



GETTLER-RYAN INC.

TRANSMITTAL

TO: Mrs. Marie Schwieckert
515 South Livermore Avenue
Livermore, CA 94550

DATE: May 11, 2004
PROJ. #:948209.03
SUBJECT: Report/Workplan
Schwieckert Residence
515 South Livermore Avenue
Livermore, California

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FROM:
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Project Geologist
Gettler-Ryan Inc.
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1	May 11, 2004	Preferential Pathway Study and Workplan

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COMMENTS:

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Ms. Rosanna Garcia-La Grille, Alameda County Environmental Health Dept., 1131 Harbor Bay Parkway, Ste. 250, Alameda, CA 94502

Mr. Dave Charter, State Water Resources Control Board, UST Cleanup Fund, P.O. Box 944212, Sacramento, CA 94244

If you have any questions, please feel free to contact our Rancho Cordova office at (916) 631-1300.



GETTLER-RYAN INC.

PREFERENTIAL PATHWAY STUDY AND WORK PLAN

at

Schweickert Residence
515 South Livermore Avenue
Livermore, California

Report No. 948209.03
USTCF Claim No. 018037

Prepared for:

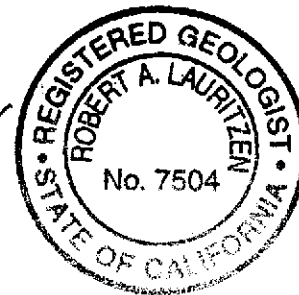
Mrs. Marie Schweickert
515 South Livermore Avenue
Livermore, California 94550

Prepared by:

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May 11, 2004

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PREFERENTIAL PATHWAY STUDY AND WORK PLAN

at

Schweickert Residence
515 South Livermore Avenue
Livermore, California

Report No. 948209.03

INTRODUCTION

At the request of Marie Schweickert, Gettler-Ryan Inc. (GR) has prepared this Preferential Pathway Study and Work Plan to advance six soil borings. The purpose of this report was 1) to identify any well or subsurface utilities that may affect the movement of contaminants beneath the Schweickert property and 2) to prepare a workplan to further evaluate extent of petroleum hydrocarbons in groundwater and soil at the subject site (Figure 1). Results of the preferential pathway study are detailed in later section of this document. The proposed scope of work includes: obtaining the required soil boring and encroachment permits; advancing seven soil borings; collecting soil and grab groundwater samples from the borings for description and possible chemical analysis; and preparing a report presenting the findings of the investigation. The Alameda County Environmental Health (ACEH) requested this work in a letter dated March 5, 2004.

The scope of work described in this work plan is intended to comply with the California Code of Regulations, Title 23, Division 3, Chapter 16, *Underground Tank Regulations*, the California Regional Water Quality Control Board (CRWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and ACEH guidelines and regulations.

SITE DESCRIPTION

The subject site is located at 515 Livermore Avenue in Livermore, California (Figure 1). Topography in the vicinity of the subject site is relatively flat at an elevation of approximately 500 feet above mean sea level. The closest surface water is Arroyo Mocho Creek, which is approximately 2,700 feet south of the site. Below ground facilities consisted of one 350-gallon heating oil underground storage tank (UST). The heating oil UST was reportedly installed in 1957 and in use until 1960 when the furnace was converted to gas. Pertinent site features and the location of the former UST are shown on Figure 2

PREVIOUS ENVIRONMENTAL WORK

On July 29, 2003, GR conducted compliance soil sampling during the removal of one 350-gallon, steel-walled, heating oil UST (Figure 2). No indications of a release such as holes or cracks were observed in the UST and no groundwater was observed in the excavation. Soil directly beneath the UST had no observable field indications of a leak such as strong odors or discolored soils. One soil sample (TP-1(5)) was collected at the base of the UST excavation at 5 feet below ground surface (bgs).

Laboratory results indicated that a Total Petroleum Hydrocarbons as diesel (TPHd) concentration 36 parts per million (ppm) was detected in excavation sample TP-1(5). Laboratory results also indicated that concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and oil and grease (O&G) were below laboratory method detection limits.

In November 2003, GR advanced one Geoprobe soil boring to 50 feet bgs. Soil samples collected at depths of approximately 10, 20, 30, and 40 feet bgs in the soil boring contained TPHd concentrations of 65, 35, 1,900, and 350 ppm, respectively. Following silica-gel cleanup, TPHd concentrations in these samples were 61, 31, 2,000, and 330 ppm, respectively. A grab groundwater sample was collected from the soil boring at 50 feet bgs and contained TPHd at a concentration of 100,000 parts per billion (ppb). A summary of historical analytical data is included in Table 1.

PREFERENTIAL PATHWAYS STUDY

Well Search

A review of Department of Water Resources (DWR), Zone 7 Water Agency (Zone 7), and Environmental Data Resources (EDR) well records was conducted to identify wells within 0.5 mile of the subject site. Five domestic wells, five municipal wells, six monitoring wells, and one cathodic protection well were identified within 0.5 mile of this site as shown on Figure 3. The nearest well is a municipal well located approximately 700 feet south of the subject site (Map ID #6).

Upon conducting a field reconnaissance of the wells, GR was unable to field verify any of the five domestic wells identified in DWR and EDR records or the four United States Geological Survey (USGS) wells identified in EDR records. The two Livermore Sanitarium domestic wells (Map ID #1 and 5) could not be field verified because the Sanitarium no longer exists. The First Baptist Church domestic well (Map ID #3) could not be located on the church property. The Angler's Ranch Water Company domestic well (Map ID #12) could not be field verified since there is no business named Angler's Ranch Water Company in the Livermore area. The EDR report lists a post office box address in Bethel Island, California as the location for Angler's Ranch Water Company but the latitude and longitude coordinates in the same report are within the Livermore area. The Rasmussen domestic well could not be field verified due to incomplete information in the DWR well completion report. The location of the USGS wells appear to coincide with the locations of the California Water Service Company (CWS) wells. These USGS wells may be CWS wells that were monitored by USGS. None of the above mentioned municipal, domestic and monitoring wells are within 500 feet of the subject site. Results of the well search are tabulated in Table 2 and depicted on Figure 3. Copies of the DWR well completion reports are included in Appendix A. A copy of the EDR report including well information is included as Appendix B. A copy of Zone 7 area well map is included as Appendix C.

On April 6, 2004, a door-to-door well survey was conducted to identify any unknown or undocumented wells within 500 feet of the subject site. GR left a well survey questionnaire and a self-addressed stamped envelope at residences where the occupant was not present at the time of the survey. Fourteen out of 48 well survey questionnaires were returned to GR. Upon completion of the door-to-door survey, two potentially unknown, undocumented wells were reported within 500 feet of the site, however, neither one could be field verified. The information provided by these property owners regarding the existence of these two wells should only be considered speculative at this point. Results of the door-to-door well search are tabulated in Table 3. Copies of the returned well survey questionnaires are included in Appendix D.

