

P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916

RO2509 ✓

October 26, 2004

Work Plan 0330.W2

Mr. Amir Gholami

Alameda County Environmental Health Services

1131 Harbor Bay Parkway, Suite 250

Alameda, CA 94502-6577

Alameda County
NOV 05 2004
Environmental Health

SUBJECT: SUBSURFACE INVESTIGATION WORK PLAN (B8 Through B12)
ACEHS File # RO0002509
901 77th Avenue
Oakland, California

Dear Mr. Gholami:

P&D Environmental, a division of Paul H. King, Inc. (P&D), is pleased to present this work plan for the drilling of five soil borings, designated as B8 through B12, in the vicinity of the subject site. The soil borings will be drilled for the collection of soil and groundwater samples to define the extent of petroleum hydrocarbons in soil in the vicinity of the former UST pit and in groundwater in the vicinity of the subject site. This work plan for subsurface investigation is prepared in accordance with a request of the current property owner. A Site Location Map is attached as Figure 1, and a Site Plan showing the proposed borehole locations is attached as Figure 2. The proposed scope of work in this work plan augments work proposed in P&D's January 26, 2004 Subsurface Investigation Work Plan (B1 Through B7) and associated addendum dated February 3, 2004 that was partially completed by others.

All work will be performed under the direct supervision of an appropriately registered professional. This work plan is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

On July 25, 2002 one 1,000-gallon capacity gasoline Underground Storage Tank (UST) was removed from the subject site. The removal of the tank is documented in the Underground Storage Tank Removal - Final Report dated August 6, 2002 prepared by AEI Consultants (AEI). Two tank pit soil samples were collected by AEI at a depth of 8 feet following removal of the UST and analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), MTBE, BTEX, and Lead. Groundwater was not encountered in the UST pit at the time of UST removal. The sample collected at the west end of the UST contained 4,600 mg/kg TPH-G and 4.5 mg/kg benzene. The sample collected at the east end of the UST contained 310 mg/kg TPH-G, and benzene was not detected. MTBE was not detected in either sample, and lead was detected at concentrations of 16 and 9.1 mg/kg, respectively. The Sample Location Map from the AEI report showing the sample collection locations and the extent of excavation is attached as Figure 3.

Review of the county files revealed one subsurface investigation approximately 300 feet northwest of the subject site UST at 901 76th Avenue. The depth to water at the nearby site was

October 26, 2004
Work Plan 0330.W2

7

reported to be between 5.5 and 10.2 feet below ground surface in a Case Closure Summary dated March 8, 1996 associated with the removal and investigation of one 1,000-gallon capacity gasoline UST at the neighboring site. The groundwater flow direction at the nearby site is identified as west to southwest, towards San Francisco Bay.

In a letter dated January 27, 2003 Mr. Ariu Levi of the Alameda County Department of Environmental Health (ACDEH) provided Notice of Responsibility for investigation and cleanup of the subject site to Mr. Daniel Shaw of D&D Ventures, LLC (D&D), the primary responsible party for the site. A subsequent letter dated February 3, 2003 from Mr. Amir Gholami of the ACDEH, also addressed to D&D, provided landowner notification and participation requirements associated with unauthorized release of a hazardous substance from an UST at the subject site.

Following conversations with Mr. Gholami to develop a scope of work to move the case towards closure, P&D submitted a January 26, 2004 Subsurface Investigation Work Plan (B1 Through B7) and associated addendum dated February 3, 2004. The January 26, 2004 work plan proposed a total of seven boreholes for collection of groundwater samples. The February 3, 2004 addendum included the collection of groundwater samples from an additional two boreholes located inside the building and analysis of soil samples from boreholes in the vicinity of the former UST pit. The work plan and addendum were approved in a letter from Mr. Gholami dated February 20, 2004.

On March 30, 2004 AEI drilled a total of seven boreholes and collected groundwater samples at locations identified in the P&D January 26, 2004 work plan. AEI did not drill at locations inside the building or arrange for laboratory analysis of soil samples as set forth in the February 3, 2004 work plan addendum. The boreholes were drilled to total depths ranging from 12 to 16 feet. Saturated soils were encountered at depths of approximately 8 to 15 feet, and groundwater was subsequently measured in the boreholes at depths of 6 to 10 feet. The results of the March 30, 2004 investigation are documented in AEI's April 26, 2004 Groundwater Investigation addressed to D&D Ventures, LLC.

The groundwater sample collection locations are shown on Figure 2, and the groundwater sample results are summarized in Table 1. TPH-G was not detected in any of the boreholes except SB3 and SB4 at concentrations of 1100 and 510 ug/L, respectively. BTEX was not detected in any of the samples with the exception of SB3 where toluene and ethylbenzene were detected at concentrations of 1.8 and 3.5 ug/L, and SB4 where toluene was detected at a concentration of 2.5 ug/L. MTBE was not detected in any of the samples except SB3, SB6 and SB7. In SB3 MTBE was detected at a concentration of 3.9 ug/L using EPA Method 8021B. In SB6 MTBE was detected at a concentration of 22 ug/L using EPA Method 8021B. In SB7 MTBE was detected at a concentration of 440 ug/L using EPA Method 8021B and at a concentration of 660 ug/L using EPA Method 8260B. In addition, the fuel oxygenate TAME was detected in sample SB7 at a concentration of 34 ug/L.

