STP 608

HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

September 27, 1993

Susan Hugo
Alameda County Health Agency
Department of Environmental Health
80 Swan Way
Room 200
Oakland, CA 94621

RE: Investigation / Remediation Related to the Former Underground Storage Tanks at Dunne Quality Paints, 1007 41st Street, Oakland, California.

Dear Ms. Hugo:

In response to your letter to Terry Turner, dated June 30, 1993, the following clarifications are hereby presented:

1) **Verification Soil Samples.** Elevated levels of TPH Stoddard (up to 14,000 ppm) were detected in the soil samples collected at the sidewalls of the underground tank excavation. Based upon discussion with SEMCO personnel, as well as examination of historical photographs, a limited amount of over-excavation was conducted. The amount of over-excavation was necessarily limited due to the close proximity of the on-site structures (building and power poles), as well as the very close proximity of the excavations to the curb and gutter of 41st Street. Although the tank removal and over-excavation operation were conducted in the presence of Dennis Byrne, Alameda County Department of

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Environmental Health, no additional verification samples were collected by SEMCO.

2) **Soil Contamination**. As discussed in the previous item, the amount of over-excavation was necessarily limited due to the close proximity of the on-site structures (building and power poles), as well as the very close proximity of the excavations to the curb and gutter of 41st Street. **It would appear that SEMCO removed as much soil as practicable, given the circumstances of the tank removal project**. However, since some of the previous soil borings referenced in your letter were located outside of the area of the underground excavations, one can conclude that the excavation by SEMCO did not address **all** of the possible residual soil contamination that may still be remaining in the soil in the vicinity of these excavations.

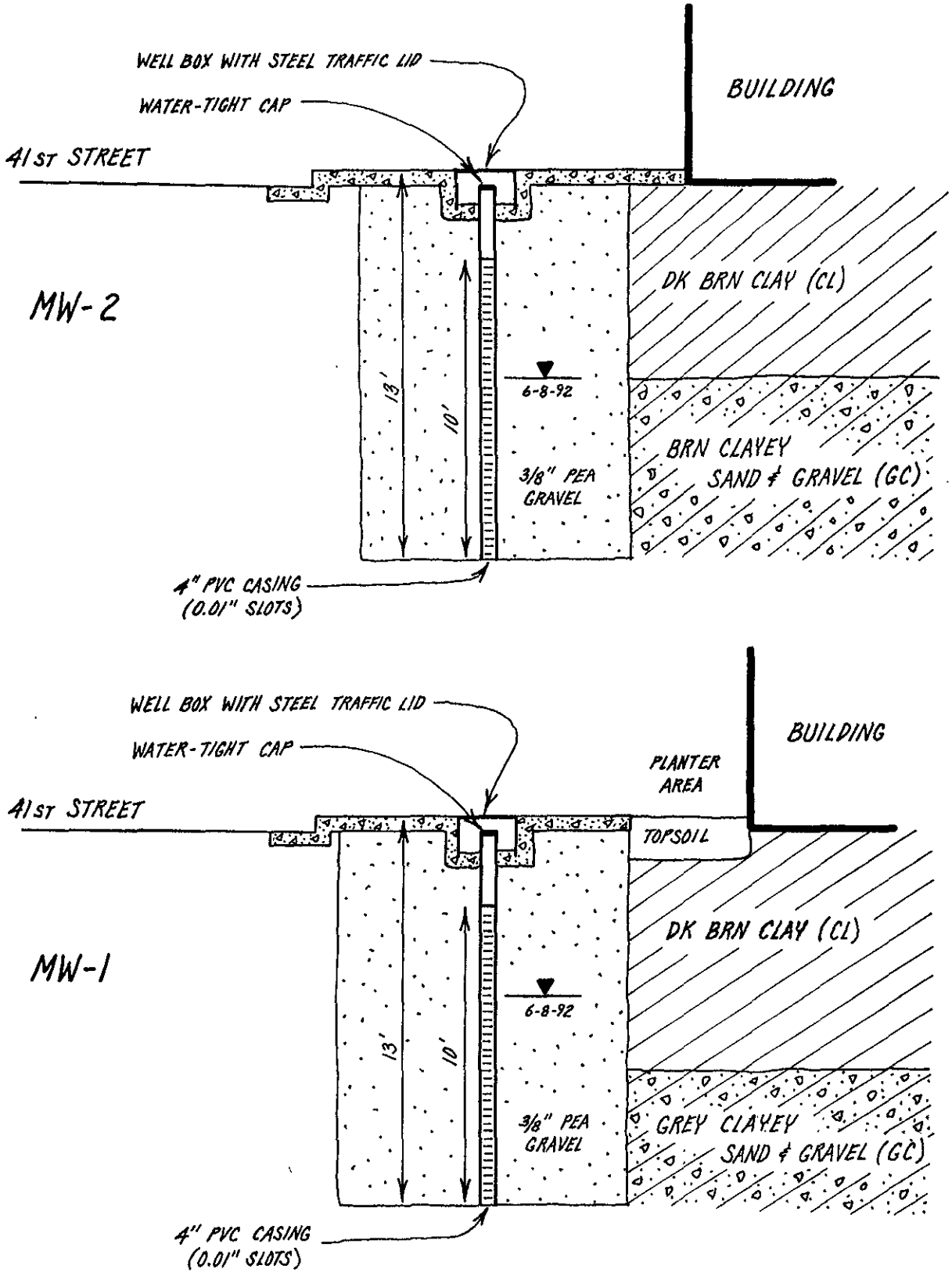
Given the limited accessibility to the subsurface native soils in the vicinity of the excavations, it would appear that it is most practical at the present time to monitor any impact upon the quality of the shallow groundwater in the vicinity of the previous excavations. To date, five rounds of shallow groundwater sampling have taken place.