This document contains well locations and construction details obtained from water well driller's reports filed with the DWR, as well as other personal and property data. California Water Code Section 13753 states that this information is confidential and not for public use or inspection. Therefore, this document should not be placed in files accessible to the public and are confidential.

The nearest surface water body is Arroyo Mocho Creek located approximately 2,700 feet south of the subject site. No other surface water bodies or wetlands have been identified within 0.5 mile of the site.

Utility Survey

GR conducted an underground utility survey by reviewing utility lines maps provided by the Pacific Gas & Electric Company, the City of Livermore, and the California Water Service Company. Also, GR conducted a field reconnaissance to verify the locations of the various utility lines at and around the site. The results of the utility survey are presented on Figure 5. Properties in the area are served by overhead and underground electrical lines, and electric and gas lines are buried at depths between 2 and 4 feet bgs. Water lines are buried at depths between 3 and 4.5 feet bgs, and storm drains and sanitary sewers are buried between 3 and 6.5 feet bgs. Subsurface utility lines, an estimated groundwater level as well as pertinent site features are presented in cross-section diagrams (Figures 6 and 7).

OFFSITE SOURCE SURVEY

GR contacted EDR to obtain a source survey report to identify potential offsite leaking underground fuel tank (LUFT) sites near the subject site. A copy of the EDR source survey report is included as Appendix B. Upon review of EDR's source survey report, GR identified five potential offsite LUFT sites in the vicinity of the subject site. These five sites are Del Valle High School (2253 Fifth Street), the Carpenter residence (524 South Livermore Avenue), the Hyne residence (792 South I Street), Unocal Service Station #4667 (900 South Livermore Avenue), and the Bates residence (887 South Livermore Avenue). GR, then, contacted ACEH to review the files for the above listed LUFT sites. On contacting ACEH, GR was informed there were no case files on the Hyne and Bates residences, that the Unocal Service Station #4667 and the Carpenter residence were closed sites and only had case closure summaries, and that Del Valle High School had a case file.

Alameda County File Review

On April 2, 2004, GR reviewed information pertaining to the Carpenter residence and Del Valle High School on file at ACEH offices in Alameda, California. The results of the file review are summarized below.

Carpenter residence

The Carpenter residence is located at 524 South Livermore Avenue, across South Livermore Avenue from the subject site (Figure 4). The site is currently a private residence and consists of a house, detached garage with a former 500-gallon heating oil UST. Historically, the depth to water at the site was reported to vary between 20 and 55 feet bgs.

In January 1991, one 500-gallon heating oil UST was removed. One soil sample was collected from the bottom of the UST excavation and analyzed for TPHd, BTEX, and O&G. The soil sample collected from the bottom of the UST excavation contained 180 ppm of TPHd and 360 ppm of O&G.

BTEX concentrations, with the exception of total xylenes (10 ppm), were below the laboratory reporting limits of 5 ppm.

In February 1991, an additional 3 to 4 feet of soil was removed from the bottom of the UST excavation. A soil sample was collected from this depth and analyzed for O&G only. This soil sample contained an O&G concentration that was below the laboratory reporting limit of 50 ppm. No additional TPHd analysis was performed. A total of approximately 40 cubic yards of soil was removed from the UST excavation.

According to the ACEH files, no further assessment work was performed and the case was closed in December 1993.

Del Valle High School

This site is located at 2253 Fifth Street, approximately 500 feet west-southwest of the subject site (Figure 4). The site is currently a public high school. Historically, the depth to water at the site has ranged from 25.8 to 32.9 feet with an assumed flow direction towards the northwest based upon local topography (the well at this site was never surveyed).

In August 1999, one 1,500-gallon heating oil UST was removed from the site. Inspection of the tank found no observable perforations, although some apparent hydrocarbon-impacted soil was noted at the fill end of the UST. The base of the UST was at approximately 14 feet bgs. Two soil samples, T1 and T2, were collected from each end of the UST at approximately 17 and 20 feet bgs, respectively. Two soil samples, P1 and P2, were collected from beneath the product piping. Soil samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), TPHd, BTEX, and methyl tert-butyl ether (MtBE), and contained up to 1380 ppm TPHd and 16 ppm TPHg. Approximately 30 cubic yards of soil was removed from the UST and piping excavations.

In April 2000, groundwater monitoring well MW-1 was installed to a depth of 50 feet north-northwest of the former UST in the assumed downgradient direction. Soil samples collected at 20 and 35 feet bgs did not contain detectable concentrations of TPHd, TPHg, BTEX, or polynuclear aromatic hydrocarbons. Groundwater was encountered at approximately 34 feet bgs and stabilized at approximately 25.8 feet.

During a period between June 2000 and February 2001 groundwater from well MW-1 was sampled three times and TPHd was detected on two occasions at concentrations of 78 and 79 ppb. According to ACEH files, after the February 2001 sampling event, no further monitoring or assessment was required and the case was closed.

Summary and Conclusions

The ACEH file review revealed that the cases involving the nearby Carpenter residence and Del Valle High School are both closed.

Beneath the former UST at the Carpenter residence, TPHd concentrations were 180 ppm and O&G concentrations were 360 ppm. Following overexcavation, a soil sample collected beneath the tank was analyzed and below the reporting limit of 50 ppm for O&G and but was not analyzed for TPHd. Dissolved TPHd concentrations beneath the UST were not assessed during the investigation despite a TPHd soil concentration of 180 ppm. Groundwater flow direction from this site is mostly likely to the northwest directly towards the Schwieckert residence. Subsurface contaminant conditions in soil and groundwater beneath the Carpenter residence were not completely assessed prior to case closure.

The current condition of contamination in soil and groundwater beneath Del Valle High School is unknown since the case is closed. However, given Del Valle High School's cross gradient location approximately 500 feet away and low concentrations of TPHd in groundwater; Del Valle High School is an unlikely contributor to the plume beneath the Schwieckert residence.

WORK PLAN

To further evaluate and delineate the extent of petroleum hydrocarbons at the subject site, GR proposes to advance seven soil borings and collect grab groundwater samples at the locations shown on Figure 2. GR Field Methods and Procedures are included in Appendix E.

To implement the proposed scope of work, GR proposes the following five tasks:

Task 1. Pre-field Activities

GR will update the site safety plan, and will obtain the necessary soil boring and encroachment permits (if necessary) from Zone 7 and City of Livermore Public Works Department, respectively. Underground Service Alert (USA) will be notified at least 48 hours prior to the proposed subsurface work.