The AEI Groundwater Investigation Site Plan showing the borehole locations with detected TPH-G concentrations and associated isoconcentration contours is attached as Figure 4, and with detected MTBE concentrations and associated isoconcentration contours is attached as Figure 5.

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Review of Figure 4 shows that TPH-G extends in a southwesterly direction from the former UST pit, and is defined in extent by boreholes SB1, SB2, SB5, SB6 and SB7. The proposed locations of two boreholes (B8 and B9) to complete delineation of the extent of TPH-G in groundwater are also shown on Figure 4. Review of Figure 5 shows that MTBE concentrations are highest on the opposite side of the street from the site, and decrease as one gets closer to the former UST pit. The proposed location of one borehole (B8) to complete delineation of the extent of MTBE in groundwater is shown on Figure 5.

Sample SB3 was also analyzed for TPH-D and TPH-MO, with 780 and 580 ug/L reported, respectively. Review of the laboratory analytical report shows that the laboratory identified the results reported as diesel as consisting of gasoline-range and oil-range compounds. Copies of the gasoline analysis chromatograms for samples SB3 and SB4 are attached as Figures 6 and 7, respectively, and a copy of the diesel analysis chromatogram for sample SB3 is attached as Figure 8. Notes taken during a telephone conversation with the laboratory are written on the figures. Review of the chromatograms shows that no diesel fuel was detected on any of the chromatograms. The absence of BTEX and MTBE, the shape of the peaks on the chromatogram, and the distribution of gasoline-range compounds all suggest to the laboratory analyst that the detected petroleum hydrocarbons are very old, weathered gasoline.

Review of Figure 3 shows that MTBE was not detected in either of the soil samples collected at the time of the UST removal. The increasing concentration of MTBE as one gets farther from the former UST pit (Figure 5) in conjunction with the absence of MTBE in the UST pit soil samples suggests an offsite source for the MTBE.

To evaluate the presence and extent of residual petroleum hydrocarbons in soil in the vicinity of the former UST pit, P&D proposes drilling three boreholes in the vicinity of the former UST pit designated as B10, B11 and B12 (see Figures 2 and 3). Boreholes B9 and B10 are at locations originally proposed in P&D's February 3, 2004 work plan addendum.

On September 10, 2004 P&D reviewed the AEI findings with Mr. Gholami during a telephone conversation. Mr. Gholami requested that the scope of work set forth in the February 3, 2004 addendum be performed, and that additional boreholes be drilled as necessary to define the extent of petroleum hydrocarbons in groundwater. The scope of work set forth in this work plan is based on Mr. Gholami's September 10, 2004 request.

SCOPE OF WORK

To evaluate the extent of petroleum hydrocarbons in groundwater in the vicinity of the site and to evaluate soil in the vicinity of the former UST pit, P&D will perform the following tasks:

- Regulatory agency coordination, including permitting for access to the public right-of-way, drilling of five soil borings, and scheduling any necessary inspections.
- Health and safety plan and traffic plan preparation.
- Client and contractor (driller and laboratory) coordination.

October 26, 2004
Work Plan 0330.W2

4

- Soil boring oversight for seven soil borings and collection of one groundwater grab sample from each borehole.
- Arrange for sample analysis.
- Report preparation documenting sample collection and the laboratory results.

Each of these is discussed below in detail.

Permitting and Regulatory Agency Coordination

A permit will be obtained from the City of Oakland for access to the public right-of-way, and a permit will be obtained from the Alameda County Public Works Agency for the drilling of the seven soil borings. Access to the building interior will be arranged through the building owner. Notification will be provided to the ACDEH prior to drilling.

Health and Safety Plan Preparation

A health and safety plan and a traffic plan will be prepared for the scope of work identified in this work plan. Prior to the beginning of fieldwork, the drilling locations will be marked with white paint and Underground Service Alert will be notified for underground utility location.

Client and Contractor Coordination

Following ACDEH approval of this work plan, field activities will be scheduled with the City of Oakland, the ACDEH, the property owner for site access, the drillers, and the laboratory.

Soil Boring Oversight and Sample Collection

A total of five soil borings, designated as B8 through B12, will be drilled to characterize subsurface conditions in the vicinity of the subject site. Based on the conditions encountered by AEI during their March 2004 investigation, the boreholes will be drilled to depths ranging from 12 to 16 feet below the ground surface. One groundwater grab sample will be collected from each borehole. The groundwater grab samples will be collected using a Teflon or stainless steel bailer, or a polyethylene tube with a stainless steel check valve. The samples will be placed into 40-milliliter VOAs and stored in a cooler with ice pending delivery to the laboratory. Chain of custody procedures will be observed for all sample handling. The proposed locations of the soil borings are shown on the attached Site Plan, Figure 2.

Each boring will be continuously cored using Geoprobe technology. The soil from the boreholes will be logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. The soil from the boreholes will be evaluated with a Photoionization Detector (PID) equipped with a 10.3 eV bulb and calibrated with a 100 ppm isobutylene standard.

Soil samples will be retained for laboratory analysis from borings B10, B11 and B12 at five foot intervals beginning at a depth of 5 feet below the ground surface, at changes in lithology, at the capillary fringe, and at any areas of obvious contamination.

October 26, 2004
Work Plan 0330.W2

All drilling and sampling equipment will be cleaned with an Alconox solution followed by a clean water rinse prior to use in each borehole. Following completion of sample collection activities, the boreholes will be filled with neat cement grout. Any soil or water generated during drilling will be stored in drums at the site pending characterization and disposal.