Based upon discussion with SEMCO personnel, as well as examination of historical photographs, it appears that approximately 200 cubic yards of contaminated soil were stockpiled at the rear of the Dunne Paint property. Following aeration, the soil was screened by SEMCO using a field FID flammable gas meter. The soil was subsequently removed and disposed by Erickson, Inc.

3) **Rationale for Well Installations.** In order to facilitate future in-situ treatment technologies, such as groundwater extraction, vapor extraction, and/or bioremediation, two backfill monitoring wells were installed by SEMCO, with concurrence by Alameda County Health Department personnel. SEMCO was taking advantage of the opportunity at the time of the tank removal work (July 1988) to provide their client with locations for groundwater sampling and/or in-situ treatment. At the time of the installations, SEMCO was in no way attempting to meet the 1990 Tri-Regional Board guidelines of a monitoring well installed within ten feet of the tank in the verified down-gradient direction. Such installation would have required the use of a drill rig.

4) **Monitoring Well Construction.** The two on-site shallow groundwater monitoring wells were constructed by SEMCO. Upon completion of the soil excavation, two 4-inch well casings were suspended inside the excavation, with the bottoms resting on the bottom of the excavation. Each well casing consisted of 10 feet of 4-inch PVC slotted screen pipe (0.01" slots), and were each completed up to the ground surface with 4-inch PVC blank casing. The total depth of each well is 13 feet below ground surface. The excavation was subsequently backfilled around each well casing with 3/8" pea gravel.

The well construction is illustrated on Figure 1. As shown by this figure, each of the monitoring wells MW-1 and MW-2 is screened to intercept free floating product and to accommodate water table fluctuations. It would appear that the samples collected from these two monitoring wells are representative of the shallow groundwater quality in the immediate vicinity of the



SCALE
HORIZ: 1"=5'
VERT: 1"=5'

FIGURE 1.
Well Construction.

former underground storage tank excavations.

5) **Delineation of Soil and Groundwater Contamination.**

The complete delineation of the areal extent of any soil and/or shallow groundwater contamination that may be present in the vicinity of the previous underground storage tank locations has not yet been achieved. It should be noted, however, that due to the source removal (underground tanks), TPH concentrations in the shallow groundwater in the immediate vicinity of the former underground tank locations have attenuated to below, or slightly above, non-detectable concentrations. Further shallow groundwater monitoring with respect to wells MW-1 and MW-2 is planned, in order to discern a continued downward trend in the concentrations and/or any seasonal changes in the concentrations.

6) **Method Detection Limits.** The detection limits for the TPH analysis of the groundwater samples collected between January 1989 and February 1990 were either 1 ppm or 0.1 ppm. Review of the various sampling and analysis records do not indicate the reason for the higher detection limits. On can only assume that either 1) limited sample volumes were delivered to the laboratory or 2) for some undetermined reason, it became necessary to dilute the samples at the laboratory prior to analysis.

The detection limit for the TPH analysis of the most recent groundwater samples collected by Hageman-Aguiar, Inc., on June 10, 1992, was 50 µg/L (ppb). This detection limit is in accordance with the current EPA

test method 8015. All future groundwater sample laboratory analyses shall conform to the standards of this test method.

NOTE: Hageman-Aguiar, Inc., has been authorized to conduct a round of shallow groundwater sampling from wells MW-1 and MW-2 as soon as possible. The results of this shallow groundwater monitoring shall be presented in a sampling report that will be provided to the Alameda County Department of Environmental Health.