Task 2. Soil Borings

GR will advance seven soil borings at the location shown on Figure 2. The borings will be cleared to 5 feet by hand auger, then advanced to approximately 60 to 70 feet bgs by Vironex Environmental Field Services (C57 #705927) using a GeoProbe® or similar equipment that advances the boring equipment hydraulically without generating soil cuttings. A GR geologist will monitor the field activities and prepare a log of each boring. Soil samples for possible chemical analysis will be collected at 5-foot intervals. Soil samples will be collected with a 1.5-inch diameter split spoon sampler with clean liners. Soil from each sampled interval will be screened in the field for the presence of petroleum hydrocarbons. We anticipate that at least five to six soil samples from each boring will be submitted for analysis. Grab groundwater samples will also be collected from the borings. Soil and grab groundwater samples will be submitted for chemical analysis as described in Task 4. Upon completion the boring will be filled with neat cement to approximately 5 feet bgs. Auger cuttings generated during hand clearing will then be placed back in the boring and compacted except for those borings that will be completed with temporary casings (see Task 3 below). **Please note:** if field observations indicate that significant soil and/or groundwater contamination exists between 30 and 50 feet bgs in upgradient soil borings, an additional soil boring will be completed on the east side of South Livermore Avenue (Figure 2).

Task 3. Temporary Well Casings/Piezometers

Three or four soil borings will be converted to piezometers that will be used to accurately monitor water levels at the site and provide groundwater flow direction and gradient information. Soil borings selected as temporary casing/piezometer locations will be backfilled with bentonite to approximately 50 feet bgs and 10 feet of 3/4-inch diameter, Schedule 40, 0.020-inch machine-slotted screen will be placed from 40 to 50 bgs. Each piezometer will be completed with a 6-inch monument and a CA-licensed surveyor will survey the elevation of the top of well casings to mean sea level. Horizontal coordinates, including global positioning system (GPS) longitude and latitude of the wells will also be obtained. Water levels will be measured on a monthly basis for three months after which time each piezometer will be properly abandoned according to state and county regulations. GR recommends collecting one round of grab groundwater samples (no purge) after three months to provide additional groundwater quality information.

Task 4. Laboratory Analyses

Samples will be submitted for chemical analysis at Kiff Analytical (ELAP #2236), a California state-certified Hazardous Material Testing Laboratory. Selected soil and grab groundwater samples will be analyzed for TPHd by EPA Method 8015. GR does not recommend continued analyzes for BTEX, MtBE and tert-butyl alcohol (TBA) since these compounds were not detected in soil samples collected from previous investigations.

Task 5. Report Preparation

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and findings associated with this investigation. This report will be submitted to Mrs. Schwieckert and ACEH for review and comment

PROJECT STAFF

Mr. Robert A. Lauritzen, a Registered Geologist in the State of California (R.G. No. 7504) will provide technical oversight and review of the work. Mr. Greg A. Gurss, Senior Project Manager, will supervise implementation of field and office operations. GR employs a staff of geologists, engineers, and technicians who will assist with the project.

SCHEDULE

Implementation of the proposed scope of work will commence upon receipt of regulatory approval.

Table 1 - Historical Chemical Analytical Results

Marie Schweickert Property
515 South Livermore Ave.
Livermore, California

Sample ID	Sample Depth (ft)	Sample Date	TPHd* (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MtBE (ppm)	TBA (ppm)	O&G (ppm)
Historical Soil Data										
TP-1(5)	5.0	7/29/2003	36	<0.0050	<0.0050	<0.0050	<0.0050	---	---	<0.0050
Comp-1(A,B,C,D)	---	7/29/2003	29	<0.0050	<0.0050	<0.0050	<0.0050	---	---	<0.0050
Soil Boring B-1										
B1-10.0	10.0	11/21/2003	65/61	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
B1-20.0	20.0	11/21/2003	35/31	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
B1-30.0	30.0	11/21/2003	1,900/2,000	<0.0050	<0.0050	<0.0050	0.015	<0.0050	<0.010	---
B1-40.0	40.0	11/21/2003	350/330	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---

Sample ID	Sample Depth (ft)	Sample Date	TPHd (si-gel) (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MtBE (ppb)	TBA (ppb)
Groundwater Sample									
B-1	50	11/21/2003	100,000	<0.50	<0.0050	<0.0050	3.1	<0.50	<5.0

Explanation:

TPHd = Total Petroleum Hydrocarbons as diesel
BTEX = Benzene, toluene, ethylbenzene, xylenes
MtBE = Methyl tert-butyl ether
TBA = tert-Butyl alcohol
ppm = parts per million
ppb = parts per billion
--- = not analyzed
* = TPHd/TPHd (silica gel)

Analytical Methods:

TPHd by EPA Method 8015
BTEX, MtBE and TBA by EPA Method 8260B

Analytical Laboratory:

Kiff Analytical (ELAP # 2236)

STANDARD
10/27/03
10/27/03

Table 2 - 0.5 Mile Well Search Results

Schwieckert Residence
515 South Livermore Avenue
Livermore, California

Map ID ¹⁾	Well Owner	Well Location	State Well ID	Well Use	Year Installed	Screened Interval (ft)
1	Livermore Sanitarium ¹	954 S. L Street	03S02E16E1	Domestic	1932	--
2	California Water Service Co.	210 ft west of S Livermore Avenue & 20 ft south of Palm Avenue	03S02E16B1	Municipal	1944	140 to 390
3	First Baptist Church	2021 College Ave (300 ft southeast of College & L Streets)	03S02E16E6	Domestic	1982	280 to 360
4	Pacific Gas & Electric	Eighth and H Streets	03S02E16C3	Cathodic	1976	--
5	Livermore Sanitarium ¹	Church & L Streets	03S02E16G1	Domestic	1958	112 to 360
6	California Water Service Co.	787 S. H Street	03S02E16C	Municipal	1958	288 to 523
7	Zone 7 Water Agency	330 ft east of S. L Street & 30 ft south of College Avenue	03S02E16E44	Monitoring	1997	35 to 40
8	Woodward-Clyde	187 N. L Street	03S02E8R3-R5	3 monitoring	1982	38 to 55.5
9	California Water Service Co.	100 ft north of East Avenue & 300 ft west of Jensen Street	03S02E9Q1	Municipal	1952	180 to 492
10	California Water Service Co.	2778 4th St (75 ft north of 4th Street & 120 ft west of Wood Street)	03S02E9P1	Municipal	1956	192 to 492
11	USGS ²	app. 150 ft north of 8th Street & app. 40 ft west of S H Street	03S02E16C1	Monitoring	--	--
12	Angler's Ranch Water Co	app. 130 ft west of Mcleod Street & app. 240 ft north of 3rd Street	03S02E9N	Domestic	--	--
13	USGS ²	app. 90 ft north of 4th Street & 120 ft west of Wood Street	03S02E9P1	Monitoring	--	--
14	USGS ²	app. 280 ft west of S Livermore Avenue & app. 70 ft south of Palm Avenue	03S02E16B1	Monitoring	--	--
15	USGS ²	app. 230 ft north of 1st Street & app. 470 ft east of Old 1st Street	03S02E9L1	Monitoring	--	--
16	California Water Service Co.	app. 230 ft north of 1st Street & app. 470 ft east of Old 1st Street	03S02E9L1	Municipal	--	--
UTL	Mrs. Eric Rasmussen	East Avenue	03S02E16A8	Domestic	1957	--

Notes

ft = feet

USGS = United States Geological Survey

UTL = Unable to locate

Well data in this table obtained from available files at the DWR on March 26, 2004, Zone 7 Water Agency records, and Environmental Data Resources records.

