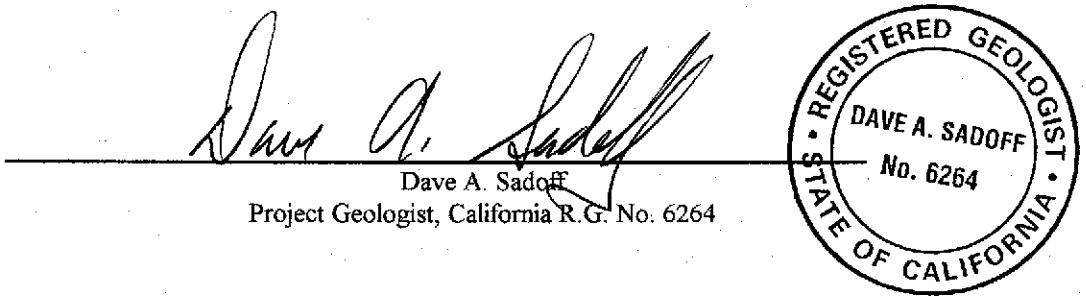
WORK PLAN:
SUBSURFACE EXPLORATION
Project #150-540B

Jack Holland Sr. Oil Company
16301 E. 14th Street
San Leandro, California

PREPARED BY ENVIRONMENTAL BIO-SYSTEMS, INC.
FOR
ESTATE OF JACK HOLLAND SR.



Dave A. Sadoff
Project Geologist, California R.G. No. 6264

18 November 1999

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APPENDIX

1. INTRODUCTION

Environmental Bio-Systems, Inc. (EBS) has been retained by the Estate of Jack M. Holland, Senior (the Client) to prepare this work plan for subsurface exploration activities at former Jack Holland Oil Company, located at 16301 E. 14th Street in San Leandro, California (the Site). A site location map and site maps are included as Figures 1, 2 and 3 in Appendix A.

The site is currently owned by the Client and Ms. Barbara Holland. The principal project contacts are:

Client: Ms. Ann Marie Holland, executor of the Jack M. Holland, Sr. estate, 1498 Hamrick Lane, Hayward, CA, (510) 782-4307.

Consultant: Mr. Dave A. Sadoff, Project Manager, Environmental Bio-Systems, Inc., P.O. Box 7171, San Jose, CA 95150-7171, (408) 979-8600.

The scope of work described in this work plan is intended to evaluate the extent of petroleum hydrocarbon and stoddard solvent impact to site soil and ground water caused by unauthorized releases associated with prior bulk fuel distribution carried out at the Site. Preparation of this work plan has been mandated by the Alameda County Health Care Services Agency (ACHCSA), as expressed in their letter to the Client dated 15 March 1999.

EBS will begin the scope of work described in this document upon contract acceptance by the Client. Field work will not begin until the work plan has been approved by the ACHCSA .

2. PREVIOUS ENVIRONMENTAL WORK

1990
Crosby and Overton, Inc. (C&O) drilled and sampled five exploratory soil borings near the two diesel USTs. Soil samples collected from the borings were found to contain up to 25,000 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as diesel (TPHd). An unauthorized fuel release form was filed with the ACHCSA. Ground water was first encountered at approximately 15 feet below ground surface (bgs).

February 1996
Compliance & Closure, Inc. (CCI) directed the locating of eight USTs at the Site. CCI reportedly located three gasoline, two kerosene, two diesel, and one stoddard solvent UST.

April 1996
CCI installed and sampled three ground water monitoring wells. Soils encountered during drilling activities were described as silty clay, thin beds of silty sand and sand to 18 feet bgs.

Soil samples collected during well drilling of the wells reportedly contained up to 4,400 mg/kg total petroleum hydrocarbons as gasoline (TPHg) and 8,200 TPHd. These soil samples were also found to contain up to 0.024 mg/kg 1,4-dichlorobenzene and 0.4 mg/kg methylene chloride.

