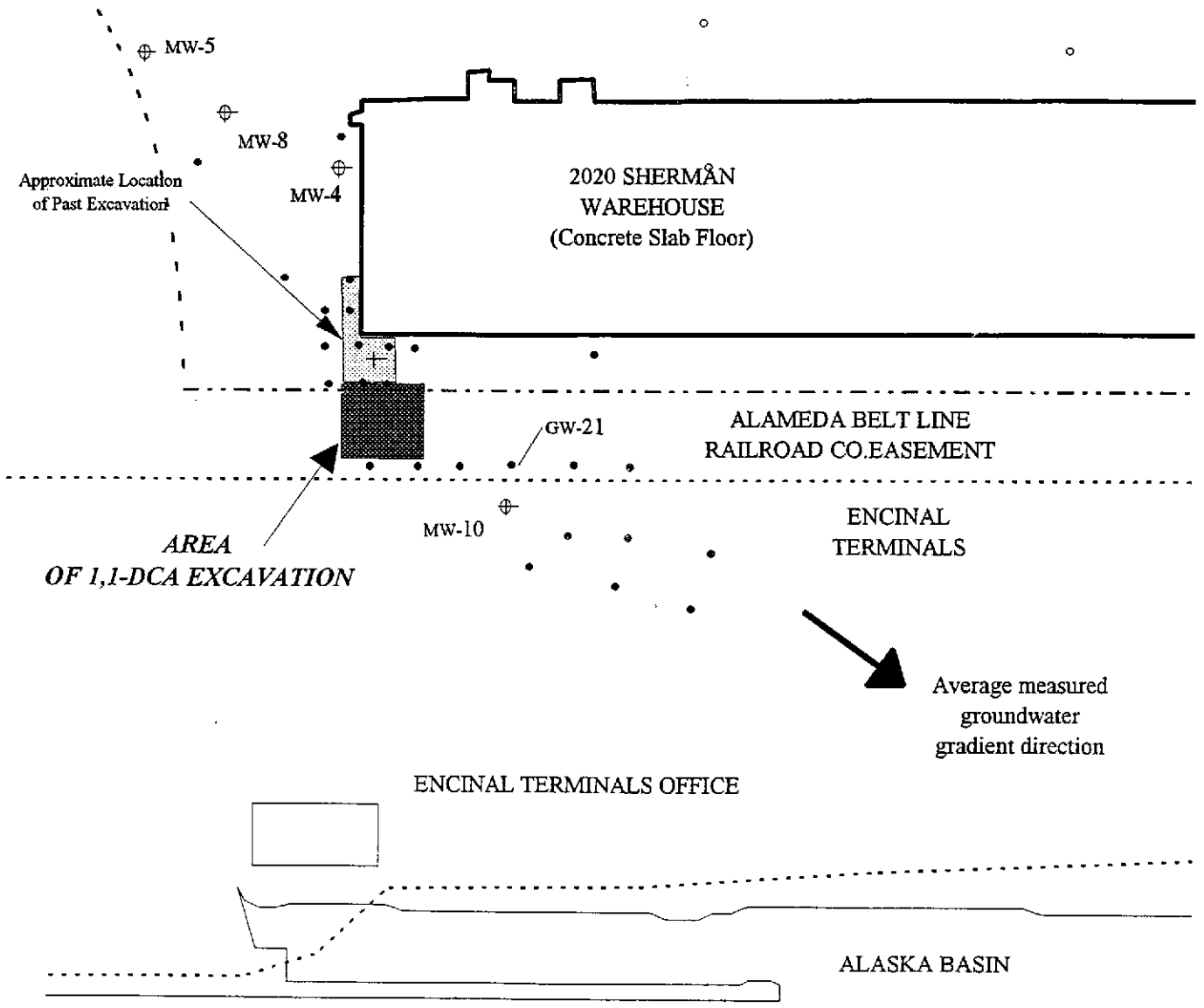
Woodward-Clyde Consultants (WCC). 1996a. Letter from A. Ridley to M. Logan. July 30.