¹⁾ Well location numbers correspond to Figure 1.

¹ No longer exists-status of well is unknown

² Well location coincides with California Water Service Co. well location and may be California Water Service Co. well that was monitored by USGS

Table 3
 Door-to-Door Well Search Results
 Schwieckert Property
 515 South Livermore Avenue
 Livermore, California

Address	Response	Land Use	Remarks	Response to Letter (Yes/No)
587 South H Street	no answer	residential	left letter	No
588 South H Street	no answer	residential	left letter	No
2358 6th Street	no answer	residential	left letter	No
2342 6th Street	no answer	residential	left letter	Yes-no well
2355 6th Street	no wells	residential		
2387 6th Street	no answer	residential	left letter	Yes-don't know
613 South H Street	no answer	residential	same house as 2387 6th St. (same parcel)	No
621 South H Street	no wells	residential		
641 South H Street	no answer	residential	left letter	No
672 South H Street	no answer	residential	left letter	Yes-no well
2430 6th Street	no answer	residential	left letter	No
2452 6th Street	no answer	residential	left letter	No
585 South Livermore Avenue	no answer	residential	same house as 2452 6th St. (same parcel)	No
563 South Livermore Avenue	no wells	residential		
543 South Livermore Avenue	no answer	residential	left letter	Yes-no well
515 South Livermore Avenue	no wells	residential	the site	
508 South Livermore Avenue	no answer	residential	left letter	No
524 South Livermore Avenue	no wells	residential	reportedly had 85-foot well-status unknown	
558 South Livermore Avenue	no wells	residential		
560 South Livermore Avenue	no wells	residential		

Table 3
 Door-to-Door Well Search Results
 Schwieckert Property
 515 South Livermore Avenue
 Livermore, California

Address	Response	Land Use	Remarks	Response to Letter (Yes/No)
2520 6th Street	no wells	residential		
2552 6th Street	no wells	residential	on same parcel as 2520 6th St.	
2536 6th Street	no answer	residential	left letter	Yes-no well
597 McLeod Street	no wells	residential		
585 McLeod Street	no answer	residential	left letter	No
575 McLeod Street	no wells	residential		
561 and 563 McLeod Street	no answer	residential	left letter	No
2593 East Avenue	no answer	residential	left letter	Yes-no well
2545 East Avenue	no answer	commerical	left letter (dentist office)	Yes-no well
2557 East Avenue	no answer	residential	left letter	No
614 South Livermore Avenue	no answer	residential	left letter	No
476 South Livermore Avenue	no answer	apartment	left letter	No
474 South Livermore Avenue	no answer	apartment	left letter	No
468 South Livermore Avenue	no answer	apartment	left letter	No
466 South Livermore Avenue	no answer	apartment	left letter	No
460 South Livermore Avenue	no answer	apartment	left letter	No
458 South Livermore Avenue	no wells	apartment		
454 South Livermore Avenue	no answer	apartment	left letter	No
2418 East Avenue	no answer	commerical	left letter (dentist office)	No
2417 4th Street	no wells	residential		

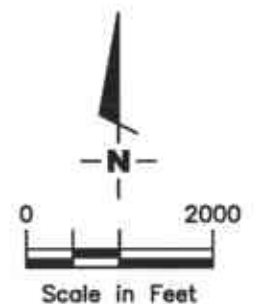
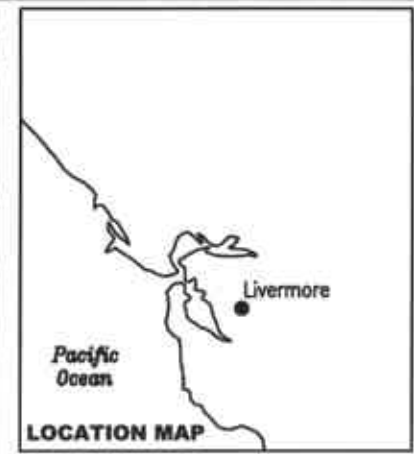
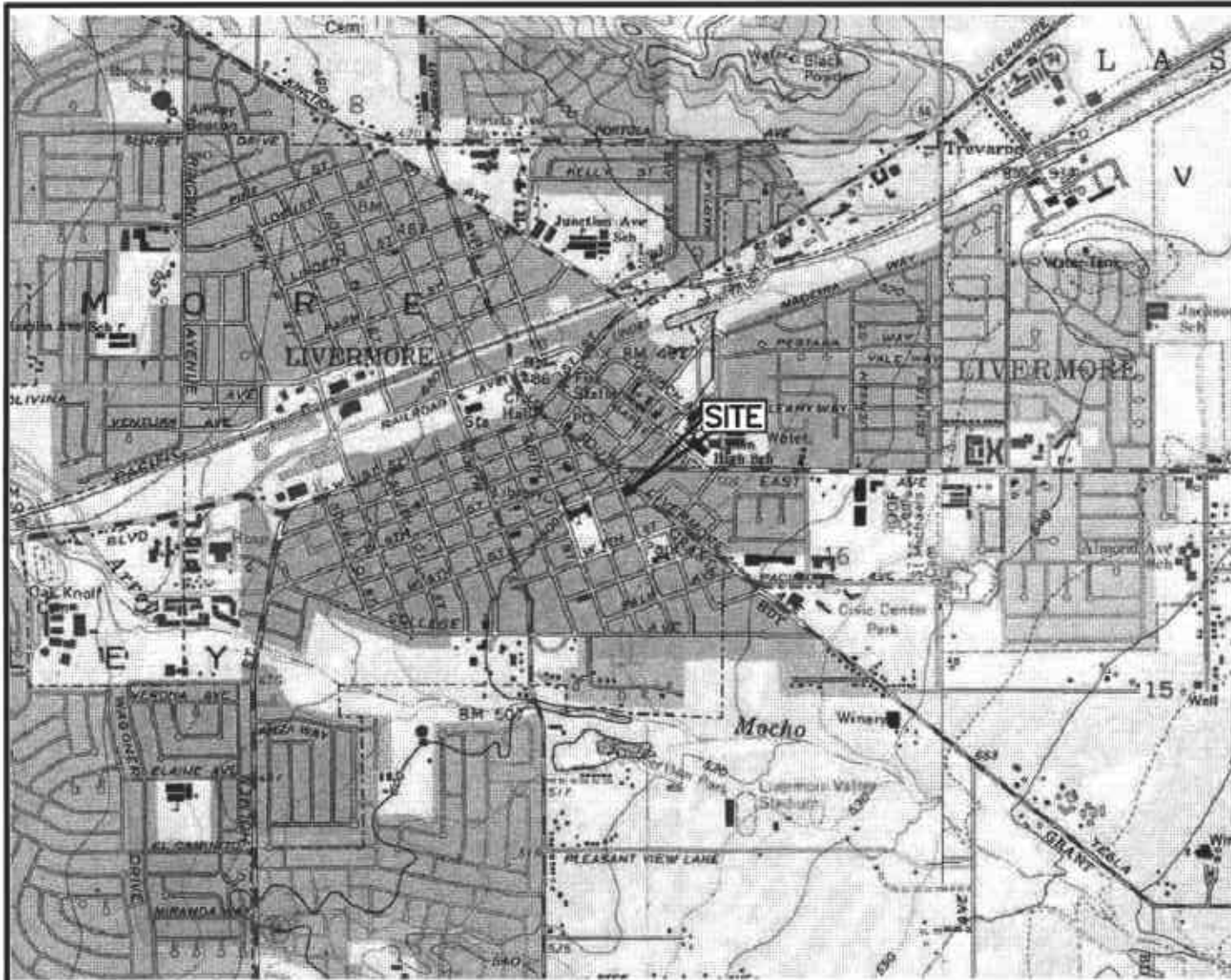
Table 3
 Door-to-Door Well Search Results
 Schwieckert Property
 515 South Livermore Avenue
 Livermore, California