Ground water samples collected from the wells were found to contain up to 33,000 micrograms per liter (µg/L) TPHg,; up to 12 µg/L benzene, 83 µg/L toluene, 22 µg/L ethylbenzene, and 160 µg/L xylenes (BTEX, respectively); up to 9,700 µg/L TPHd,; up to 41,000 µg/L total recoverable petroleum hydrocarbons (TRPH); and up to 3.1 µg/L 1,2-dichlorobenzene.

July 1996
CCI conducted quarterly monitoring of the ground water wells. Ground water samples were found to contain up to 1,400 µg/L TPHg; 17, 5.6, 7.6 and 32 µg/L BTEX components, respectively; and 4,600 µg/L TPHd.

October 1996
CCI conducted quarterly monitoring of the ground water wells. Ground water samples were found to contain up to 7,300 µg/L TPHg; 16, 8.9, 20 and 15 µg/L BTEX components, respectively; and 14,000 µg/L TPHd.

January 1997
CCI conducted quarterly monitoring of the ground water wells. Ground water samples were found to contain up to 2,600 µg/L TPHg; 6.4 µg/L benzene; 44 µg/L toluene; and 2,800 µg/L TPHd.

April 1997
CCI conducted quarterly monitoring of the ground water wells. Ground water samples were found to contain up to 2,700 µg/L TPHg; 16, 8, 10 and 25 µg/L BTEX components, respectively; and 500 µg/L TPHd.

August/September 1998
EBS directed Site mitigation activities. The contents of 143 55-gallon steel drums and approximately 60 smaller containers were inventoried and removed from the site via vacuum truck. Approximately 4,636 total gallons of oily water were transported to Evergreen's Newark, California facility for recycling. Approximately 650 gallons of oily water contaminated with halogenated constituents were disposed at the Solvent Service facility in San Jose, California. Two 55-gallon drums containing approximately 100 total gallons of oily water contaminated with PCBs were placed into 85-gallon overpack drums and were transported to Safety Kleen's Aragonite, Utah facility for incineration. One 55-gallon drum containing approximately 50 gallons of sodium hypochlorite was placed into an 85-gallon poly overpack drum and transported to Crosby and Overton's Long Beach, California facility for disposal. All evacuated 55-gallon drums were crushed, placed into a roll-off bin, and transported to Forward's Stockton, California facility for disposal. All of the smaller containers and miscellaneous debris encountered during the progression of the project were placed into a second roll-off bin staged on-site. The contents of this bin have been classified as a California hazardous waste due to lead content and the failure of aquatic bio-assay test. This bin remains on-site pending final disposition.

Approximately 2,690 gallons of liquid and sludge were removed from eight site underground storage tanks (USTs) via vacuum truck prior to UST removal. Approximately 5,200 gallons of liquid and sludge were removed from the site above ground storage tanks (ASTs) by vacuum truck prior to AST dismantling and removal. Twenty ASTs were demolished using an excavator-mounted shear. The demolished ASTs were loaded onto flatbed trucks and transported to Shnitzer Steel's Oakland, California facility for recycling.

Eight USTs were inerted, excavated, and transported on flatbed trucks to ECI's Richmond, California facility for recycling. Tanks T2 and T3 were observed to have large (up to 2" by 1") holes in their bottoms. Tank T1 was observed to be severely pitted. A sheen was noted on ground

water in each of the 5 tank pits. Slight to moderate petroleum odor and a typical greenish discoloration was observed in soils excavated from around the USTs.

A total of nine soil samples were collected from beneath USTs T1, T2, T3, T4, T5 and T6 at the air-ground water interface (approximately 10 feet bgs). Analyses of these samples revealed the presence of up to 6,900 mg/kg TPHg; up to 21, 28, 69, and 130 mg/kg BTEX, respectively; up to 3,200 mg/kg TPHd; up to 9,600 mg/kg total petroleum hydrocarbons calculated as stoddard solvent (TPHss); and up to 11 mg/kg Pb.