Arrange for Sample Analysis

The groundwater grab samples from each borehole will be analyzed on a normal (five working days) turn around basis at McCampbell Analytical, Inc. (McCampbell) of Pacheco, California. McCampbell is a State-Accredited hazardous waste testing laboratory. The groundwater grab samples will be analyzed for TPH-G using EPA Method 5030 in conjunction with Modified EPA Method 8015, and BTEX and MTBE using EPA Method 8020. The soil samples will be analyzed for the same constituents as the groundwater samples. For any samples where MTBE is detected, additional MTBE confirmation analysis will be performed using EPA Method 8260. In addition, the groundwater sample from borehole B8 will also be analyzed for fuel oxygenates and lead scavengers by EPA Method 8260.

Report Preparation

Upon receipt of the laboratory analytical results, a report will be prepared. The report will document soil and groundwater sample collection and sample results. The report will include a site plan showing the drilling locations, boring logs, tables summarizing the sample results, recommendations based on the sample results, and the stamp of an appropriately registered professional.

October 26, 2004
Work Plan 0330.W2

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental



Paul H. King
President
California Registered Geologist #5901
Expires: 12/31/05

Attachments: Table 1
Site Location Map (Figure 1)
Site Plan Showing Proposed Borehole Locations (Figure 2)
Sample Location Map Showing UST Pit Samples (Figure 3)
Site Plan Showing TPH-G Isoconcentration Contours (Figure 4)
Site Plan Showing MTBE Isoconcentration Contours (Figure 5)
Sample SB3 Gasoline Analysis Chromatogram (Figure 6)
Sample SB4 Gasoline Analysis Chromatogram (Figure 7)
Sample SB3 Diesel Analysis Chromatogram (Figure 8)

cc: Mr. Naresh Sawhney – Real Equity Investment Group I, LLC.
Mr. Michael Parsons – Cupertino Capital 408-354-9777

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0330.W2

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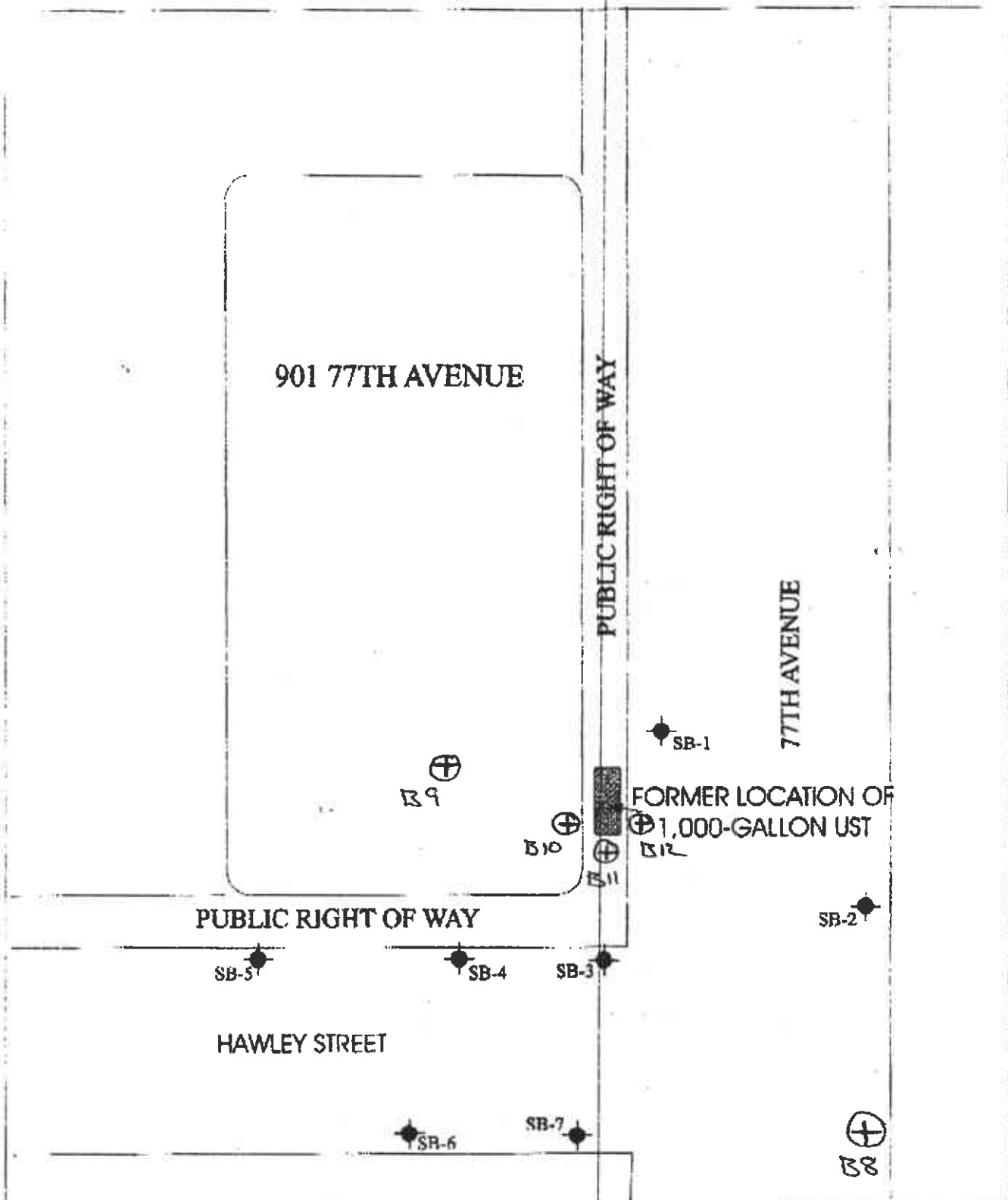
Base Map From:
U.S. Geological Survey
Oakland-East and
San Leandro, Calif.
7.5 Minute Quadrangles
Photorevised 1980

