

BASELINE

ENVIRONMENTAL CONSULTING

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PROTECTION
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TRANSMITTAL

address
TO: Ms. Helen Loreto
McDonald's Corporation
2527 Camino Ramon, Suite 300
San Ramon, CA 94583

Date: 10 November 1998

Project No: 98381

SUBJECT: Work Plan for Environmental Investigation, 6623 San Pablo Avenue, Oakland, California

ENCLOSED:

No. of copies	Description:
2	Reports

COMMENTS:

cc: Ann E. Johnston, COBLENTZ, PATCH, DUFFY, & BASS, LLP
(w/1 enclosure)
Tom Peacock, Alameda County Environmental Health Dept.
(w/1 enclosure)

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Yane Nordhav
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ENVIRONMENTAL CONSULTING

9 November 1998
98381-00

STIP
6627

Ms. Helen Loreto
McDonald's Corporation
2527 Camino Ramon, Suite 300
San Ramon, CA 94583

Subject: Work Plan for Environmental Investigation, 6623 San Pablo Avenue, Oakland, California

Dear Ms. Loreto:

At your request, BASELINE has prepared this work plan for additional environmental investigation at 6623 San Pablo Avenue in Oakland (Figure 1). Soil and groundwater samples, collected during previous investigations at the project site, have been found to contain elevated levels of total petroleum hydrocarbons (TPH) as gasoline and diesel and volatile aromatic hydrocarbons. The purpose of the proposed additional investigation would be to further define the extent of petroleum hydrocarbon compounds in the subsurface. This work plan provides information on the history of the site and describes a field soil and groundwater sampling program that would achieve this objective.

Background

Historical Land Uses

Historical land uses at the project site were determined by reviewing previous investigation reports, Sanborn Fire Insurance Maps from 1903, 1911, 1950, 1952, 1967, and 1969, and historical aerial photographs from 1939, 1948, 1968, 1974, and 1989. In 1903 and 1911, the project site and vicinity were residential areas. A residence was present in the center of the project site; adjoining parcels were vacant. By 1939 a mattress factory had been constructed in the northern portion of the project site, north of the residence. No changes were noted on-site in the 1950 and 1952 Sanborn Maps.

The mattress factory was removed between 1952 and 1962. Around 1962, a gasoline station was constructed at the mattress factory location. The gasoline station and residence were present on the site until around 1978, when a permit for demolition was issued. The present restaurant building was constructed on the site at that time. There are no records available regarding the final disposition of fuel tanks from the former gasoline station. No changes in land use at the project site were noted following 1978.

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Off-site Land Uses

An environmental database report was reviewed to determine if reported releases of hazardous materials could potentially have affected subsurface quality at the project site.

The **UC Marchant Building**, immediately north of the site at 6701 San Pablo Avenue, was listed on the State Cortese list of known and suspected hazardous materials sites as having had a leaking underground storage tank. No record of this leaking underground tank was identified in Regional Water Quality Control Board (RWQCB) databases or files; it is possible that this case was closed prior to 1989, when the current RWQCB Leaking Underground Storage Tank Information System (LUSTIS) was implemented.

Meyers Drum, immediately south of the project site at 6549 San Pablo Avenue, is listed on the Cortese list and the California Department of Toxic Substances Control (DTSC) AWP list of hazardous substance sites targeted for cleanup. Files for the Meyers Drum site were reviewed at DTSC. Due to poor drum recycling practices at the facility, there have been periodic releases of hazardous wastes at the site. Soils at the site are contaminated with heavy metals (lead, zinc, and arsenic), volatile organic compounds (toluene, xylene, and propanol), semi-volatile organic compounds (naphthalene and phenol), and total petroleum hydrocarbons. Thirteen groundwater monitoring wells have been installed at this site to determine impact on groundwater. The most recent quarterly groundwater monitoring report available from DTSC (October 1993) identified a number of volatile organic compounds and chlorinated herbicides in groundwater. During that sampling event, groundwater was measured in the wells at 7.37 to 15.76 feet below ground surface (bgs); groundwater flow direction was to the west.