One four-point composite soil sample was collected from the stoddard solvent tank overburden. This sample was not found to contain reportable concentrations of TPHss or BTEX. One four-point composite soil sample was collected from the kerosene tank overburden. This sample was found to contain 5,200 mg/kg total petroleum hydrocarbons calculated as kerosene (TPHk). This sample was not found to contain reportable concentrations of BTEX.

Accumulated pit water samples were collected from connected tank pits T1 and T2, from T3, T4, connected pits T5 and T6, and from connected pits T7 and T8. Analyses of these samples revealed the presence of up to 78,000 µg/L TPHg; up to 1,500, 8,400, 1,900, and 14,000 µg/L BTEX, respectively; up to 1,600,000 µg/L TPHd; and 490,000 µg/L TPHss. Neither MTBE nor Pb was found in any of the water samples above the laboratory reporting limits.

Soil overburden was placed back into the pits with the concurrence of the ACHCSA. No engineered compaction was performed during backfilling activities.

3. FIELD PROCEDURES

The scope of work described in this work plan outlines the drilling of approximately 44 exploratory soil cores (to be designated SC1 through SC44), the installation of two additional ground water monitoring wells (to be designated MW4 and MW5), the collection and analysis of soil, vapor, and water samples, and the generation of a project report. All work will be performed by, or under, the direct supervision of a California Registered Geologist.

3.1. Health and Safety Plan

A site-specific health and safety plan will be produced prior to commencement of field work. This plan will include anticipated hazards, personal protective equipment requirements for site workers, and emergency procedures.

3.2. Soil Core Locations and Drilling Methods

Forty four soil cores will be advanced via direct push technology using a truck mounted Geoprobe (or similar) rig. The borings will be drilled at or near the locations depicted on Figures 2 and 3.

3.3. Subsurface Utility Locating

Underground service alert will be contacted at least 48 hours prior to planned commencement of field activities to locate member utilities on adjoining public property. A private utility locator will mark the surface expression of buried metallic objects using electromagnetic instruments near

proposed borehole locations. Any proposed boreholes found to lie near these markings will be relocated to the nearest accessible location greater than two feet from such markings.

3.4. Soil Sampling

Soil samples will be collected from 2, 5, and 10 feet below ground surface (bgs) from the cores in clear acetate sleeves housed within the push-probe. The sleeves will be visually inspected and cut to remove appropriate sampling intervals. Upon removal from the sampler, the ends of the cut sleeves will be sealed with Teflon™ sheets and tight fitting caps. Each sleeve section will be labeled with a unique designation for this project, placed into a reclosable plastic bag, and stored upon ice within an insulated cooler pending transportation to the laboratory. A chain of custody will be initiated in the field and will accompany all submitted samples to the laboratory.

3.5. Well Installation

Wells MW2 and MW3 will be drilled using hollow stem augers advanced by a truck mounted drilling rig at the locations depicted on Figure 2. Soil samples will be collected from 2, 5 and 10 feet bgs within these borings using a California modified split spoon samples. Sample tubes intended for submission to the laboratory will be sealed with tight fitting end caps. Each tube will be labeled with a unique designation for this project, placed into a reclosable plastic bag, and stored upon ice within an insulated cooler pending transportation to the laboratory. A chain of custody will be initiated in the field and will accompany all submitted samples to the laboratory.

3.5.1. Well Construction

Wells MW2 and MW3 will be constructed of 2 inch PVC screen and casing. The methods of construction used will be in accordance with the standards and guidelines of the California Department of Water Resources and the ACHCSA.

The wells will be constructed after advancing the augers to a depth of approximately 10 feet below first water encounter. The screened interval of the wells will be extended from this depth upward to approximately 4 feet above the depth at which water is encountered within the borings. Completion of the wells will include a filter pack of #2/12 or #3 sand to a depth of 1 foot above the tops of the screens, 1 foot bentonite clay spacers, Portland cement seal to grade, traffic boxes set in concrete, and locking well caps with water-tight seals.