Address	Response	Land Use	Remarks	Response to Letter (Yes/No)
2391 5th Street	no answer	residential	left letter	Yes-no well
2359 5th Street	no answer	residential	left letter	Yes-no well
2343 5th Street	no answer	residential	left letter	No
2327 5th Street	no answer	residential	left letter	No
2311 #1-5 5th Street	no answer	apartments	left letter	No
482 South I Street	no answer	residential	left letter	No
2317 4th Street	no answer	residential	left letter	No
2331 4th Street	no answer	residential	left letter	Yes-no well
2345 4th Street	no answer	residential	left letter	No
2361 4th Street	no wells	residential		
385 South Livermore Avenue	no wells	commerical	Stovepipe Deli and Sushi	No
421 South Livermore Avenue	no answer	residential	left letter	No
485 South H Street	no answer	residential	left letter	Yes-no well
2356 5th Street	no wells	residential		
2340 5th Street	no wells	residential		
2324 5th Street	no answer	residential	left letter	Yes-no well
540 South I Street	no wells	residential		
556 South I Street	no answer	residential	left letter	No
2314 6th Street	no answer	residential	left letter	No
2317 6th Street	no answer	residential	left letter	Yes-had well-status unknown
559 South H Street	no answer	residential	left letter	No

Table 3
Door-to-Door Well Search Results
Schwieckert Property
515 South Livermore Avenue
Livermore, California

Address	Response	Land Use	Remarks	Response to Letter (Yes/No)
2439 4th Street	no answer	residential	left letter	No
2455 4th Street	no wells	residential		
2475 4th Street	no wells	residential		
2493 4th Street	no answer	residential	left letter-abandoned house	No
447 Mcleod Street	no answer	residential	left letter	No
461 Mcleod Street	no wells	residential		
481 Mcleod Street	no answer	residential	left letter	No
489 Mcleod Street	no wells	residential	two parcel with same address and owner	No
392 South Livermore Avenue	no wells	commerical		
2553 6th Street	no wells	residential		
2417 6th Street	no answer	residential	left letter	No
2433 6th Street	no answer	residential	left letter	Yes-no wells
2449 6th Street	no answer	residential	left letter	No
2463 6th Street	no wells	residential		
609 South Livermore Avenue	no wells	residential		
645 South Livermore Ave	no wells	residential		

Door to Door search conducted April 6, 2004



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM

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VICINITY MAP
 Marie Schweickert Property
 515 South Livermore Avenue
 Livermore, California