0 1,000 2,000
SCALE IN FEET

North





Figure 1
SITE LOCATION MAP
901 77th Avenue
Oakland, California



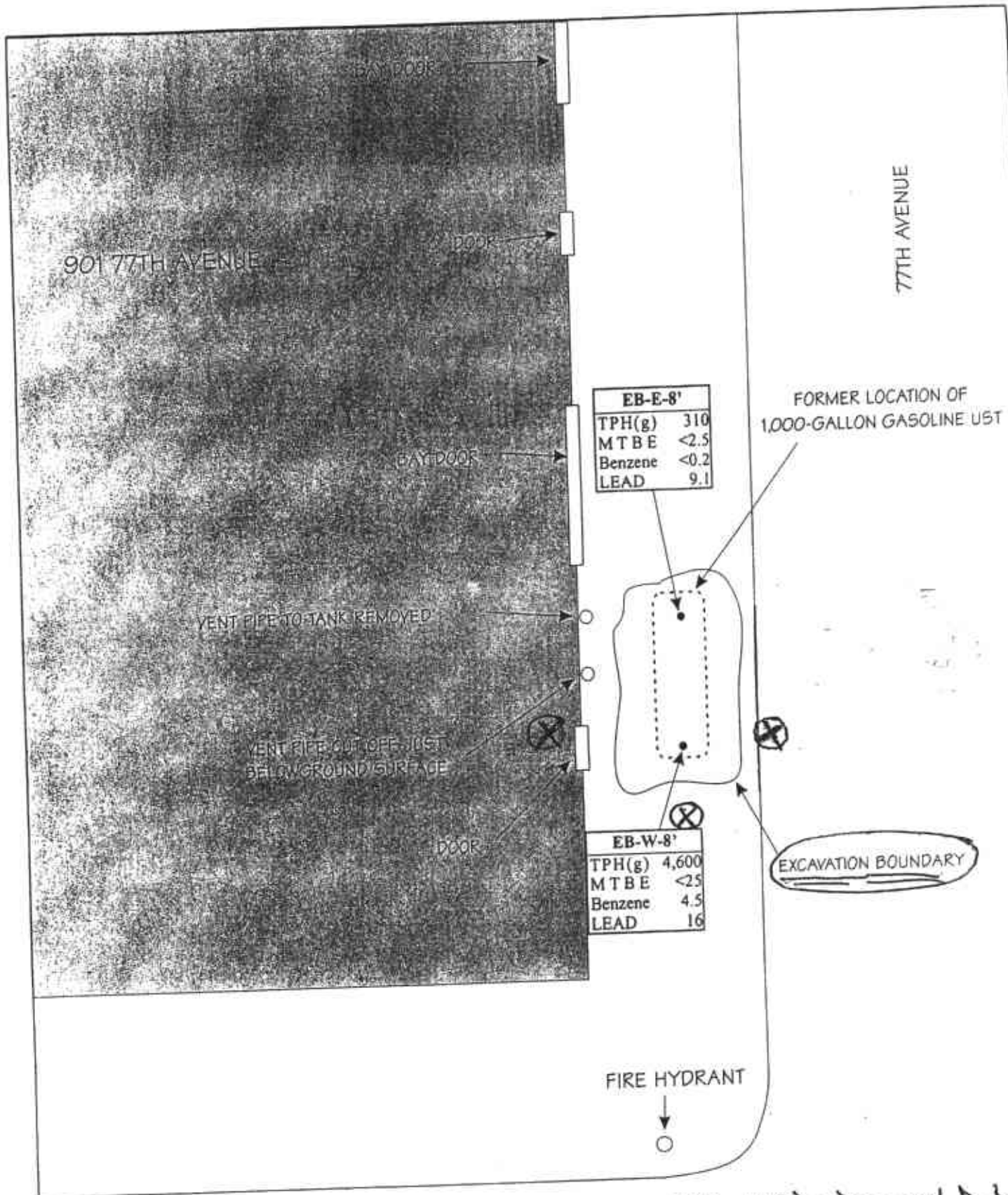
LEGEND



-  Soil Boring Location (AEC 2004)
-  Proposed Boring (P20)



AEI Consultants	
2500 Camino Diablo, Walnut Creek, CA	
17-10'	4/26/2004
SITE PLAN	
901 77TH AVENUE OAKLAND, CALIFORNIA	
FIGURE 2	



HAWLEY STREET

LEGEND

- ⊗ P&B Proposed Borehole Location
- SOIL SAMPLE LOCATION

TPH(g) TOTAL PETROLEUM HYDROCARBON AS GASOLINE
 MTBE METHYL TERTIARY BUTYL ETHER
 LEAD TOTAL LEAD

SOIL SAMPLE RESULTS IN mg/kg

1" = 10'