3.5.2. Well Development

Wells MW4 and MW5 will be developed after allowing at least 72 hours to elapse following completion of the ground water monitoring well installation. The wells will be developed using alternate surging and bailing. They will be purged until free of sediment or until measured parameters of pH, temperature, and conductivity have been noted to have stabilized.

3.5.3. Well Sampling

Sampling of wells MW4 and MW5 will be performed subsequent to allowing a period of at least 48 hours for stabilization following development. Existing wells MW1, MW2 and MW3 will also be sampled at this time. A field log will be maintained by the sampling technician during purging and sampling. Observations of the presence or absence and/or thickness of free or emulsified product as well as the presence of sheen will be included on the sampling log. Other pertinent information

including well recharge rates, pH, temperature, conductivity, and physical conditions at the time of sampling will also be recorded.

A minimum of 4 casing volumes will be purged from the wells prior to collection of samples. When periodic measurements of pH, temperature, and conductivity are found to have stabilized, a water sample will be collected from the well using a new disposable bailer. No sample will be collected for laboratory analysis from wells exhibiting measurable free product.

Wells which fail to recharge sufficiently prior to the purging of at least 4 well casing volumes will be allowed to recover to 80% of their initial water level prior to sampling.

3.6. Well Survey

The top of casing and top of well box elevations of wells MW1 through MW5 will be surveyed subsequent to installation of MW4 and MW5. This survey will be conducted by a California Licensed Land Surveyor or Professional Engineer.

3.7. Drill Cuttings

All soil cuttings generated during drilling will be contained within Department of Transportation (DOT) approved 55-gallon drums. The labeled drums will be staged on-site pending analytical results.

3.8. Purge and Decontamination Water

All purge and decontamination water generated during this project will be contained within DOT approved 55-gallon drums. The drums will be profiled and then transported and disposed or recycled of at an approved facility.

3.9. Sample Analyses

All soil and ground water samples will be analyzed by Analytical Sciences, (AS) of Petaluma, California. AS is certified by the California environmental laboratory accreditation program (ELAP) for the requested analyses.

All soil samples submitted for laboratory analysis from Areas A, B and C (see Figure 2 for area designations) will be analyzed for the following:

- Total Oil and Grease (TOG) using Standard Method 5520B, F.
- TPHd and TPHk using Environmental Protection Agency (EPA) Method 8015 (modified).
- TPHg using EPA Method 8015 (modified).
- BTEX and methyl t-butyl ether (MTBE) using EPA Method 8020. The sample exhibiting the highest level of MTBE will be confirmed using the EPA Method 8260.
- Polychlorinated biphenyls (PCBs, **2 feet bgs samples only**) using EPA Method 8080 (modified).

All samples from Areas D and E will be analyzed for the following:

- TPHd and TPHk using the Environmental Protection Agency (EPA) Method 8015 (modified). TPHg using EPA Method 8015 (modified).
- BTEX and MTBE using the EPA Method 8020. The sample exhibiting the highest level of MTBE will be confirmed using the EPA Method 8260.

All samples from Area E will be analyzed for the following:

- TPHd, TPHk, and total petroleum hydrocarbons as stoddard solvent (TPHss) using the Environmental Protection Agency (EPA) Method 8015 (modified).
- TPHg using EPA Method 8015 (modified).
- BTEX and MTBE using the EPA Method 8020. The sample exhibiting the highest level of MTBE will be confirmed using the EPA Method 8260.

3.10. Decontamination Procedures

All downhole drilling and sampling equipment will be cleaned using an Alconox solution, tap water rinse, and deionized water rinse prior to the drilling of each boring. All decontamination water will be stored in labeled drums approved by the Department of Transportation (DOT) for this purpose. The drums will be staged on-site pending analytical results.

4. DOCUMENTATION

A final report documenting the observations, results, conclusions, and recommendations will be prepared and submitted upon completion of field work. The report will include scaled diagrams, laboratory analytical reports, and chain of custody documentation.

