

MITTELHAUSER
corporation

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February 25, 1992

Mr. Ravi Arulanantham
Alameda County Environmental
Health Services
80 Swan Way, Suite 200
Oakland, CA 94621

Subject: Monitoring Well Installation Report
6700 Golden Gate Drive
Dublin, California

Dear Mr. Arulanantham:

Enclosed please find Mittelhauser Corporation's
Monitoring Well Installation Report for the above-referenced site.

Should you have any questions, please contact Parnian
Kaboli at (510)416-2900. *David Blunt*

Sincerely,

MITTELHAUSER CORPORATION

Elaine C. Areias
Elaine C. Areias
Senior Secretary

ECA
Enclosure
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91 AUG 26 PM 5:08

2401 Crow Canyon Road, Suite 100
San Ramon, California 94583
(415) 743-0335

August 23, 1991

Mr. Ravi Arulanantham
Alameda County Environmental Health Services
80 Swan Way, Suite 200
Oakland, CA 94621

Subject: Installation of One to Three Monitoring Wells
at 6700 Golden Gate Way, Dublin, California
on Behalf of Bedford Properties, Inc.

Dear Mr. Arulanantham:

Mittelhauser Corporation presents this workplan for the installation of one monitoring well at the above-referenced site for the purpose of verifying that ground water has not been contaminated by previous spillage related to underground storage tank use. Should contamination be encountered in this well, two additional wells will be placed down gradient of the tank pit. A Site Plan, which is attached, shows features of the site and proposed locations of the first well (MW-1) and subsequent wells (MW-2 and MW-3).

The site is a relatively flat lying interior parcel situated between Golden Gate Drive and Regional Street, south of Dublin Boulevard in Dublin, Alameda County, California.

Background

It is Mittelhauser's understanding that a 10,000 gallon underground diesel storage tank and a 3,500 gallon unleaded gasoline storage tank were formerly present for the purpose of fueling the trucks of the Unisource Company. When these tanks were removed, contaminated soil was revealed in the floor of the pit. According to a report by Uriah, Inc., approximately 82 cubic yards of soil was excavated from the pit at that time. Laboratory analysis of this soil revealed oil and grease contamination up to 360 ppm and minimal gasoline components.

On August 14, 1991 additional soil was removed from the pit until a clean surface was obtained, based on visual inspection of soil and analysis with a photoionization detector. The stockpiled soil was sampled to determine appropriate disposal.

Proposed Scope of Work

Work proposed at this site includes:

- o regulatory coordination;
- o preparation of a health and safety plan;
- o installation of a monitoring well, with soil sampling;
- o development of the well, and water sampling;
- o analyzing the water samples for TPHg, TPHd, BTEX, TOG;
- o if required, installing two down-gradient monitoring wells, with associated development and sampling;
- o preparation of a report.

All work described in this plan will be performed under the direct supervision of a California registered geologist. All field activities and sample collection procedures will be recorded.

Regulatory Coordination

Mittelhauser Corporation will obtain the necessary permits from the Alameda County Flood Control and Water Conservation District, Zone 7, prior to beginning work. In addition, Mittelhauser Corporation will notify Underground Service Alert to identify buried utility locations prior to drilling.

Alameda County will be provided with required notice prior to well installation, development and sampling.

Installation of Monitoring Wells

Prior to performing field work, Mittelhauser will prepare a health and safety plan. Personnel on site will review and sign the plan.

MW-1 will be positioned in the center of the former underground storage-tank pit in order to identify and monitor any possible transfer of hydrocarbons into the ground water. The proposed location is shown on Figure 1. Should contamination be identified, two additional wells (designated MW-2 and MW-3) will be installed within ten feet of the pit and in a down-gradient position to identify any possible contaminant migration from the former tank site.

The borings will be drilled using truck-mounted 8-inch diameter hollow-stem auger drilling equipment. The augers will be steam cleaned prior to use, and the borings will be drilled to ten feet below first-encountered ground water.

Soil Sampling

After passing through the backfill material and reaching native ground, soil samples will be collected at a minimum of five foot intervals by using a California modified split spoon sampler lined with brass sleeves driven by a 140-pound hammer falling 30 inches. Soil samples will be retained in the brass sleeves, the ends of the brass sleeves covered with plastic end caps, labeled, and placed in ziplock bags. These samples will then be put into a cooler with ice pending delivery to a state-certified analytical laboratory. Chain-of-custody documentation will accompany the samples.