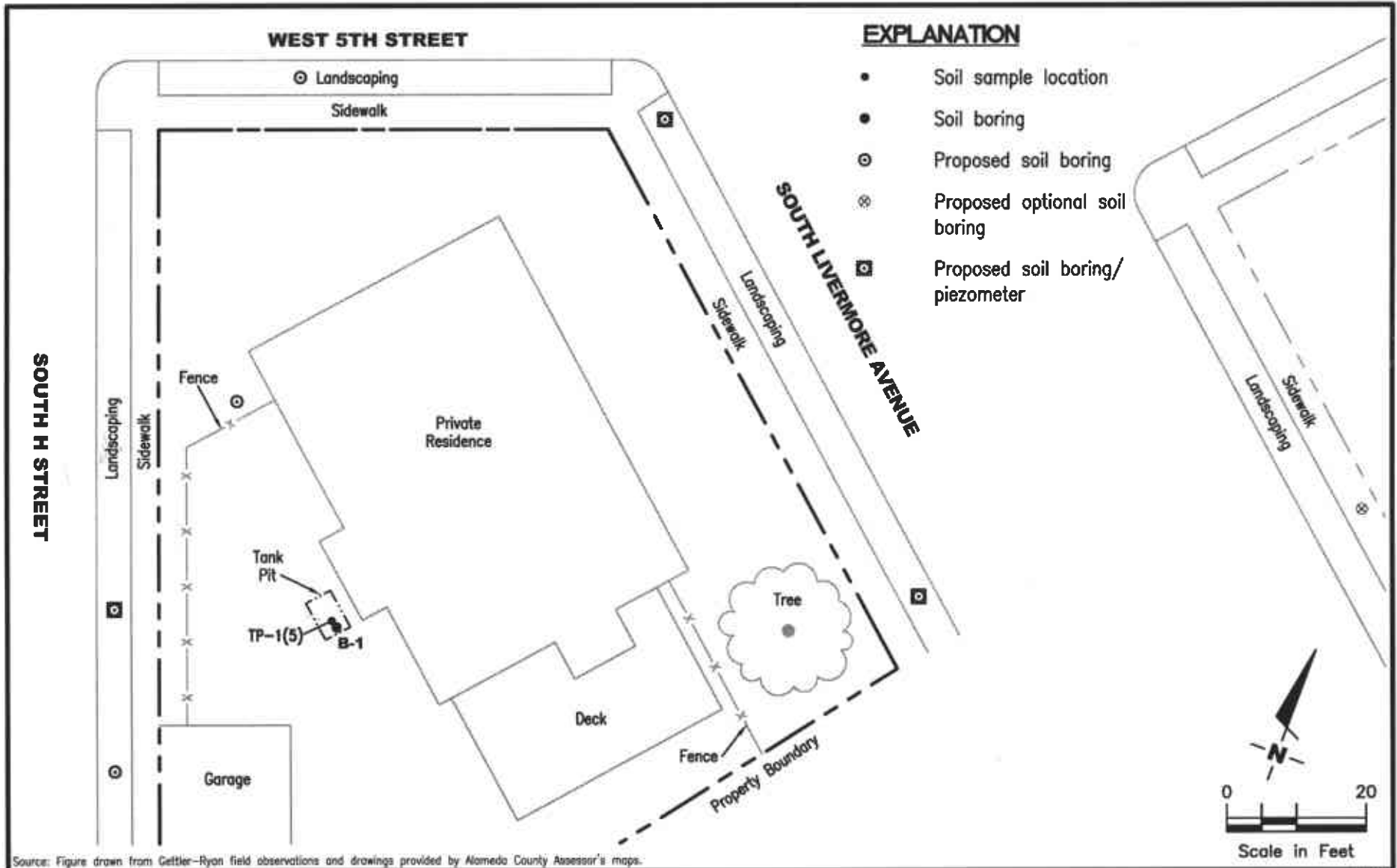
FIGURE
1

PROJECT NUMBER
948209

REVIEWED BY

DATE
11/03

REVISED DATE



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SITE PLAN

Marie Schweickert Property
515 South Livermore Avenue
Livermore, California

FIGURE

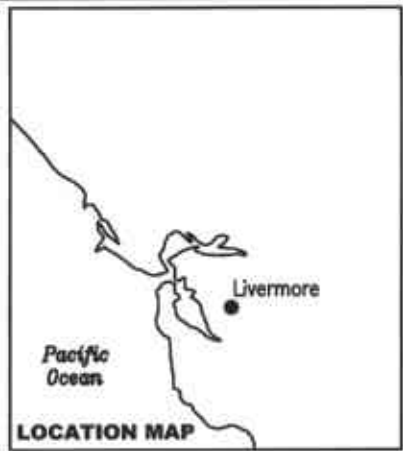
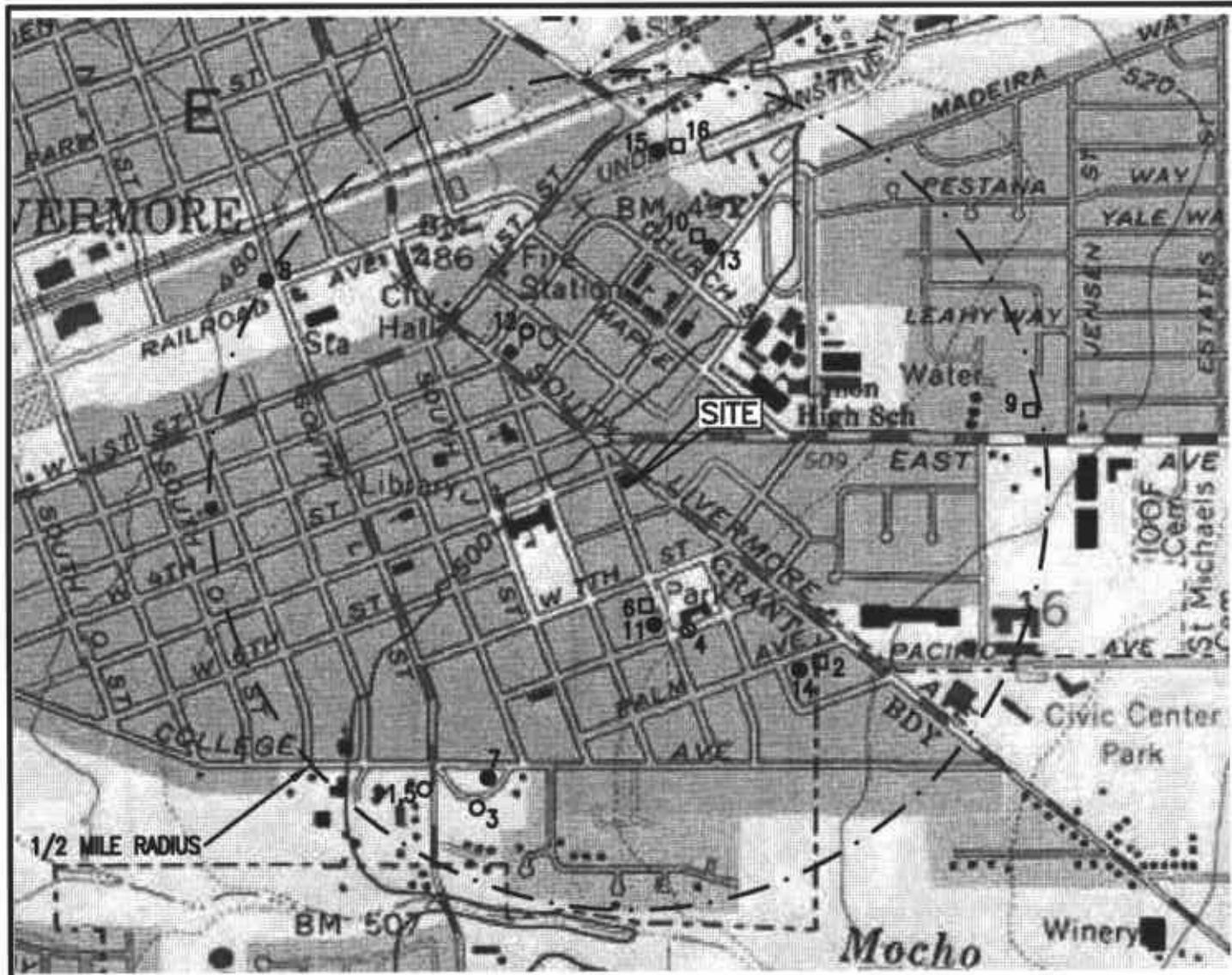
2

PROJECT NUMBER
948209.3

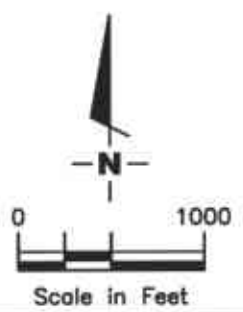
REVIEWED BY

DATE
4/04

REVISED DATE



- EXPLANATION**
- 1 Well number (See Table 1)
 - Municipal well
 - Domestic well
 - Monitoring well
 - ⊙ Active cathodic protection well



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

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WELL SEARCH MAP - 1/2 MILE RADIUS
 Marie Schweickert Property
 515 South Livermore Avenue
 Livermore, California