5. CONDITIONS

The scope of work described in this work plan will be conducted in accordance with generally accepted standards of current environmental practice in California. All documentation generated during the project, including but not limited to additional Work Plans and reports with all conclusions, and recommendations contained therein, shall be time-dependent and should not be considered valid after a 1 year period from their issue. After 1 year from issue, site conditions and recommendations contained within Work Plans and reports should be reviewed.

Evaluation of the condition of the Site, for the purpose of this study, will be made from a limited number of observation points. Subsurface conditions may deviate away from these points. Additional work, including further study of the subsurface, can reduce the inherent uncertainties associated with this type of work.

This study will be performed, and the report prepared for the sole use of our client, the Estate of Jack Holland Sr.. All reports and the findings contained within are not to be disclosed to nor used by any other party without the prior written consent of Environmental Bio-Systems, Inc. It will be the responsibility of the client to convey any and all recommendations to regulatory agencies and other parties, as appropriate.

The recommendations to be provided in the summary project report will be professional opinions that our firm has endeavored to provide with competence and reasonable care. We are not able to eliminate the risks associated with environmental work. No guarantees or warrants, express or implied, are provided regarding our recommendations.

The maximum liability of EBS for any reason attendant to the services provided under this contract shall not exceed $1,600. The maximum liability of EBS for any reason attendant tot he services provided under subsequent contracts signed between the Client and EBS in completing work described within this plan or stemming from such work will be no more than twice the initial amount of such contract.

It is the clients' responsibility to identify property lines and easements. EBS is not responsible for the accuracy of any property line, easement, or other markers identified by the client. It is the clients' sole responsibility to inform EBS of any hazardous materials or conditions relating to the UST or the work area in general prior to the progression of field work, or immediately upon their subsequent discovery.

EBS will contact Underground Service Alert (USA), a public utilities locating service which is provided by the utility companies. USA will mark the location of utilities on public property. USA is not responsible for the location of utilities on private property. The services of a private utility locator will also be employed in locating subsurface metallic utilities. EBS will not be liable for any damages to underground structures as a result of subsurface activities.

6. REFERENCES

Alameda County Health Care Services Agency, Letter to Ann Marie Holland, 15 March 1999.

Compliance & Closure, Inc., April 1997 Quarterly Report, Former Jack Holland Sr. Oil Company, 16301 East 145h Street, San Leandro, California, 14 April 1997.