A remedial action work plan was approved in 1996, which proposed building demolition, "hot spot" soil removal, site capping, and installation of a groundwater pump and treat system. According to the DTSC caseworker, the remedial action work plan has not yet been implemented.¹

A.A. Johnson and Son, at 1164 66th Street, southwest of the project site, reported a release of gasoline from an underground storage tank in 1991. In addition, approximately 40 gallons of diesel was spilled at this site in 1991. Both releases were determined to have affected soil only; therefore, releases from this site would not have the potential to affect the project site.

No other releases of hazardous materials were reported within one-eighth mile of the project site. All of the above sites within one-eighth mile are hydraulically down- or cross-gradient from the project site, and would therefore be unlikely to affect the project site. The nearest reported releases of hazardous materials located hydraulically upgradient from the project site

¹ Alan Lui, 1998, DTSC, personal communication with Todd Taylor of BASELINE, 31 July.

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is approximately one-half mile from the project site; due to the distance, this upgradient site is unlikely to have affected subsurface conditions at the project site.

A gasoline underground storage tank and fuel dispenser are located approximately 50 feet west of the site, at the **St. Francis Pie Company**, 1125 67th Street (Figure 2). This underground storage tank did not appear on the State Water Resources Quality Control Board databases of registered underground storage tanks. No unauthorized releases from this tank were noted in the environmental database report. Although this tank is hydraulically downgradient from the project site, due to its proximity, releases of gasoline from this tank, if they have occurred, could have the potential to affect subsurface conditions at the project site.

Previous Investigations at the Project Site

In ~~September~~ 1996, a geotechnical investigation² (which included limited environmental sampling) was conducted by Kleinfelder, Inc. in preparation for construction of a new building at the site. Four environmental soil samples were collected from four borings (KB-1 through KB-4)³ in the northern portion of the site (Figure 2) and submitted for analysis of total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, TPH as motor oil, benzene, toluene, ethylbenzene, and xylenes (BTEX). The samples were collected from depths ranging from 7.0 feet to 10.5 feet bgs. Each of the samples contained petroleum hydrocarbons above laboratory reporting limits. Soil sample KB-1 contained the highest level of petroleum hydrocarbons including TPH as gasoline (up to 4,600 mg/kg) TPH as diesel (up to 1,000 mg/kg), benzene (up to 13 mg/kg), toluene (up to 27 mg/kg), ethylbenzene (up to 49 mg/kg), and xylenes (up to 230 mg/kg). Total lead concentrations were not quantified for any of the samples collected. The analytical results are summarized in Table 1. Groundwater was not encountered in borings KB-1 through KB-4.

This not been built as of 12/98 per Jane Wardh Baseline

In February 1997, Kleinfelder conducted a subsequent soil and groundwater investigation⁴ to further characterize the extent of petroleum hydrocarbon contamination at the site. Five additional borings (KB-8 through KB-12) were installed in the northern portion of the site (Figure 2). Two soils samples were collected from each boring and submitted to a laboratory for analysis. Of the five borings installed, only the samples collected from the KB-11 location did not contain petroleum hydrocarbons above laboratory reporting limits. At least one sample collected from each of the other borings contained elevated levels of petroleum hydrocarbons.

² Kleinfelder, Inc., 1996, *Geotechnical Investigation Report, Proposed McDonald's Store in Oakland, California*, 1 November.

³ The nomenclature for the borings varies in the Kleinfelder reports. For example sometimes a boring is referred to as B-1 and other times KB-1. For clarity, we refer to all borings as KB-1, KB-2, etc.).

⁴ Kleinfelder, Inc., 1997, *Environmental Investigation Report, San Pablo Avenue, Oakland, California*, 17 March.

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None of the deeper soil samples (collected from approximately 15 feet bgs) contained petroleum hydrocarbons above laboratory reporting levels. The analytical results are summarized in Table 1. Five of the ten samples were analyzed for total lead and found to contain concentrations below 10 mg/kg.