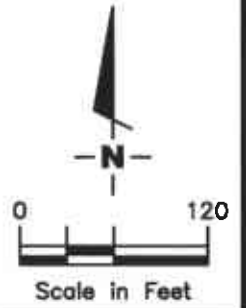
FIGURE
3

PROJECT NUMBER 948209.3 REVIEWED BY DATE 4/04 REVISED DATE

FILE NAME: P:\ENVIRO\MARIE SCHWEICKERT PROPERTY\VC-MARIE SCHWEICKERT.DWG | Layout Tab: Well Search 4-04



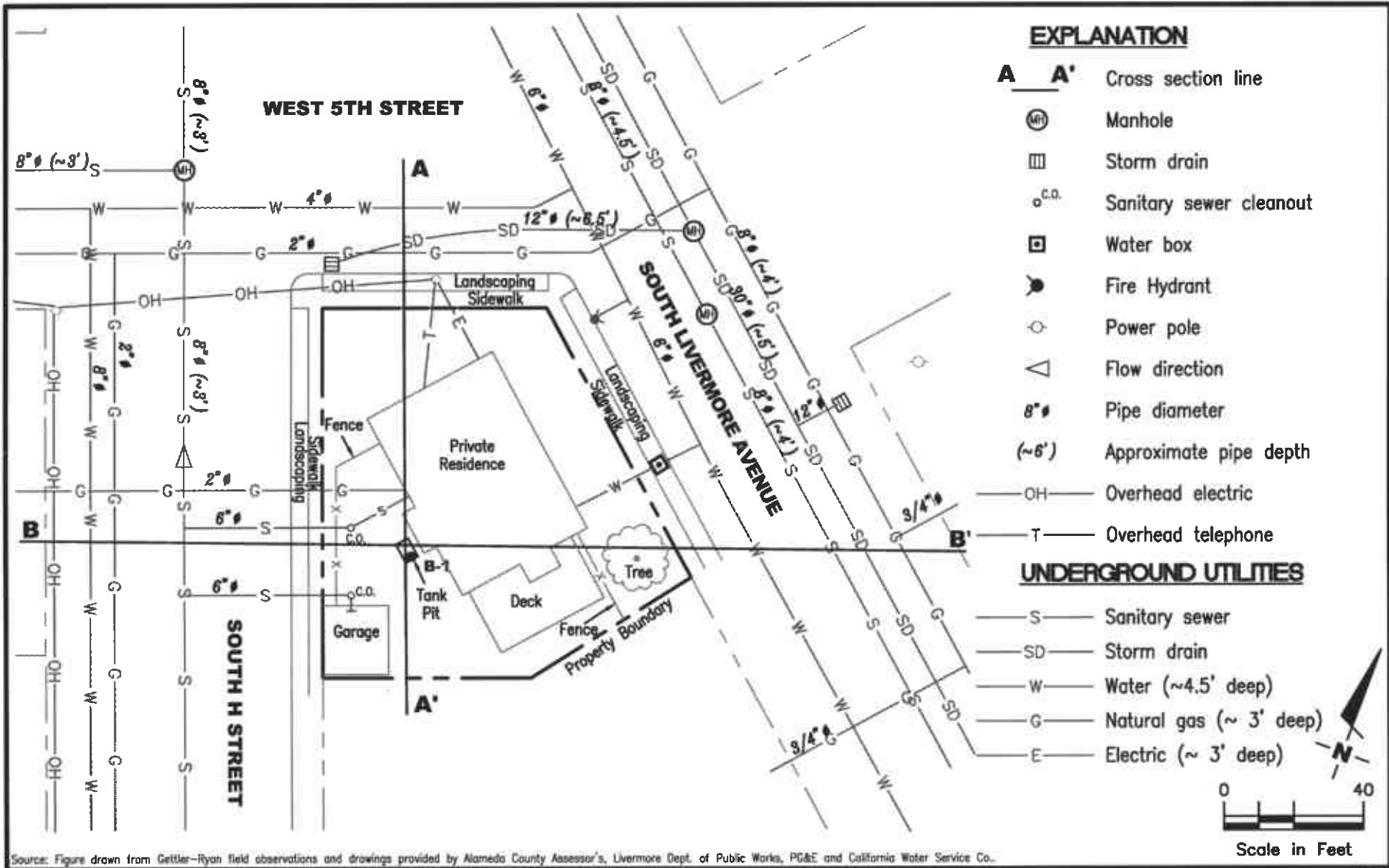
- EXPLANATION**
- 1 Well number (See Table 2)
 - Municipal well
 - Destroyed municipal well
 - ◇ Industrial well
 - △ Irrigation well
 - ▲ Destroyed irrigation well
 - Domestic well
 - Public well
 - ▲ Test well
 - Monitoring well
 - Extraction well
 - Active monitoring well
 - Destroyed monitoring well
 - ⊕ Active water producing well
 - ⊖ Destroyed water producing well
 - ⊙ Active cathodic protection well
 - XXXX Parcel address number



Source: Figure modified from drawing provided by Alameda County Office of Assessor.

WELL SEARCH MAP - 500 FOOT RADIUS
 Marie Schwickert Residence
 515 South Livermore Avenue
 Livermore, California

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Source: Figure drawn from Gettler-Ryan field observations and drawings provided by Alameda County Assessor's, Livermore Dept. of Public Works, PG&E and California Water Service Co.

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SUBSURFACE UTILITY MAP
 Marie Schweickert Property
 515 South Livermore Avenue
 Livermore, California