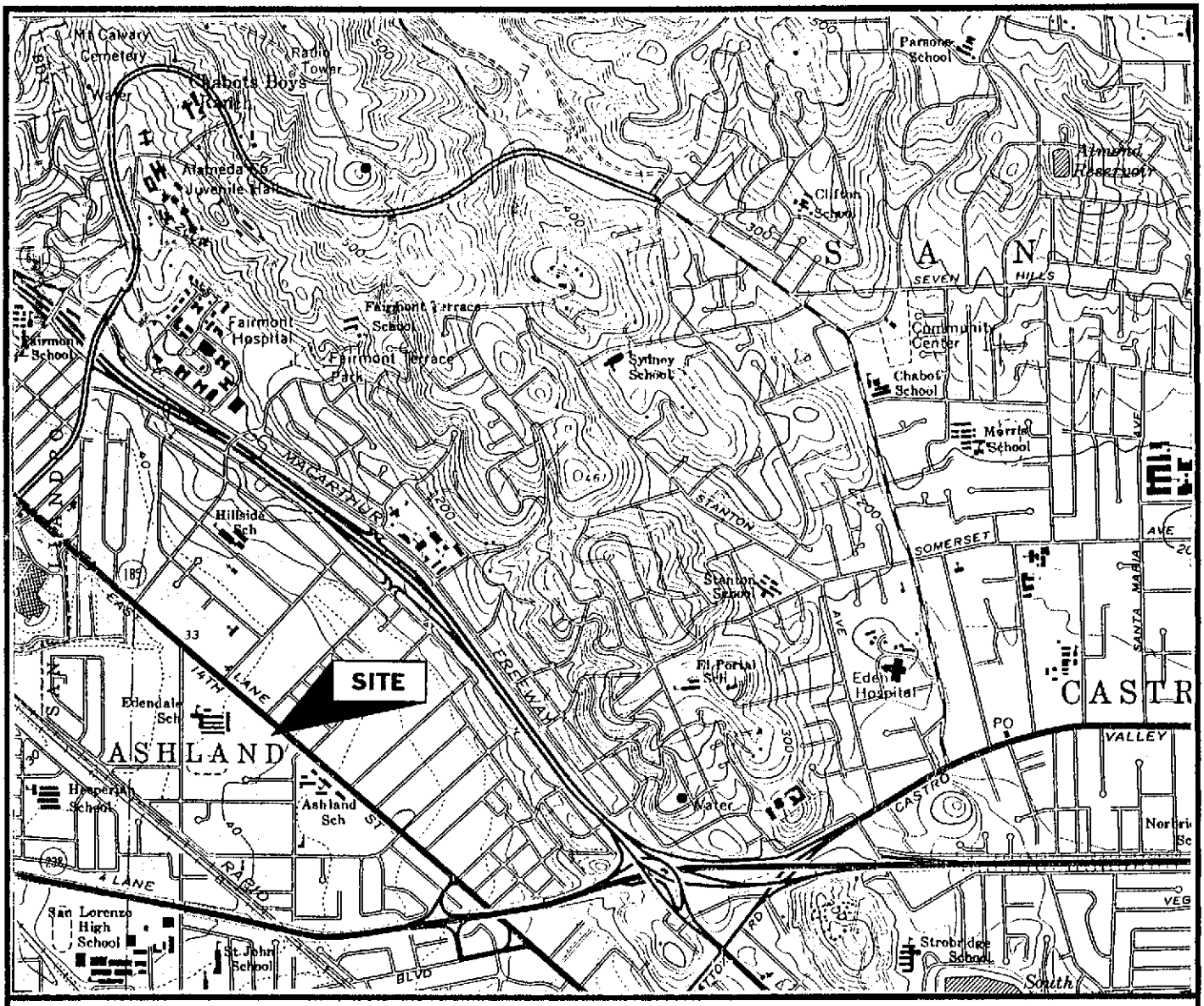
Compliance & Closure, Inc., Summary of Environmental Investigation Conducted at Jack Holland Sr. Oil Company Property, East 14th Street, San Leandro, California, 4 June 1998.

Environmental Bio-Systems, Inc., Site Mitigation Report, 16301 E. 14th Street, San Leandro, California, 9 December 1998.

United States Geological Survey, Hayward, California Quadrangle Map, 7.5-Minute Series, Topographic, 1959, Photorevised 1980.

APPENDIX A:

FIGURES



Source: USGS Hayward, California 7.5-Minute Quadrangle Map

ENVIRONMENTAL BIO-SYSTEMS, INC.