Grab groundwater samples were collected from the boreholes through the hollow-stem augers on the drilling rig at borings KB-8 through KB-12 using disposable bailers. Each of the water samples contained petroleum hydrocarbons above laboratory reporting levels. The analytical results are summarized in Table 2.

U.S. Environmental Protection Agency Preliminary Remediation Goals (PRGs)⁵ have been established for several of the contaminants detected in the subsurface at the site for residential and industrial uses. Of these, only benzene has been identified in on-site soils at concentrations exceeding PRGs.

On 17 July 1998, a geophysical survey of the northern portion of the site was conducted by BASELINE to determine whether underground fuel storage associated with the former gasoline station remain in the subsurface. The geophysical survey report is included as Attachment A. A magnetometer, metal detector, and a ground penetrating radar (GPR) unit were used to attempt to identify underground metallic objects at the site. The magnetometer identified a magnetic anomaly, indicating a metal object or objects buried within an 8- by 5-foot area, underneath the former gasoline station building (Figure 2). The metal detectors confirmed the presence of the anomaly; the instrument response was relatively weak, which is not typically associated with USTs, rather this type of reading typically indicates a small amount of scattered metallic debris. The GPR did not identify any buried metal objects near the anomaly, indicating that the metal objects causing the anomaly may be buried deeper than the 2- to 3-foot detection limit of the GPR unit. Although the results of the survey did not conclusively confirm the presence of an underground tank, the location of the anomaly, beneath the former gasoline station and near boring location KB-1, the location with highest concentrations of TPH and BTEX on the site, suggests that an underground storage tank may potential remain at the site.

Subsurface Conditions

The geologic logs provided in the Kleinfelder report⁶ provide a basis for interpreting the geologic conditions underlying the site. The existing asphalt pavement is underlain by approximately 12 inches of aggregate base rock. Underlying the base rock is approximately

⁵ U.S. Environmental Protection Agency, 1998, *Region 9 Preliminary Remediation Goals (PRGs) 1998*.

⁶ Kleinfelder, Inc., 1996, op. cit.

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6.5 to 15 feet of silty clay fill material (some debris was identified in the fill). The fill is underlain by interbedded silty sandy clays and clayey sands to the total depth explored (31.5 feet bgs).

Groundwater was not encountered in borings KB-1 through KB-4, which were installed to a maximum depth of 16.5 feet bgs. Borings KB-8 through KB-11, which were installed in the vicinity of the former gasoline station, were drilled until first groundwater was encountered to allow collection of grab water samples. According to Kleinfelder, "groundwater was first encountered at depths ranging from 22.5 to 33.5 feet bgs and then rose quickly inside the drilling rods."⁷ This indicates that groundwater at the site (at least in the vicinity of the former gasoline station) may occur under confined conditions. Under confined conditions, the upper water table surface is not free to move up and down, but is restricted, typically by a low-permeability layer (silt or clay). Review of files from the Meyers Drum site, adjacent to the project site, indicates that, absent the confining low-permeability layer, groundwater is present at approximately 8 to 15 feet bgs.

Since groundwater was reported to be first encountered at depths below 22.5 feet bgs, it is possible that when the confined aquifer was penetrated by drilling, uncontaminated water rose up into the boreholes, coming into contact with contaminated soils above.⁸ The grab samples collected from the open borehole may have been turbid (the clarity of the samples collected was not reported), increasing the possibility that the grab water samples analyzed actually reflect the quality of shallow soils.

Work Plan

BASELINE recommends that additional site characterization be completed to 1) further define the horizontal and vertical extent of soil contamination in the former gasoline station vicinity, and 2) determine whether groundwater quality has been impacted. In addition, we recommend installation of two soil borings to investigate the magnetic anomaly identified during the geophysical survey. The borings would be installed in the vicinity of the magnetic anomaly to determine if an underground storage tank were present beneath the former location of the gasoline station building.

We propose the following scope of work:

⁷ Kleinfelder, Inc., 1997, op cit., page 3.

⁸ Typically the joints between hollow-stem auger sections are not watertight. Water rising up into the borehole could come into contact with residual soils adhering to the inside of the augers and/or surrounding soils outside the augers through the joints. Further, the augers may have "dragged down" soil contamination during drilling.