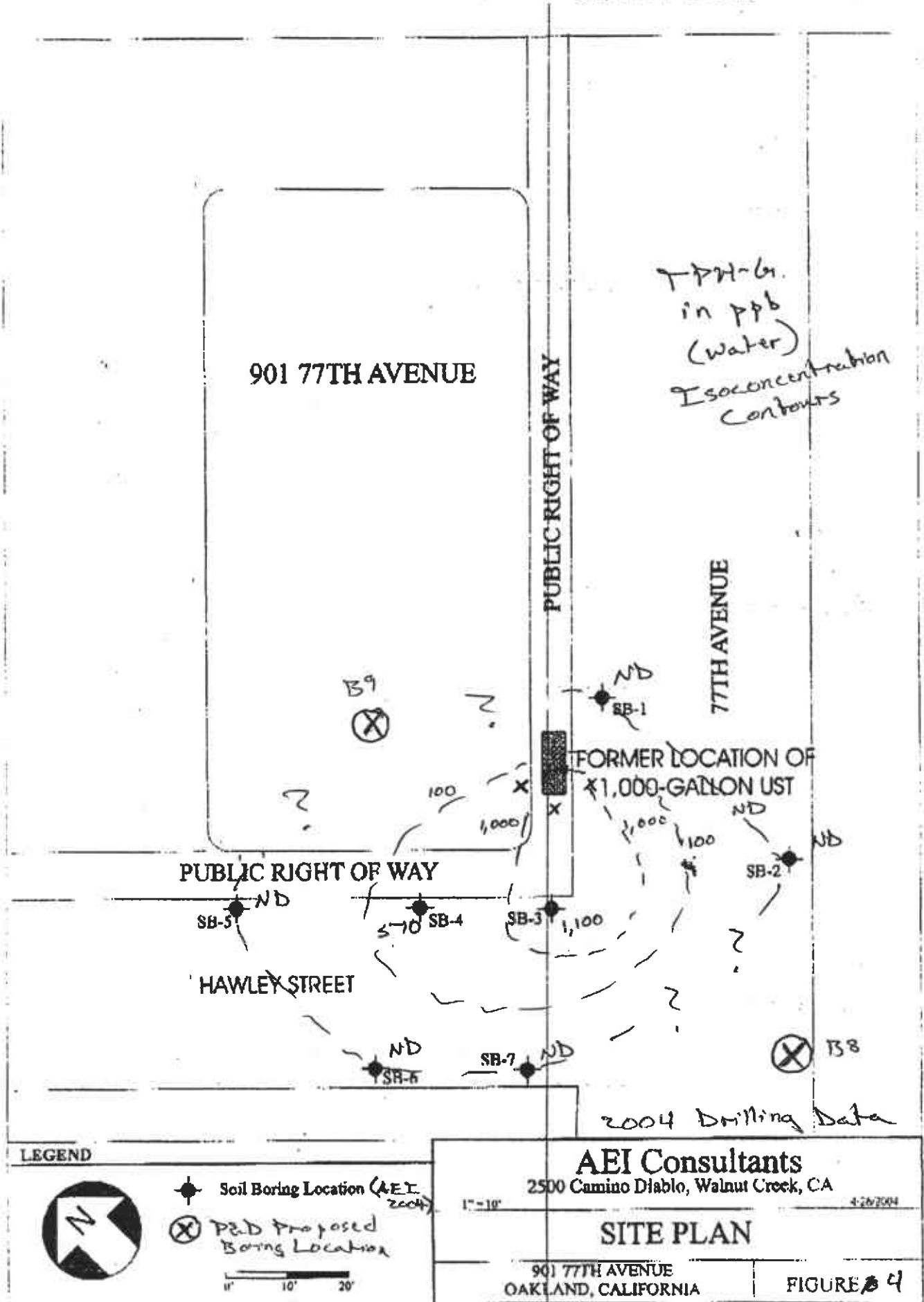
AEI Consultants
 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