7) **Groundwater Flow Direction.** Shallow water table elevations were measured on June 18, 1992. These measurements are shown in Table 1. The top-of-casing elevations were surveyed by Hageman-Aguiar, Inc., with the top-of-casing elevation of well MW-1 arbitrarily set at 100.00 feet. In addition to the two on-site monitoring wells, the one shallow groundwater monitoring well installed by Oakland National Engraving Company on the opposite side of 41st Street was also surveyed and a single depth-to-water measurement was collected. The field work on the Oakland National Engraving property was conducted in the presence of Gary D. Leach, vice president/CFO.

Figure 2 presents a contour map for the shallow groundwater table beneath the site (June 18, 1992). As shown in this figure, the data from these monitoring wells indicate that the shallow groundwater flow beneath the site is calculated as being in a southwesterly direction.

In addition to the previous water level measurements conducted by Hageman-Aguiar, Inc., more recent

TABLE 1.

Shallow Water Table Elevations
June 18, 1992

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	100.00	6.09	93.91
MW-2	101.97	7.06	94.91
Oakland National Engraving	102.84	6.50	96.34

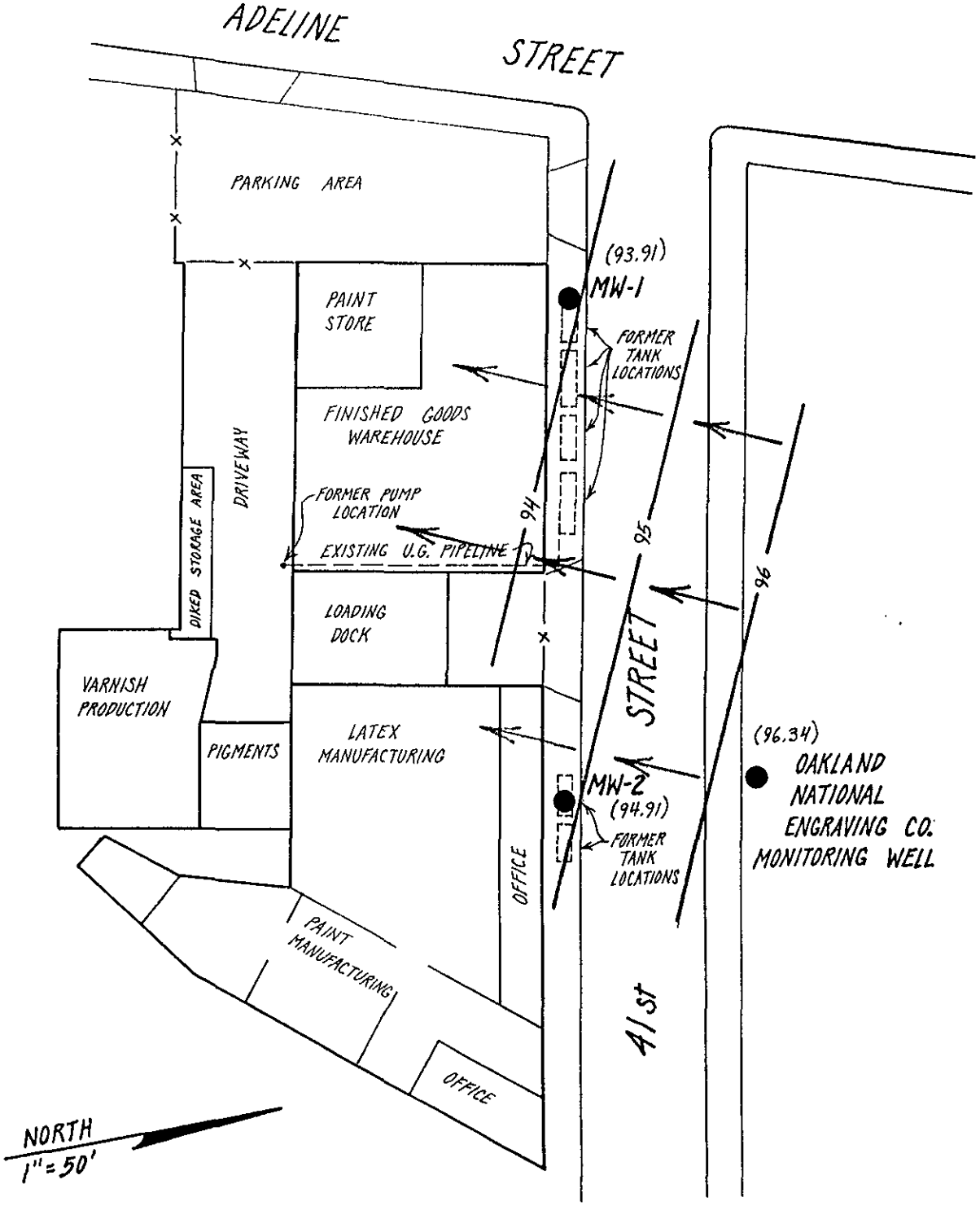


FIGURE 2.
Shallow Groundwater Table Contour Map. (June 18, 1992)