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- Install three monitoring wells in the approximate locations shown on Figure 2. The borings would be advanced using a direct-push rig and 2.5-inch casing. The direct-push system uses a smooth outer-walled sealed conductor casing that would prevent excessive "drag-down" of contaminated soils. When the confined aquifer is penetrated, water would rise into the sealed casing and be isolated from the shallower contaminated soils. Each boring would be logged (continuous) in accordance with the Unified Soil Classification system. Up to three soil samples would be collected for analysis at each location, depending on field conditions encountered. All drilling equipment and samplers would be decontaminated between borings by steam-cleaning or washing with trisodium phosphate and rinsed with deionized water.

Each soil sample would be labeled, sealed with teflon film, plastic caps, and silicone tape. All samples would be stored in a cooled container and transported under chain-of-custody procedures to a state-certified analytical laboratory. Each sample would be analyzed for TPH as gasoline, TPH as diesel, and BTEX. In addition, select soil samples would be analyzed for total organic carbon, moisture content, and bulk density to support analysis of potential residual health risks using the Risk-Based Corrective Action (RBCA) protocol.

MTBE
↑

- The wells would be constructed with 3/4-inch PVC casing and screen (0.010 slot). The screen would be wrapped with a pre-fabricated filter pack. The location of the screened interval would depend on field conditions, but would be installed to account for shallow groundwater fluctuations, and would not exceed ten feet in length. The upper five feet of the boring would be hand-augered (six inches in diameter) to allow for utility clearance and installation of a sanitary seal. All work associated with the well installation would be supervised by a Registered Geologist. The top of casing of the new monitoring wells would be surveyed by a licensed surveyor to determine elevations to within 0.01 feet. Not sooner than 48 hours after completion, the wells would be developed by surging and pumping until relatively clear water was produced.
- Install two exploratory borings in the vicinity of the magnetic anomaly to determine whether a UST remains in that location. The borings would be installed to a depth of ten feet. If an obstruction (i.e., steel tank) is encountered, additional recommendations would be provided regarding UST removal. Soil samples would not be collected from these borings. The borings would be sealed with cement grout.
- One groundwater sample would be collected from the newly installed wells each quarter for one year. Prior to sampling, groundwater levels would be measured (and the presence or absence of floating product determined, and if present the thickness measured) in each of the new wells using a dual-interface probe. The wells would be purged until physical parameters measured in the field (pH, EC, and temperature) had stabilized. Samples

(5 to 2" max)

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would then be collected directly from the flowing purge water⁹ in glassware provided by the laboratory.

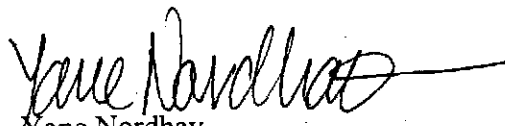
- All excess soil cores and wastewater (decontamination, development, and purge water) would be contained in sealed and labeled drums and left in a secured area on-site pending laboratory analysis.
- Prior to initiation of well installation, appropriate permits would be acquired from the Alameda County Department of Public Health. All on-site activities would be conducted under a site-specific health and safety plan.
- A report would be prepared for submittal to the County and the Regional Water Quality Control Board that summarizes field activities and analytical results and provides recommendations for additional site characterization and/or remediation, as appropriate. In addition, reports would be submitted after each quarterly sampling event.

If you have any question about this work scope, please contact us at your convenience.

