

CO # 0000-201

APR 11 2001

April 6, 2001
1424-4

Ms. Susan Hugo
ALAMEDA COUNTY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

RE: **WORK PLAN FOR ENVIRONMENTAL
CONSULTING SERVICES
1274 65TH STREET AND 1269 66TH
STREET
EMERYVILLE, CALIFORNIA**

Dear Ms. Hugo:

On behalf of Pulte Homes, we are submitting the following work plan for your approval to further evaluate soil and ground water quality at the Liquid Sugars site located at 1274 65th Street and 1269 66th Street in Emeryville, California (Figure 1). The purpose of this work is to evaluate on-site soil quality. The additional purpose is to evaluate potential volatile organic compound (VOC) impacts to ground water beneath the site from the adjacent Oliver Rubber Company site.

BACKGROUND

The Liquid Sugars site at 1274 65th Street and 1269 66th Street was formerly a bulk fuel facility (Mohawk Petroleum Company) from the late 1940s to the mid-1970s. Two 1,000-gallon gasoline underground storage tanks (USTs) and one 10,000-gallon diesel UST were removed from the southwest portion of the site in November 1990. Soil samples collected during the removal of the tanks detected diesel and gasoline impact to the soil. Between 1991 and 1999 several follow-up investigations were conducted to evaluate the extent of the fuel impact to the soil and ground water. The investigations included the drilling and sampling of 14 soil borings and five monitoring wells. Soil impact was determined to be confined to two areas at the west central and southwest portions of the property. Ground water impact was limited to the southwest portion of the property. The ground water gradient was determined to be to the southwest and a portion of the fuel-impacted ground water plume appeared to extend off-site to the 1280 65th Street property.

Based on the limited extent of the ground water plume and a decline in fuel levels, a risk-based corrective action assessment and closure request were submitted to the ACDEH in July 2000. Details of this investigation are presented in Gribi Associates' *Report of Fourth Quarterly Groundwater Monitoring and Risk-Based Corrective Action Assessment* report, dated July 22, 2000.

Based on the results of previous soil and ground water investigations, the gasoline/diesel fuel plume appears to be stable and defined. We understand that the ACDEH is not requiring further evaluation of the on-site petroleum plume. However, potential impact to the property from off-site VOCs at the adjacent Oliver Rubber Company site has not been evaluated. Due to the off-site VOC concerns and the proposed residential redevelopment of the property, we propose to drill five exploratory borings to evaluate ground water

quality. In addition, as discussed during our March 15, 2001 meeting at the site with the ACDEH and San Francisco Bay Regional Water Quality Control Board (RWQCB), we will additionally evaluate general soil quality beneath the site.

SCOPE OF WORK

Pre-Field Activities: Drilling permit applications have been completed and submitted to the Alameda County Public Works Agency (ACPWA) for their approval. Copies of the drilling permit applications are presented in Attachment A.

Soil Quality Evaluation

Our field engineer or scientist will sample 14 exploratory borings to a depth of approximately four feet. The proposed locations of the 14 borings are shown on Figure 1. The subsurface investigation will be performed using a limited access rig equipped with Direct Push Technology equipment. The borings will be advanced by hydraulically driving a 2-inch-diameter by 4-foot-long open sampler with an interior clear acetate sample liner. After being driven to a depth of 4 feet, the sampler will be retracted to the surface.

Four borings will be advanced in the area of the railroad track at the northeastern area of the site, three in the proposed garden areas, one in the northwest portion of the property, one in the southeast portion of the property, and one in the southwest portion of the property. The soil from surface to ½ foot and 2½ to 3 feet will be collected from each location for laboratory analysis.

Two borings will be advanced in the area of two sumps by the silos at the southwestern portion of the site and one in the area of a sump located by the silos in the northwestern corner of the site. One soil sample will be collected at each of these locations at a depth below the base of the sumps.

One boring will be advanced in the area of a former auto repair facility at the northeast portion of the property; one soil sample will be collected from this boring at a depth of 1 to 1½ feet for lab analysis.

Soil samples for laboratory analysis will be collected in acetate liners. The ends of the liners will be covered in aluminum foil or Teflon film, fitted with plastic end caps, taped, and labeled with a unique identification number. The samples then will be placed in an ice-chilled cooler and transported to a state-certified analytical laboratory with chain of custody documentation.

Eight soil samples from the railroad track area and six samples from the northwest, southeast, and southwest portions of the site will be analyzed for 17 California Assessment Manual (CAM) metals (EPA Test Method 6010/7471); polychlorinated biphenyls (PCBs) (EPA Test Method 8082); and organochlorine pesticides (EPA Test Method 8081). All analyses will be performed on a standard one-week laboratory response time.