DATE: 11/18/99

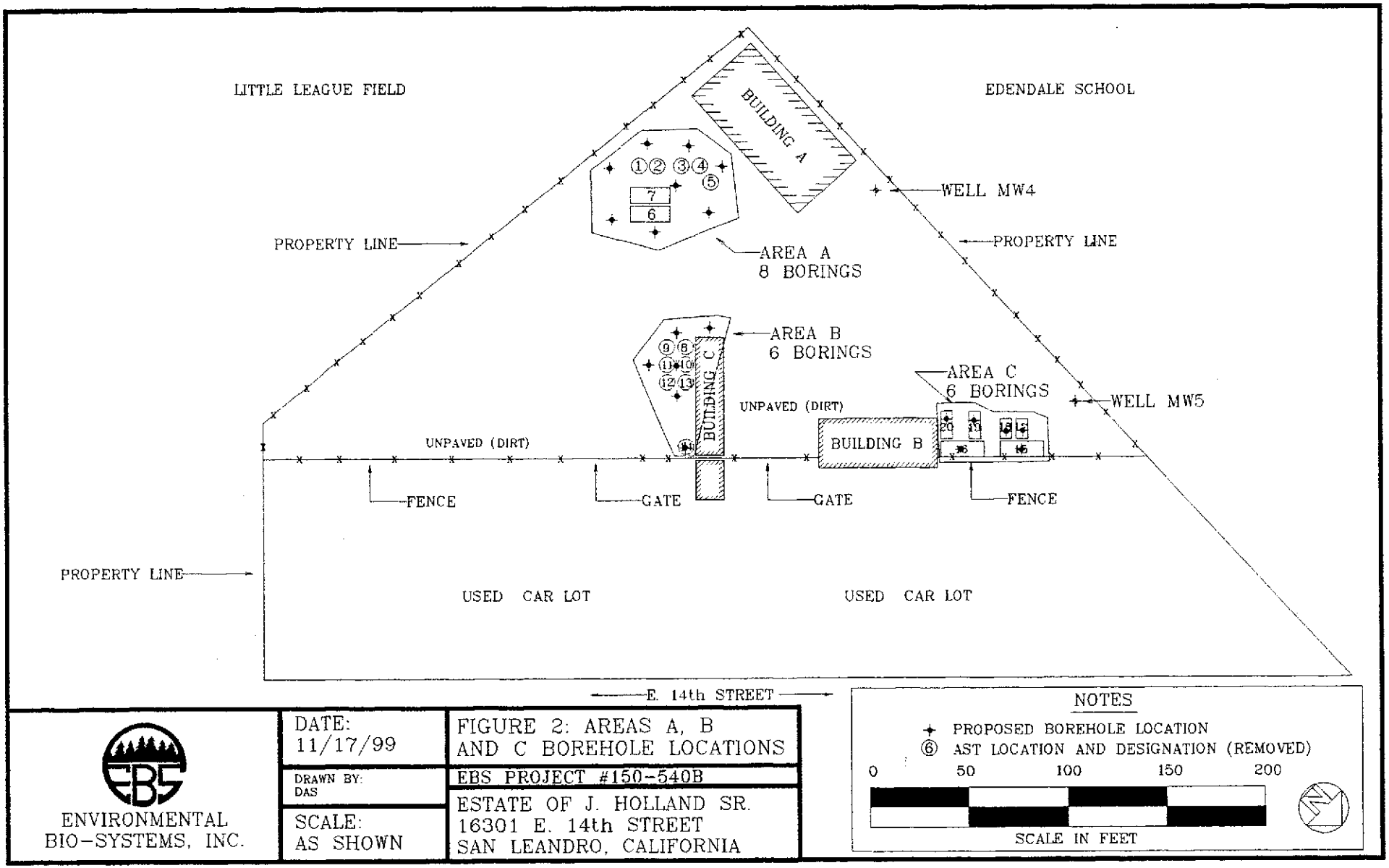
DRAWN BY: DAS

SCALE: 1"=2,000'

FIGURE 1: SITE LOCATION MAP

ESTATE OF J. HOLLAND, SR.
16301 E. 14th STREET
SAN LEANDRO, CALIFORNIA

ENVIRONMENTAL BIO-SYSTEMS, INC., PROJECT #153-525B



ENVIRONMENTAL
BIO-SYSTEMS, INC.