Sincerely,



Bruce Abelli-Amen
Hydrogeologist



Yane Nordhav
Principal
Registered Geologist No. 4009

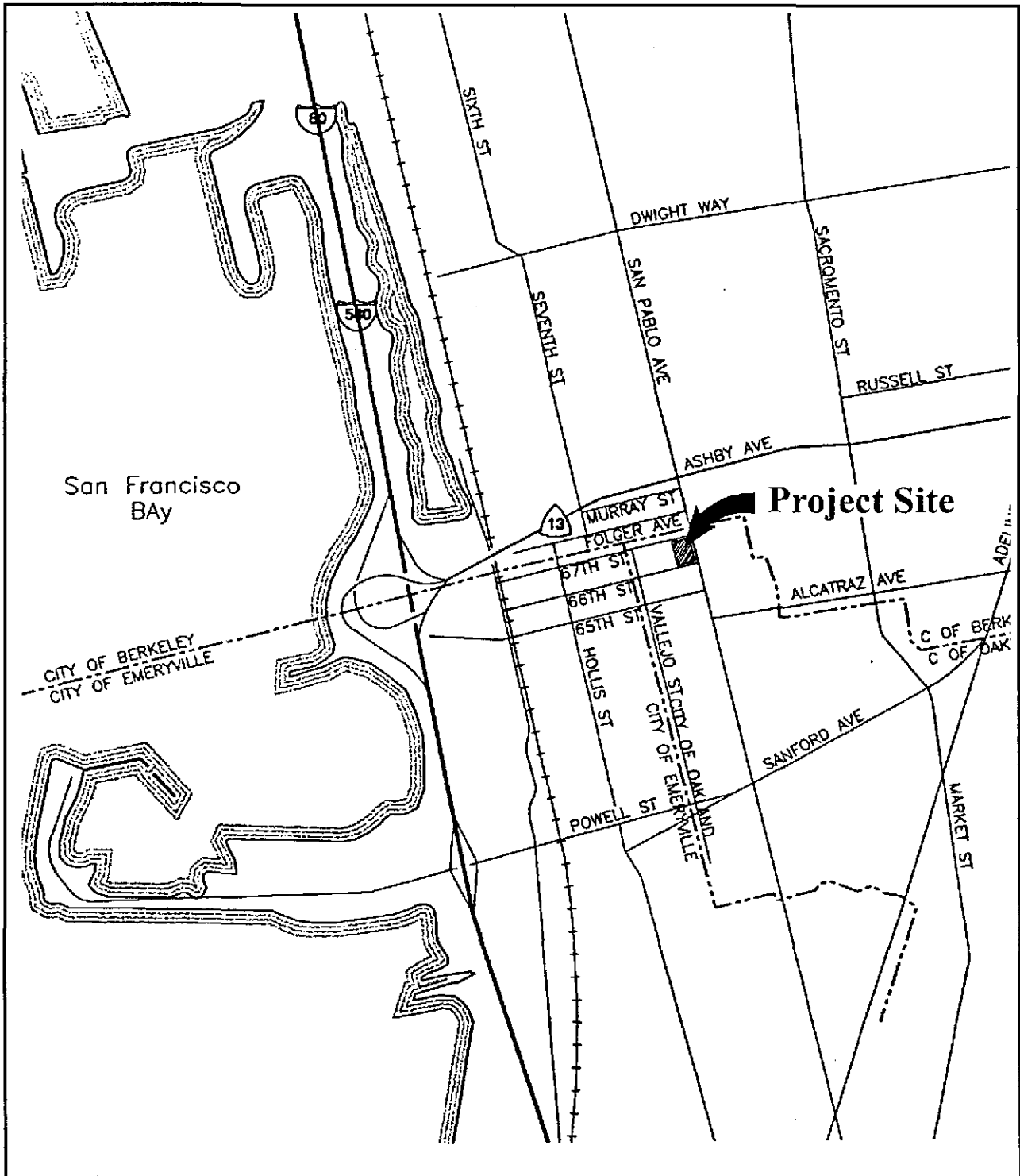
cc: Ms. Ann E. Johnston
COBLENTZ, PATCH, DUFFY, & BASS, LLP
222 Kearny Street, 7th Floor
San Francisco, CA 94108-4510

Mr. Tom Peacock
Alameda County Environmental Health Department
1131 Harbor Bay Parkway
Alameda, CA 94502

⁹ BASELINE uses a peristaltic pump and new disposable tubing on each well. Purge water never comes into contact with the components of the pumping system, only with the disposable tubing, minimizing the potential for cross-contamination between wells.