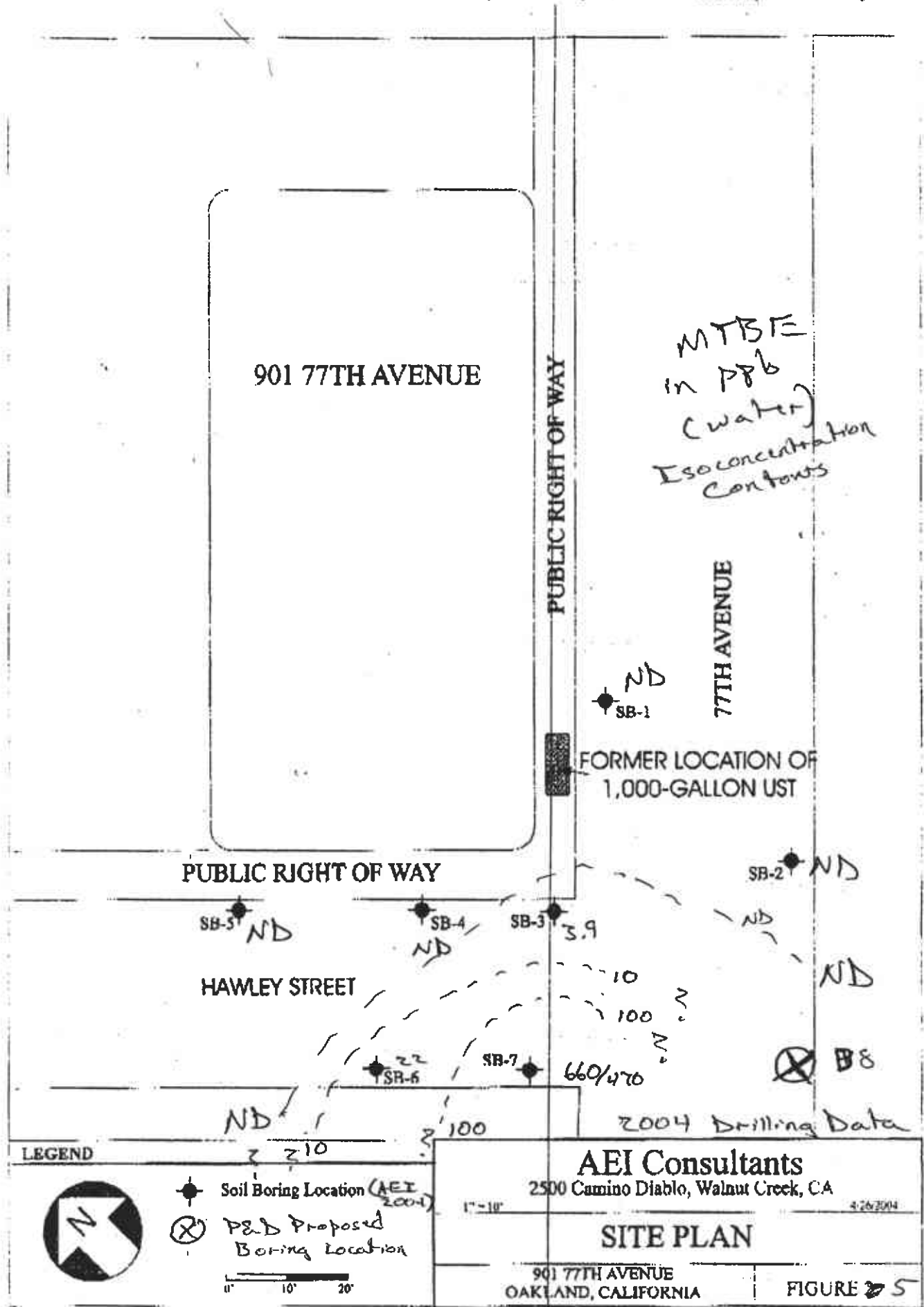
1" = 10' DRAWN BY: NATHAN GARFIELD DATE: 8/5/02