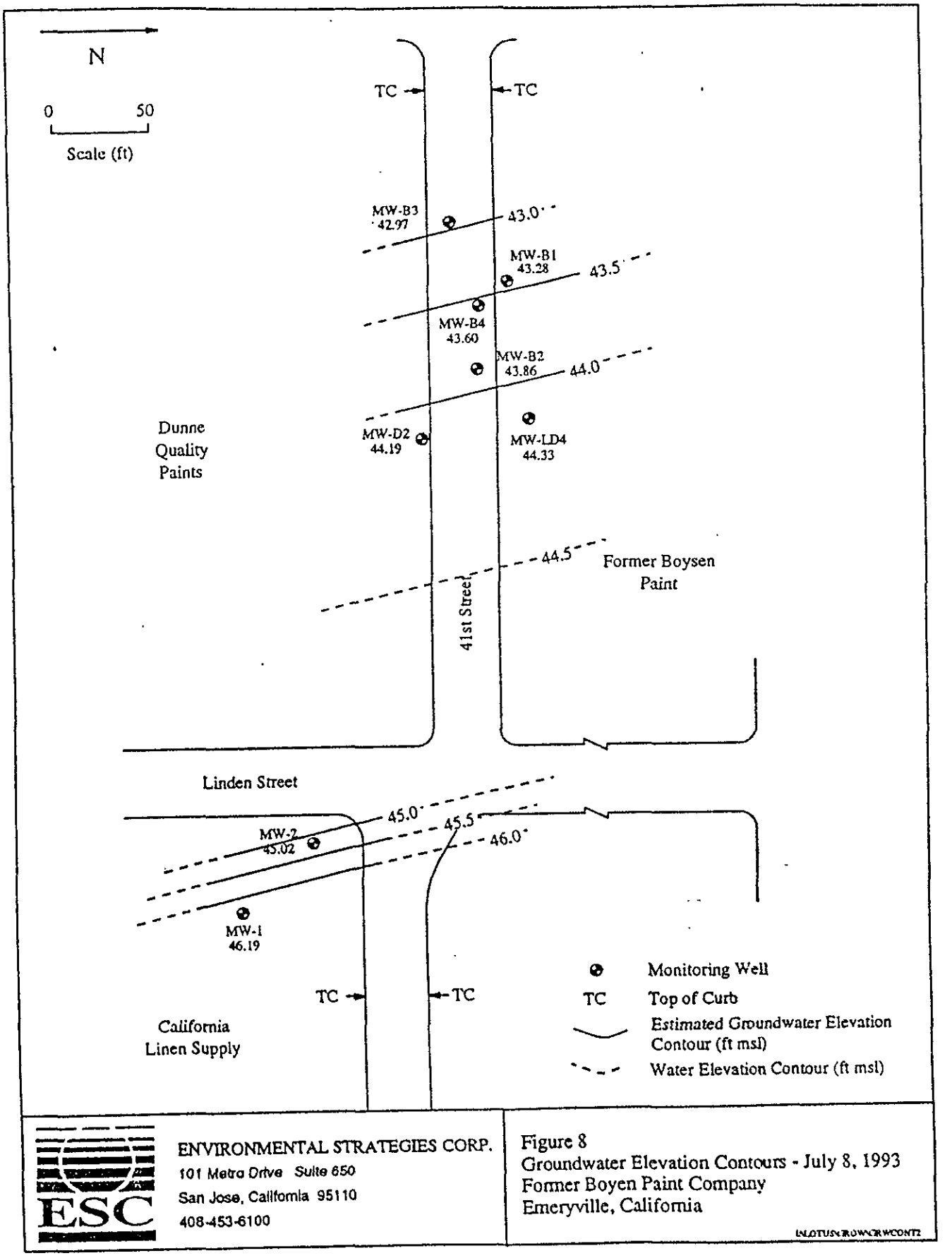


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Figure 8
Groundwater Elevation Contours - July 8, 1993
Former Boyen Paint Company
Emeryville, California

FIGURE 3.

groundwater elevations have been made available by the work conducted by Environmental Strategies Corporation at the Former Boysen Paint Company. The contour map for the shallow groundwater table on July 8, 1993, in the vicinity of the former Dunne Paint site is shown on Figure 3. As shown in this figure, the data indicate that the shallow groundwater flow is calculated as being in a west-southwesterly direction.

Based upon the data presented above, it would appear that a verified down-gradient direction has been established for the former Dunne Paint site.

If you have any questions, or would like to arrange a meeting to discuss these items, please call me at (510)284-1661.

Sincerely,

Gary Aguiar
Principal Engineer