WCC. 1996b. Results of Fate and Transport Modeling. August 21.

## ENCLOSURES

FIGURE 1. SCHEMATIC SITE PLAN VIEW WITH EXCAVATION BOUNDARY
FIGURE 2. SCHEMATIC LOCATION OF CONFIRMATION SAMPLES LOCATIONS AND RESULTS

ATTACHMENT A. ANALYTICAL LABORATORY REPORTS




Legend

- Approximate Monitoring Well Location
- Approximate Soil Sampling Location
- Approximate Groundwater Grab Sample Location
- Property Boundary - Encinal Real Estate
- Property Boundary - Encinal Terminals

NOT TO SCALE

| Project No. 961152NA | ENCINAL REAL ESTATE | SCHEMATIC SITE PLAN VIEW WITH EXCAVATION BOUNDARY | Figure 1 |
|---|---|---|---|
| Woodward-Clyde Consultants | | | |

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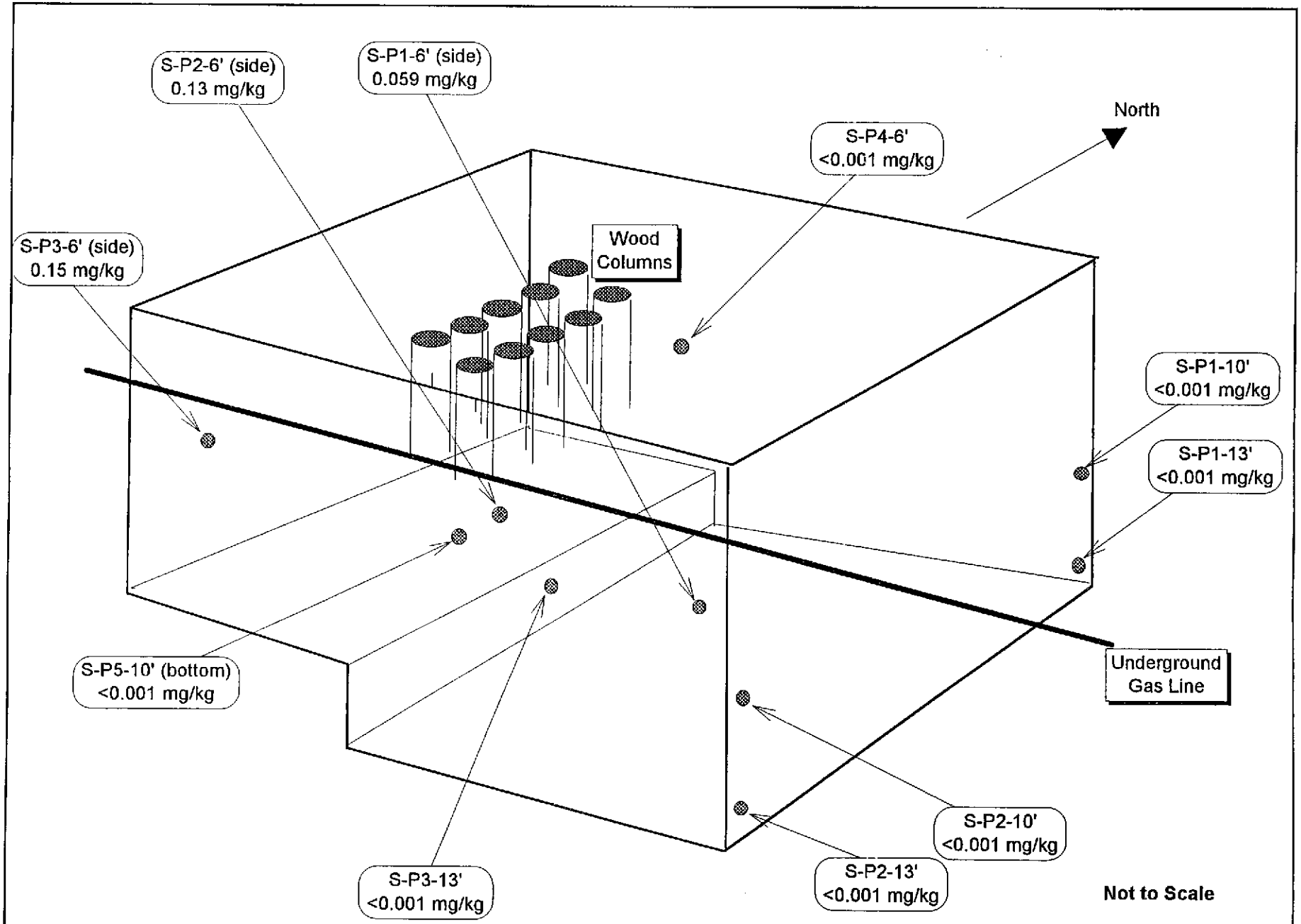