SAMPLE LOCATION MAP

901 77TH AVENUE
 OAKLAND, CALIFORNIA

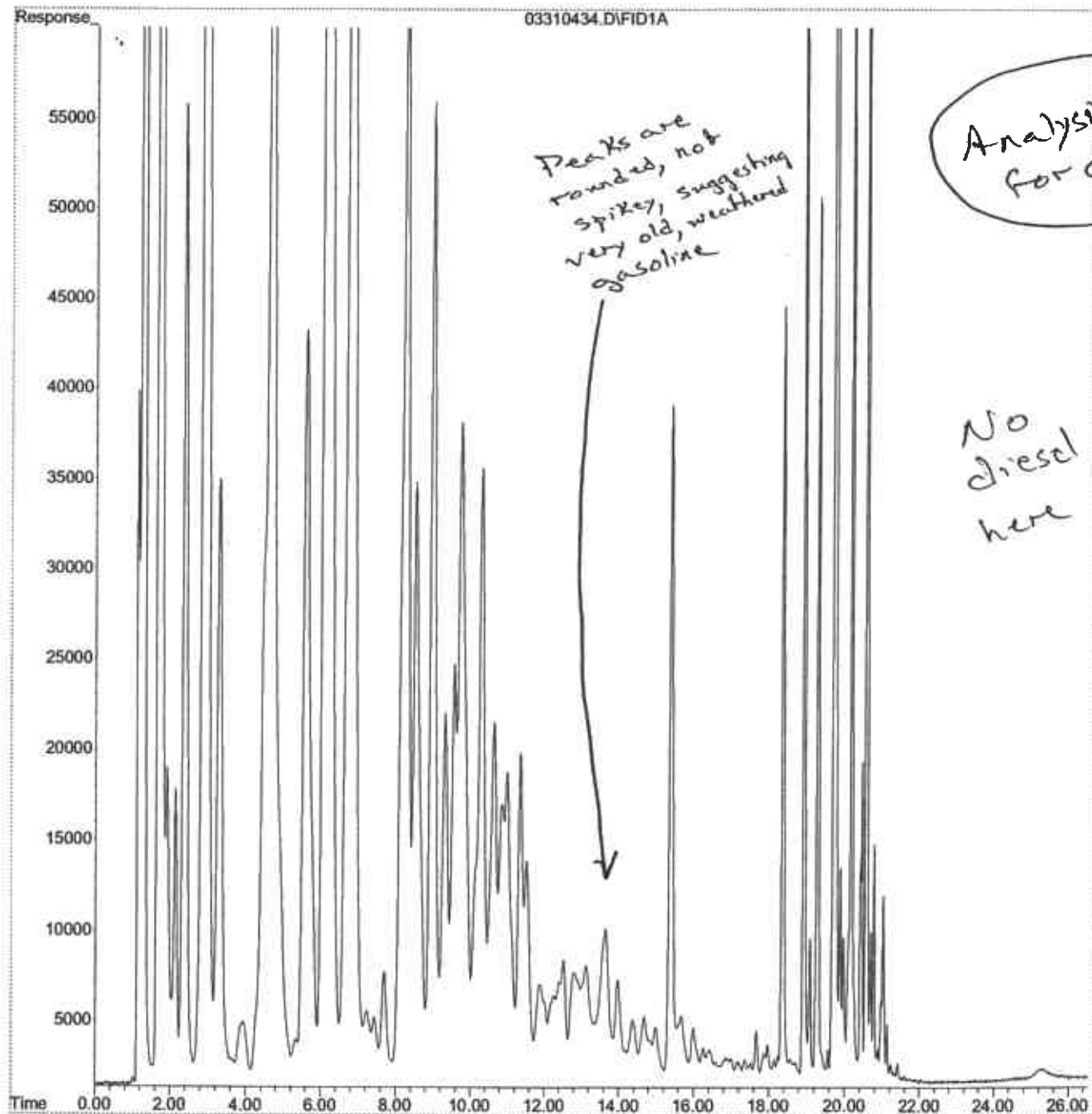
DRAWING NUMBER:
FIGURE 3





File : D:\HPCHEM\GC12\DATA\03310434.D
 Operator :
 Acquired : 1 Apr 2004 9:53 am using AcqMethod GC12G.M
 Instrument : GC-12
 Sample Name: 0403492-011A W = Sample S13
 Misc Info : G-MBTEX_W ← Gasoline Analysis
 Vial Number: 34

Chromatogram



gasoline (reported)
 gas = 6 to 12 ≈ 4 min to ≈ 18

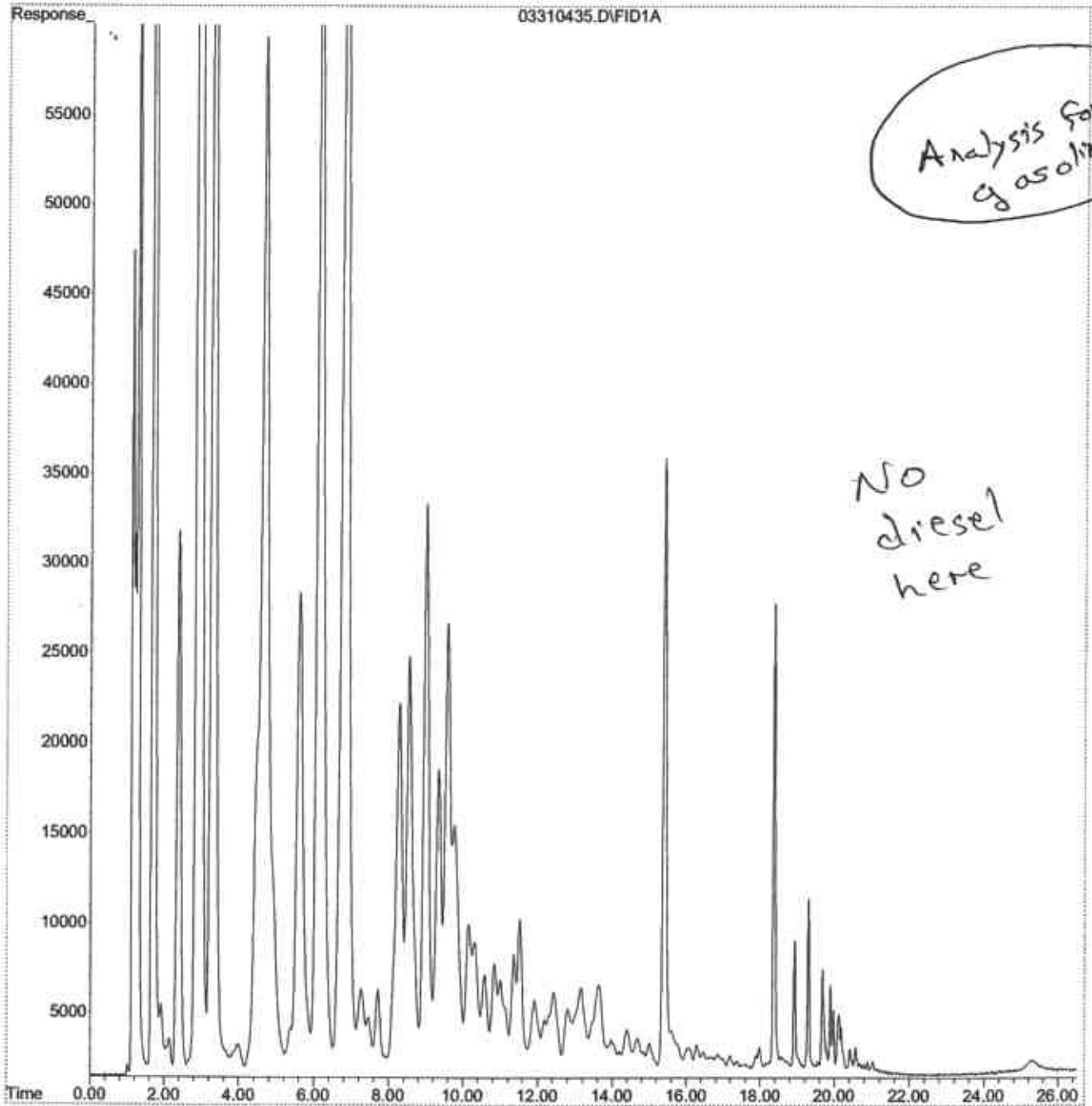
Aged gas

Figure 6

If diesel, we'd see one big bell shaped curve here, but we don't have it here

File : D:\HPCHEM\GC12\DATA\03310435.D
Operator :
Acquired : 1 Apr 2004 10:27 am using AcqMethod GC12G.M
Instrument : GC-12
Sample Name: 0403492-015A W = Sample SB4
Misc Info : G-MBTEX_W ← Gasoline Analysis
Vial Number: 35