The soil samples will be visually classified as to lithology in accordance with the Unified Soil Classification System and standard geologic techniques.

Monitoring Well Construction

The wells will be constructed using two-inch diameter PVC pipe with fifteen feet of screened PVC (0.020-inch slot) which will be placed in the bottom of the borehole. Lonestar #2/12 sand will be poured into the annular space surrounding the PVC pipe to a height of one foot above the top of the slotted interval. A two-foot thick layer of bentonite pellets will be placed above the sand and hydrated. The remaining annular space will be filled with cement grout to the ground surface. The top of the PVC will be secured with a locked cap and enclosed in a flush-mounted, traffic-rated vault. The wells will be surveyed to the top of the PVC pipe to an accuracy of 0.01 feet by a licensed surveyor. A diagram showing proposed well construction is attached to this workplan.

Monitoring Well Development, Purging and Sampling

Prior to monitoring well development and purging for sample collection, depth to groundwater will be measured using a steel tape and chalk or an electronic water level indicator.

The wells will be developed at least 72 hours after installation, by purging and over-pumping until the water discharged from the well is clear. At least 72 hours after development, the wells will be purged of a minimum of 4 casing volumes by either bailing or pumping.

During purging, prior to sampling of the newly installed wells, the field parameters of temperature, pH, and conductivity

Work Plan
6700 Golden Gate Way, Dublin

August 23, 1991

will be monitored. When these are stabilized and a minimum of 4 casings has been purged, groundwater samples will be collected.

Groundwater samples will then be collected using a Teflon bailer and poured into 1 liter glass or polyethylene bottles capped with Teflon-lined screw caps. The sample bottles will then be labeled and placed in a cooler with ice until they are delivered to a state-certified laboratory. Chain-of-custody documentation will accompany the samples to the laboratory. All water discharged from the wells during development and purging will be stored in DOT-approved drums pending proper disposal.

Analysis of Soil and Groundwater Samples

Soil and groundwater samples collected from the monitoring wells will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA method 5030; benzene, toluene, ethylbenzene, and xylenes (BTEX) by method 8020; total petroleum hydrocarbons as diesel (TPHd) by method 3550; and for total oil and grease (TOG) by method 5520.

Report Preparation

A report documenting monitoring well installation, sample collection, and sample results will be prepared. Included in the report will be copies of the boring logs, monitoring well construction diagram, and tables summarizing the analytical results of the soil and groundwater samples.

Should you have any questions or comments, please contact me at (415)743-0335.



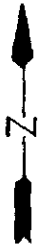
Sincerely,

MITTELHAUSER CORPORATION

Marjorie Bushnell
Marjorie Bushnell
Registered Geologist

MMB/jvk
1753W1

Attachments: Site Plan
Well-Construction Diagram
Health + Safety Plan
cc: Ms. Gina Dimiteo, Bedford Properties