REGIONAL LOCATION

Figure 1



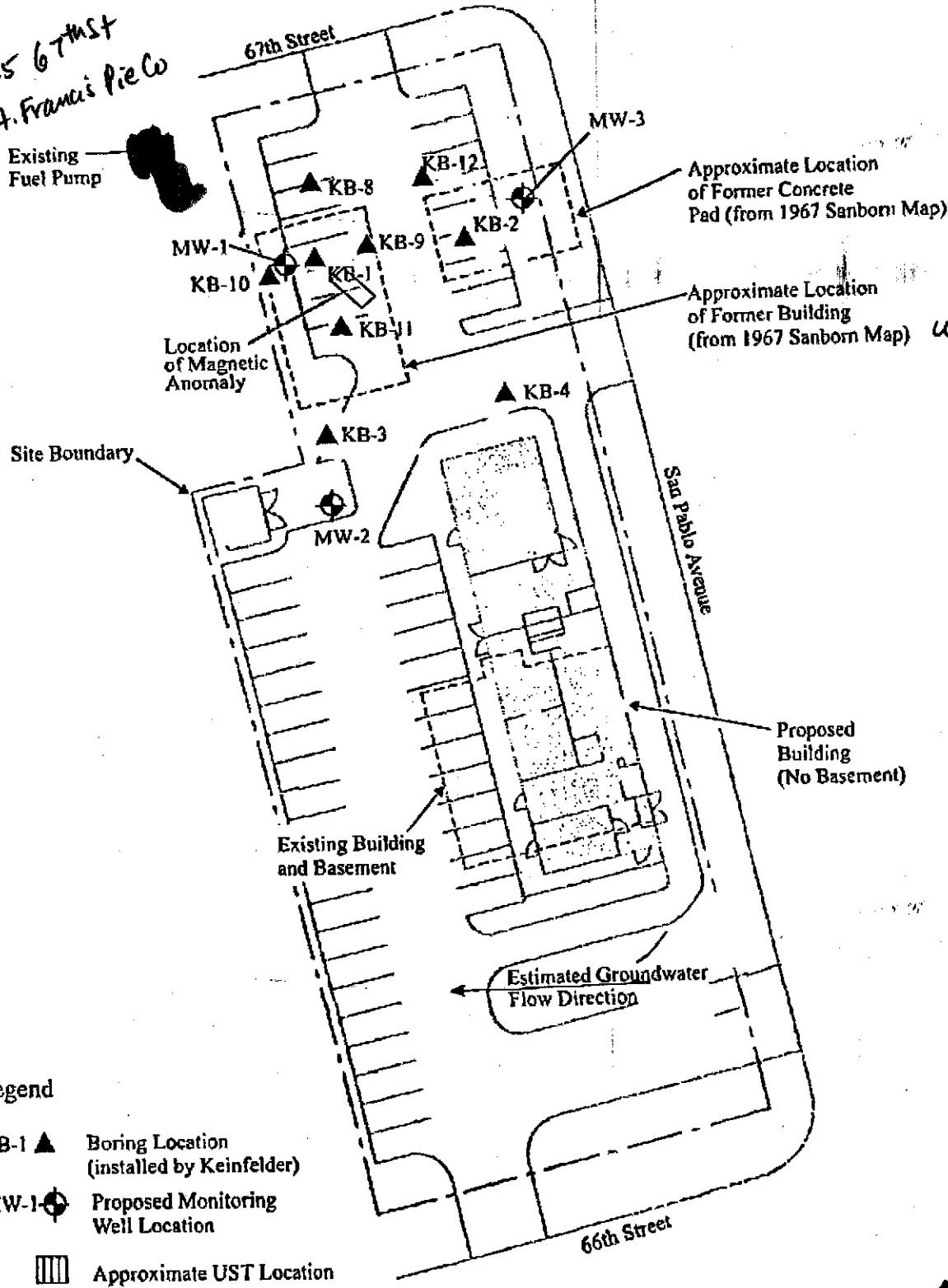
**6623 San Pablo Avenue
Oakland, California**

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SITE PLAN AND PROPOSED GROUNDWATER MONITORING WELL LOCATIONS Figure 2

1725 67th St
St. Francis Pie Co



USTs?