Six soil samples from the proposed garden areas will be analyzed for total petroleum hydrocarbons in the gasoline range (TPHg); benzene, toluene, ethylbenzene, and xylenes

(BTEX) (EPA Test Method 8015/8020); total petroleum hydrocarbons in the diesel range (TPHd) and motor oil range (TPHmo) (EPA Test Method 8015M); volatile organic compounds (VOCs) (EPA Test Method 8260); semi-VOCs (EPA Test Method 8270); organochlorine pesticides and PCBs (EPA Test Method 8081/8082); and CAM 17 metals (EPA Test Method 6010 and 7470).

One soil sample from the area of the former auto repair facility will be analyzed for TPHg, TPHd, TPHmo, BTEX (EPA Test Method 8015/8020), and VOCs (EPA Test Method 8260).

Three soil samples from the sump areas will be analyzed for VOCs (EPA Test Method 8260), CAM 17 metals (EPA Test Method 6010 and 7470), and pH.

Ground Water Sampling

Based on our review of historical information and discussions with the RWQCB and ACDEH, we recommend collection of ground water grab samples at five locations in the northeast portion of the property to evaluate the potential off-site impact from the adjacent Oliver Rubber Company site. Ground water is anticipated to be at a depth of approximately 20 to 25 feet

The ground water borings will be hydraulically advanced using Direct Push Technology equipment. After the borings are completed, 1-inch I.D. flush-threaded, PVC casing will be lowered into the bore holes. The lower portion of the casing will have factory machined slots to allow for the infiltration of ground water. Ground water, if encountered, will be collected using a small diameter bailer and placed in appropriate sample bottles labeled with a unique identification number. The samples then will be placed in an ice-chilled cooler and transported to a state-certified analytical laboratory with chain of custody documentation.

The proposed locations of the five borings are shown on Figure 1.

The ground water samples will be analyzed for VOCs by EPA Test Method 8260. This analysis was selected based on the VOCs detected in the ground water beneath the Oliver Rubber Company site.

Suspect Fill Analysis

A white granular substance was encountered in one of the recently completed geotechnical borings at the site. A sample of the fill will be collected and submitted to a state certified laboratory for analysis. The sample will be analyzed for VOCs (EPA Test Method 8260), PNAs (EPA Test Method 8270), and CAM 17 metals.

Sampling Equipment Decontamination

All sampling equipment will be thoroughly cleaned with an aqueous solution of tri-sodium phosphate and distilled water or steam cleaned. The cleaning procedure will be repeated between each sampling location.

Report

The results of our soil and ground water evaluation will be added to our Phase I report. The report will present the results of our investigation and summarizing our conclusions

and recommendations. Our conclusions and recommendations will be based on readily available information, observations of existing conditions, and our interpretation of the analytical data. The report will include a site plan showing sampling locations and copies of permits and laboratory data sheets.

PROJECT SCHEDULE

We are tentatively scheduled to perform the work on April 16, 2001. All laboratory analyses will be performed on a standard one-week laboratory response time. After receipt of the laboratory results, review of the data and completion of our report will take approximately one week.

We look forward to your approval of this work plan. We will be contacting you soon and hope to get your concurrence. In the meantime, if you have any questions, please call and we shall be glad to discuss them with you.