ORCHARD SUPPLY

DRIVEWAY

CHAIN LINK FENCE

DOUBLE GATE

TEMPORARY CHAIN LINK FENCE

CHAIN LINK FENCE

SITE OF FORMER 10,000-GALLON DIESEL UST

MW-1

SITE OF FORMER 3,500-GALLON UNLEADED GASOLINE UST

MW-2

PAVED AREA

MW-3

FIELD

CHAIN LINK FENCE

UNISOURCE BUILDING

0 10 20 30

ENG	URIAH, INC.
CHK BY	MMB
AFF BY	
DRAWN	SKM
DATE	8/20/91
SCALE	AS SHOWN
CAD NO	17530001
PRJ NO	P1753



SITE PLAN

BEDFORD PROPERTIES, INC.
6700 GOLDEN GATE DRIVE
DUBLIN, CALIFORNIA

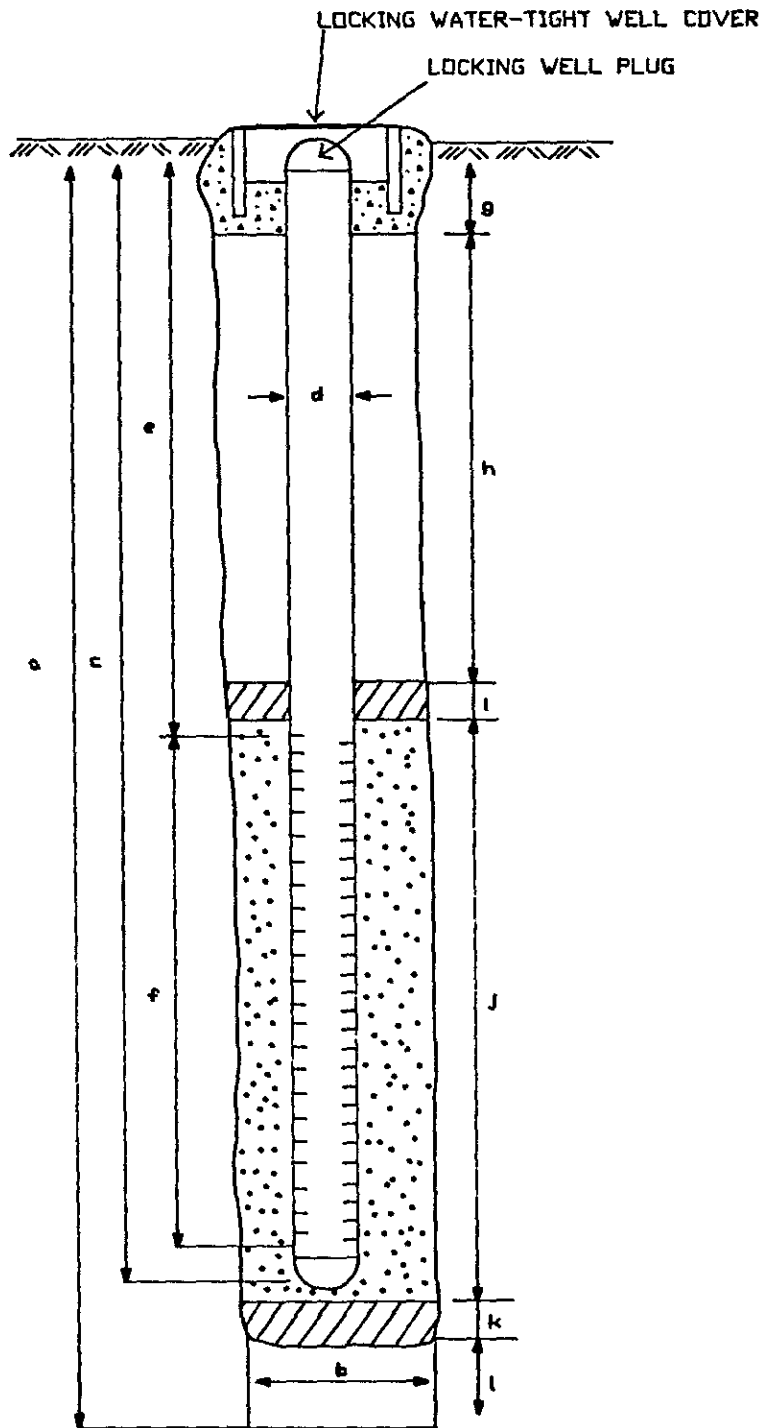
MITTELHAUSER CORPORATION

DRWG NO

FIGURE 1

REV
0

WELL COMPLETION DIAGRAM (Schematic)



WELL DETAILS*

1. Well will be terminated 10 feet into first ground water unless a 5 foot thick aquitard is encountered below the water table, in which case the aquitard will be backfilled with bentonite pellets and the well terminated at the top of this aquitard (A).
2. Boring diameter (B) is 8 inches for 2 inch wells and 10 inches for 4 inch wells.
3. Perforated interval (F) will extend from bottom of casing to ten feet above first ground water (unless water is <10 feet deep).
4. Schedule 40, PVC casing, will be used (C). Screen is 0.020 or 0.010 inch factory machined slots, depending on filter pack grain size. No organic glues or solvents will be used in assembling the PVC sections.
5. Filter pack will be placed from bottom of casing to one foot above perforated interval (I). Bottom seal (J) is not installed unless required. Two feet of bentonite (H) will be placed above the filter pack. Concrete grout (G) will be placed from top of bentonite seal to the surface (unless modified due to shallow water). Blank casing (E) will extend from the top of the perforated casing to the top of the hole.
6. The well will be installed with a waterproof cap, padlock, and a flush-mounted well cover.

* See text for additional information.