FIGURE
5

PROJECT NUMBER
948209.3

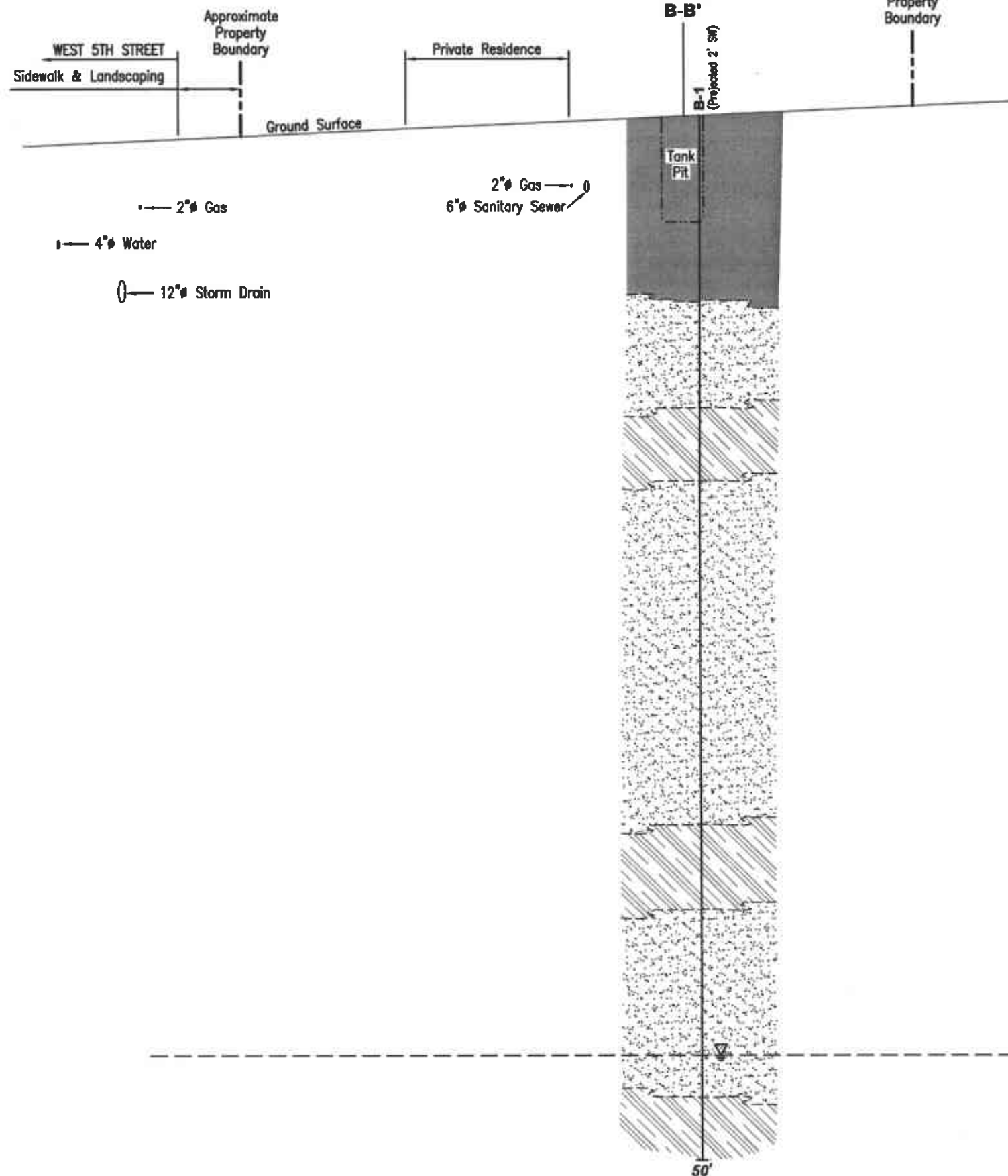
REVIEWED BY

DATE
4/04

REVISED DATE

NW
A

ELEVATION REFERENCED TO MEAN SEA LEVEL



SE
A'

DEPTH BELOW GROUND SURFACE REFERENCED TO B-1

EXPLANATION

- Boring
- 50' Depth to bottom of boring
- Groundwater level encountered during drilling (11/21/03)
- fill material
- Sand with gravel
- Silt and clay

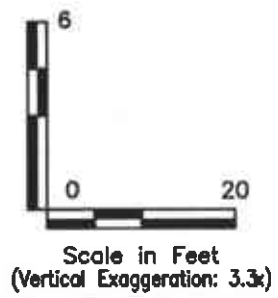
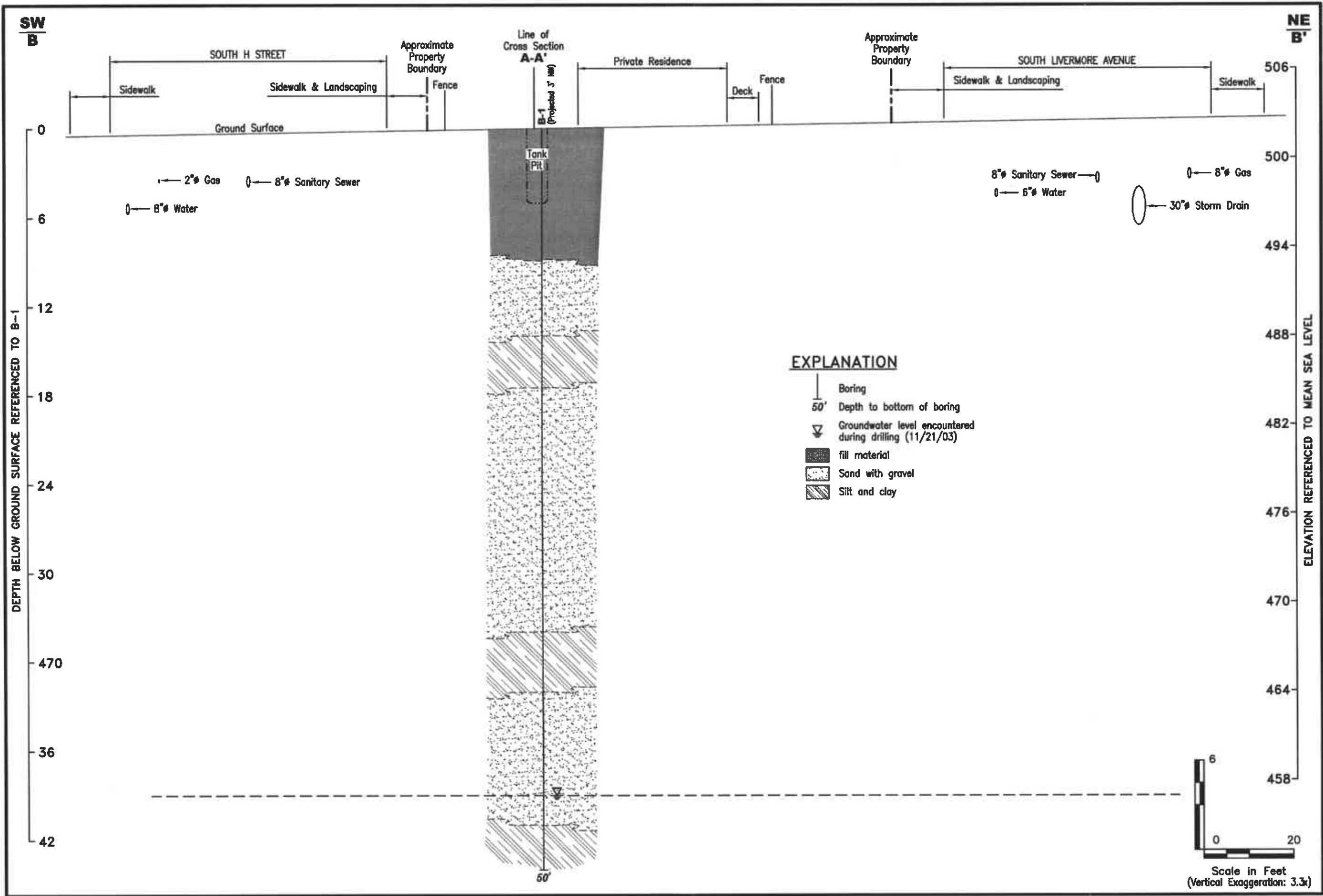


FIGURE
6

CROSS SECTION A-A'
 Marie Schweickert Property
 515 South Livermore Avenue
 Livermore, California

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PROJECT NUMBER: 948209.3
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 DATE: 04/04
 REVISOR: [blank]
 REVIEWED BY: [blank]
 REVISION DATE: [blank]



CROSS SECTION B-B'
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