DATE:
11/17/99

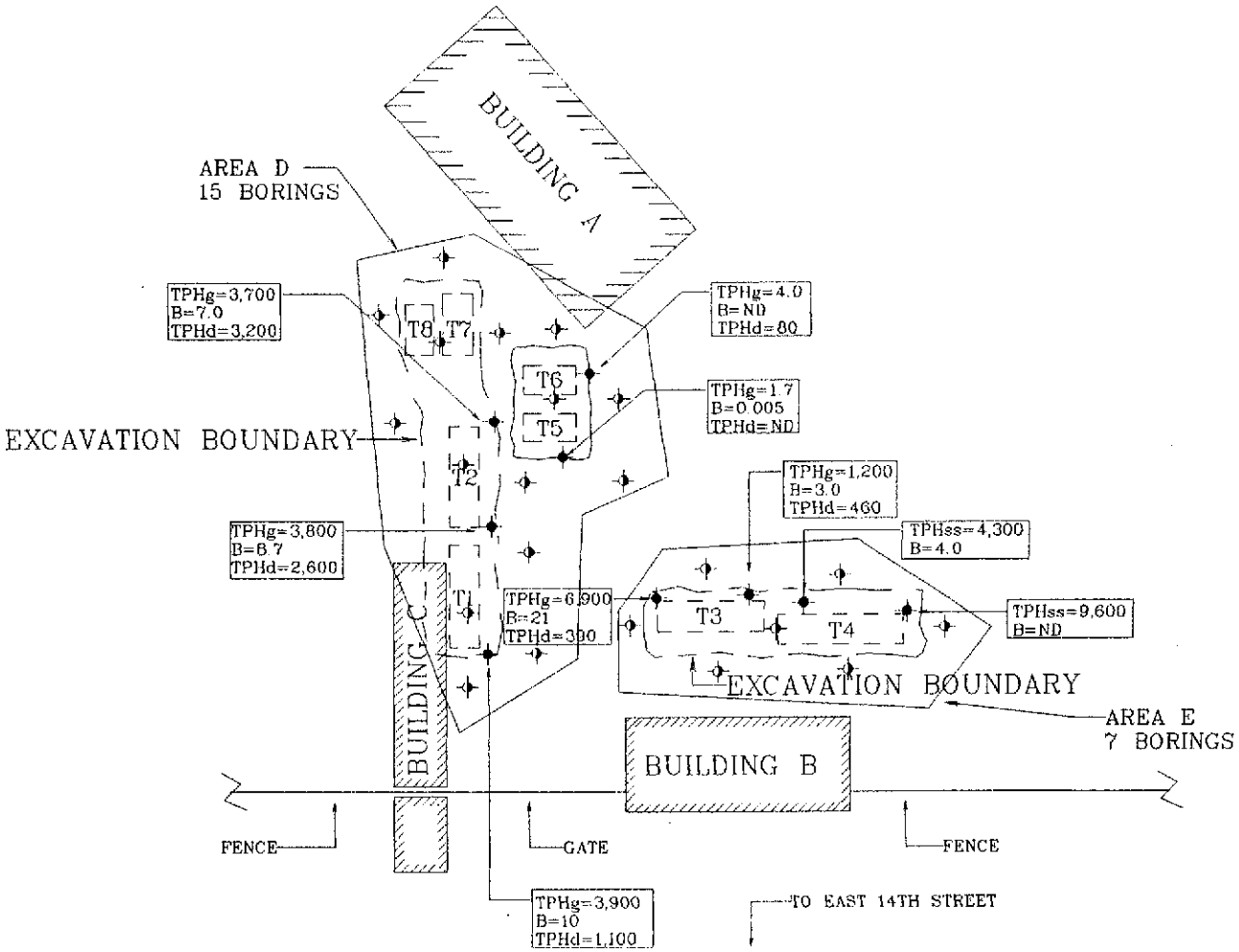
DRAWN BY:
DAS

SCALE:
AS SHOWN

FIGURE 2: AREAS A, B AND C BOREHOLE LOCATIONS

EBS PROJECT #150-540B

ESTATE OF J. HOLLAND SR.
16301 E. 14th STREET
SAN LEANDRO, CALIFORNIA



NOTES

- PROPOSED BOREHOLE LOCATION
- PREVIOUS SOIL SAMPLE LOCATION AND RESULTS (All Results in mg/kg)

TPHg	Total Petroleum Hydrocarbons as Gasoline
B	Benzene
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHss	Total Petroleum Hydrocarbons as Stoddard Solvent

0 20 40
SCALE IN FEET

ENVIRONMENTAL BIO-SYSTEMS, INC.

DATE: 11/17/99

DRAWN BY: DAS

SCALE: AS SHOWN

FIGURE 3: AREAS D AND E BOREHOLE LOCATIONS

ESTATE OF J. HOLLAND SR.
16301 E. 14th STREET
SAN LEANDRO, CALIFORNIA