Legend

- KB-1 ▲ Boring Location (installed by Keinfelder)
- MW-1 ⊕ Proposed Monitoring Well Location
- ▤ Approximate UST Location

Source: Kleinfelder, 1997.

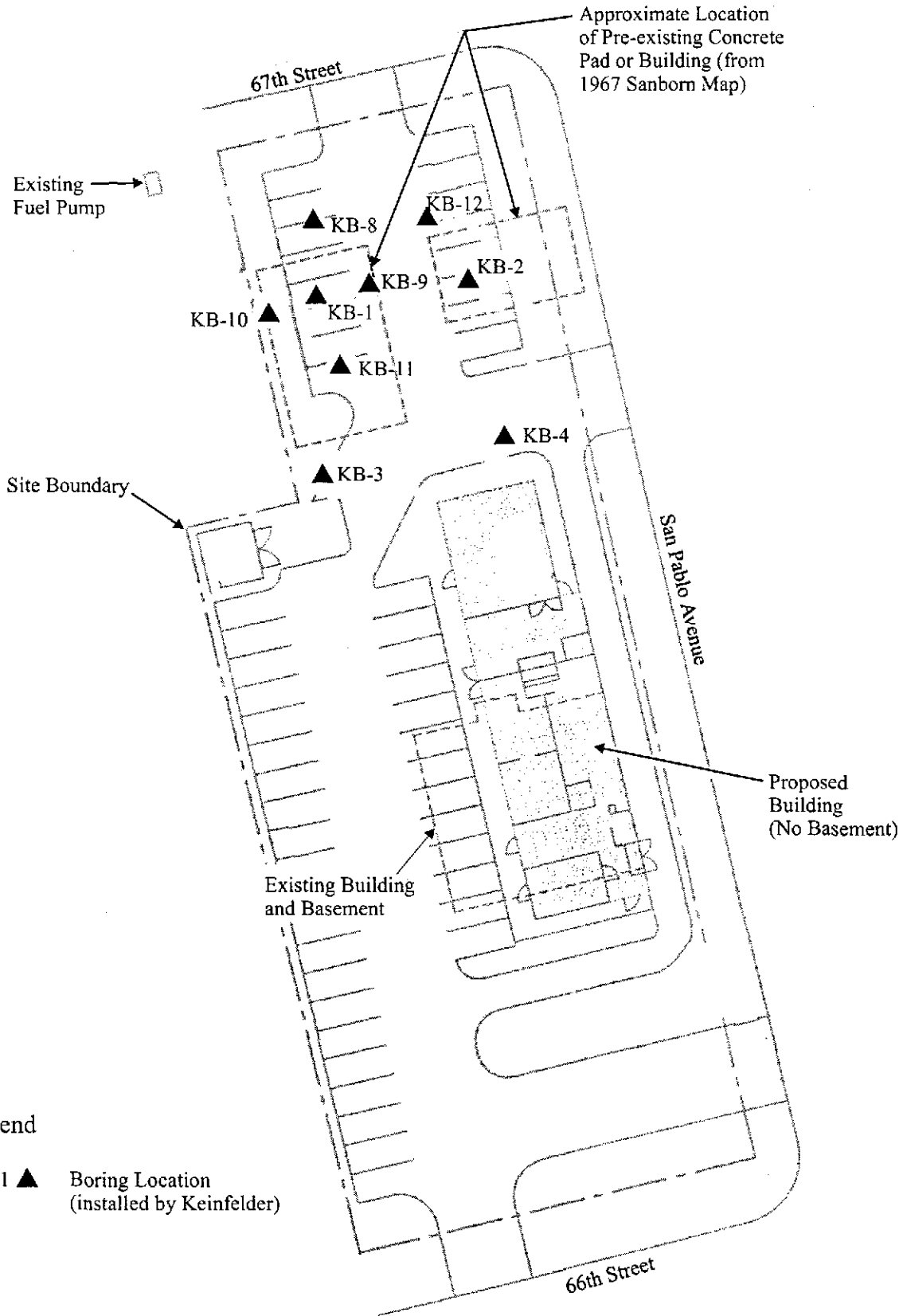
6623 San Pablo Avenue Oakland, California

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SITE PLAN

Figure 2



Legend

KB-1 ▲ Boring Location
(installed by Keinfelder)

Source: Kleinfelder, 1997.