Chromatogram



Analysis for
Gasoline

No
diesel
here

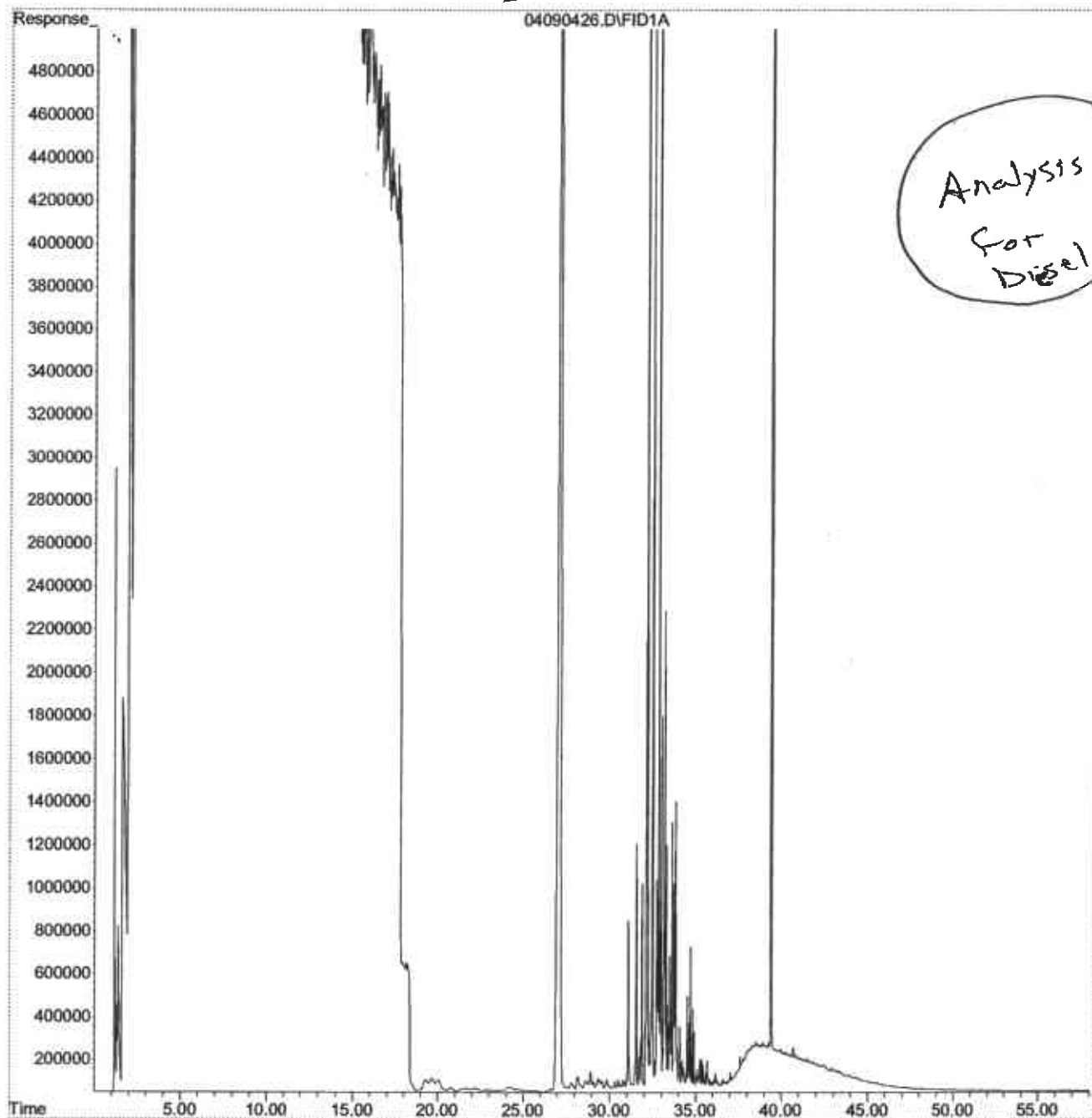
gasoline
(reported)

Figure 7

w e'd expect to see bell
shaped curve here if
diesel was present

File : D:\HPCHEM\GC11\DATAA\04090426.D
Operator : Thu
Acquired : 10 Apr 2004 1:33 am using AcqMethod GC11AR.M
Instrument : GC-11
Sample Name: 0403492-011C)W = Sample S B 3
Misc Info : TPH(DMO)_W ← Diesel Analysis
Vial Number: 13

Chromatogram



gas ↑
(30 to 35 min) NO Diesel
oil ↑
(Diesel has hell curve w peak @ 38 min.)

Figure 8