Very truly yours,

LOWNEY ASSOCIATES



Mark J. Arniola, R.G., R.E.A.
Senior Project Geologist



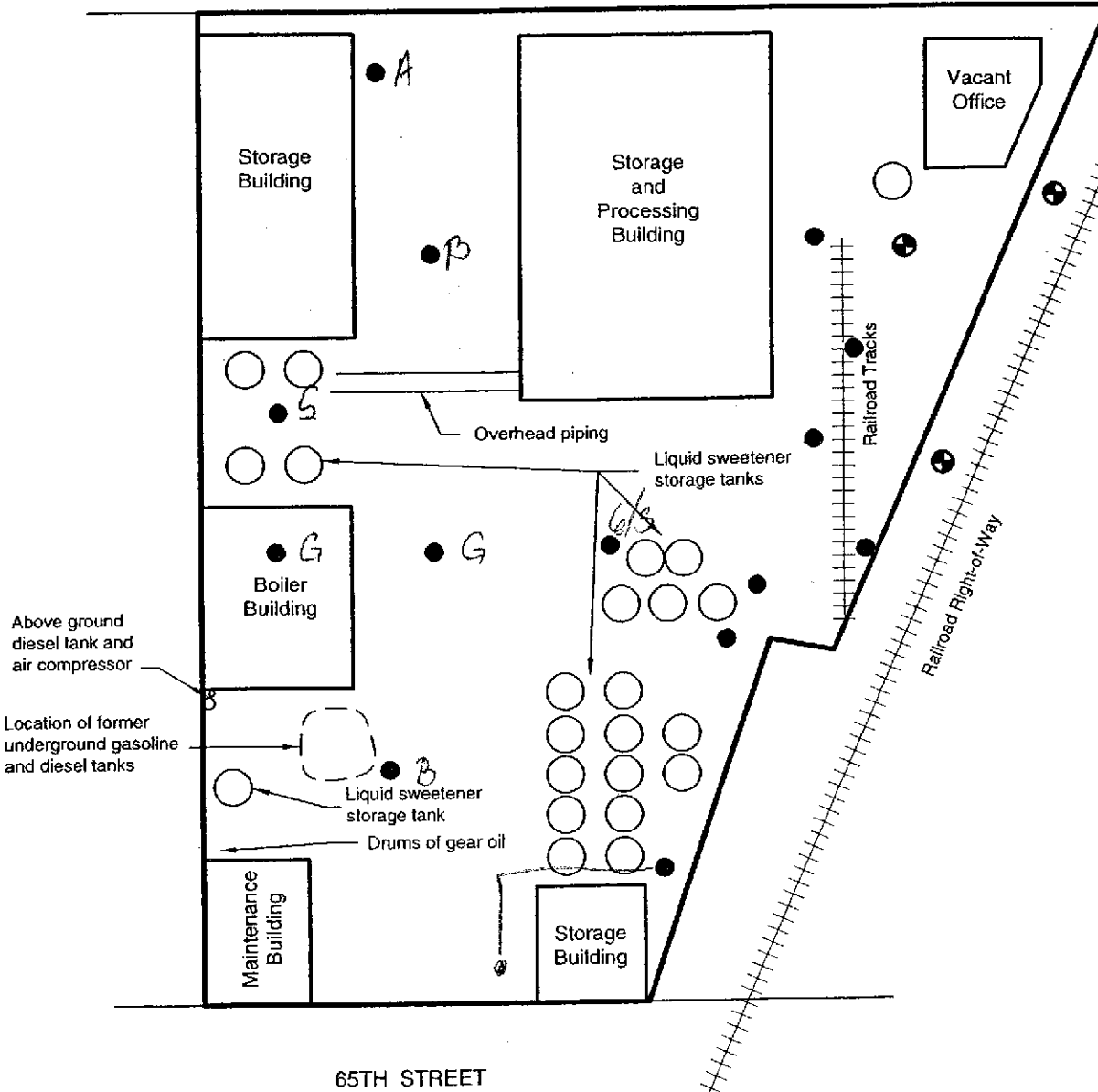
Peter M. Langtry, R.G., C.H.G.
Principal Environmental Geologist

Copies: Addressee (1)
Pulte Homes (1)
Attn: Mr. Dennis O'Keefe

OK, 1424-4 Liquid Sugar Workplan.doc



66TH STREET



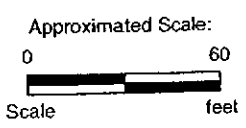
Above ground diesel tank and air compressor

Location of former underground gasoline and diesel tanks

65TH STREET

LEGEND

- ⊕ - Approximate location of proposed ground water boring
- - Approximate location of proposed soil boring



Base approximated from Lowney Associates field notes.

301'EB

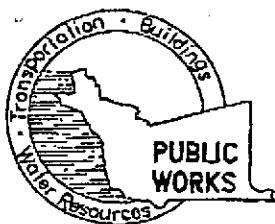
SITE PLAN

1269 66TH STREET, 1274 65TH STREET
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 1
1424-4

**ATTACHMENT A
DRILLING PERMIT APPLICATION**



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554 MARLON MAGALLANES/FRANK CODD (510) 670-5783
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1274 65TH Street, 1269 66TH Street
Emeryville, California

CLIENT Name Pulte Home Corporation
Address 7031 Kell Center Parkway, Ste 150 Phone (925) 249-3200
City Pleasanton, CA Zip 94566

APPLICANT Name Mark Arniola
Lowney Associates Fax (510) 267-1972
Address 129 Filbert Street Phone (510) 267-1970
City Oakland, CA Zip 94607

TYPE OF PROJECT

Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction

PROPOSED WATER SUPPLY WELL USE

New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other _____

DRILLING METHOD:

Mud Rotary Air Rotary Auger
Cable Other (Geoprobe direct-push)

DRILLER'S NAME Vironex

DRILLER'S LICENSE NO. 705927

WELL PROJECTS

Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Owner's Well Number _____

GEOTECHNICAL PROJECTS

Number of Borings 18 Maximum _____
Hole Diameter ~3 in. Depth 25 ft.

ESTIMATED STARTING DATE April 16, 2001
ESTIMATED COMPLETION DATE April 18, 2001

FOR OFFICE USE

PERMIT NUMBER _____
WELL NUMBER _____
APN _____

PERMIT CONDITIONS Circled Permit Requirements Apply

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION

See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED _____ DATE _____

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Mark Arniola DATE 4/6/01

PLEASE PRINT NAME Mark Arniola Rev. 6-5-00