| Project No. 961152NA | ENCINAL REAL ESTATE | ILLUSTRATION OF CONFIRMATION SAMPLES LOCATIONS AND RESULTS | Figure 2 |
|---|---|---|---|
| Woodward-Clyde Consultants | | | |

FIGURES1.XLS

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# Analytical Laboratory Report

## Lead by XRF

**Date Sampled:** 13-Sep-96
**Date Received:** 13-Sep-96
**Date Analyzed:** 13,16-Sep-96
**Date Reported:** 16-Sep-96
**Report Number:** 2C123b.rpt
**Lab ID Number:** 2C123

**Project Manager:** Jane Vernalia
**Client:** Woodward-Clyde

**Project:** Encinal Terminal, 961163NA
**Units:** mg/Kg
**Matrix:** Soil

| Lab ID | Field ID | RL | Dilution Factor | 1,1-Dichloroethane | Surr. % Rec. |
|---|---|---|---|---|---|
| -16 | S-1-3 | 0.001 | 1 | 0.004 | 105 |
| -17 | COMP-4 | 0.001 | 5 | 0.057 | 95 |
| -18 | S-2-6 | 0.001 | 100 | 0.073 | 96 |
| -30 | S-3-9 | 0.001 | 1 | ND | 79 |
| -31 | S-P1-10 | 0.001 | 1 | ND | 87 |
| -32 | S-P2-10 | 0.001 | 1 | ND | 87 |
| -33 | S-P3-10 | 0.001 | 1 | ND | 83 |
| -34 | S-P1-13 | 0.001 | 1 | ND | 87 |
| -35 | S-P2-13 | 0.001 | 1 | ND | 78 |
| -36 | S-P3-13 | 0.001 | 1 | ND | 71 |
| -42 | S-P3-6 | 0.001 | 100 | 0.15 | 91 |
| -43 | S-P4-6 | 0.001 | 1 | ND | 90 |
| -44 | S-P2-6 | 0.001 | 5 | 0.13 | 96 |
| -45 | S-P1-6 | 0.001 | 5 | 0.059 | 100 |
| -46 | S-P5-10 | 0.001 | 1 | ND | 99 |
| -49 | COMP-5 | 0.001 | 1 | ND | 76 |
| -50 | COMP-6 | 0.001 | 5 | 0.055 | 91 |
| -51 | S-P6-10 | 0.001 | 100 | 0.15 | 94 |

NOTES:

NR - Not requested
COC - Chain of custody
ND - Analytes not detected at, or above the stated detection limit.
mg/Kg - milligrams per Kilogram (PPM)
DL - Detection limit
DF - Dilution Factor
PQL - Practical Quantitation Limit - Multiply DL by the DF to obtain the PQL for a specific sample.

PROCEDURES:

This analysis was performed using EPA Method 8010, EPA Method 8020, and EPA Method 5030 .

Laboratory Director

Date