**6623 San Pablo Avenue
Oakland, California**

98381SP.cdr 6/1/98



TABLE 1
SUMMARY OF ANALYTICAL RESULTS, SOIL
6623 San Pablo Avenue, Oakland
(mg/kg)

Sample ID	Sample Depth (feet)	Date	Diesel ¹	Gasoline ¹	Total Lead ²	Benzene ³	Toluene ³	Ethylbenzene ³	Xylenes ³
KB-1	8.5	9/23/96	1,000	4,600	--	13	27	49	230
KB-2	10.5	9/23/96	160	220	--	2.1	0.40	2.1	8.0
KB-3	7.0	9/23/96	160	370	--	0.91	0.87	2.8	6.8
KB-4	10.5	9/23/96	7.3	5.2	--	1.1	0.009	0.31	0.099
KB-8	8-10	2/5/97	6.4	<1.0	5.7	<0.005	<0.005	<0.005	<0.005
KB-8	13-15	2/5/97	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005
KB-9	8.0-8.5	2/5/97	27	380	6.5	<0.5	1.2	3.6	8.9
KB-9	14.0-16.0	2/5/97	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005
KB-10	8.0-9.0	2/5/97	76	1,900	7.4	<0.5	3.8	16	56
KB-10	14.0-16.0	2/5/97	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005
KB-11	8.0-10.0	2/5/97	<1.0	<1.0	4.3	<0.005	<0.005	<0.005	<0.005
KB-11	13.0-15.0	2/5/97	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005
KB-12	8.0-10.0	2/5/97	5	69	5.3	<0.13	<0.13	0.34	0.28
KB-12	13.0-15.0	2/5/97	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005

Notes: <x.x = Compound not detected above laboratory reporting limit of x.x. (e.g. <1.0 indicates that the constituent was not present in the sample above 1.0 mg/kg)
x.x = Compound detected at indicated concentration.
NA = Not applicable.
Soil sampling locations are shown on Figure 2.
Laboratory reports are included in Appendix B.

¹ Analyzed using EPA Method 8015M.

² Analyzed using EPA Method 8020.

³ Analyzed using EPA Method 6010A.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS, WATER
6623 San Pablo Avenue, Oakland
(mg/L)

Sample ID	Date	Diesel ¹	Gasoline ¹	Total Lead ²	Benzene ³	Toluene ³	Ethyl-benzene ³	Xylenes ³
KB-8	2/5/97	0.86	0.12	<0.003	0.0013	<0.0005	0.0021	0.001
KB-9	2/5/97	<0.05	0.47	<0.003	0.0048	<0.0005	0.011	0.0183
KB-10	2/5/97	3.1	0.45	<0.003	0.030	0.0036	0.013	0.071
KB-11	2/5/97	0.97	0.82	<0.003	0.100	0.0022	0.028	0.129
KB-12	2/5/97	0.20	0.096	<0.003	0.020	<0.0005	0.005	0.0122

Notes: <x.x = Compound not detected above laboratory reporting limit of x.x. (e.g. <0.05 indicates that the constituent was not present in the sample above 0.05 mg/L)
x.x = Compound detected at indicated concentration.
NA = Not applicable.
Soil sampling locations are shown on Figure 2.
Laboratory reports are included in Appendix B.

¹ Analyzed using EPA Method 8015M.

² Analyzed using EPA Method 8020.

³ Analyzed using EPA Method 6010A.

ATTACHMENT A
GEOPHYSICAL SURVEY REPORT,



July 30, 1998

Bruce Abelli-Amen
Baseline Environmental Consulting
101 H Street, Suite L
Petaluma, CA 94952

Dear Mr. Abelli-Amen,

This report presents the findings of a geophysical investigation performed by NORCAL Geophysical Consultants, Inc. on portions of the McDonald's Restaurant property located on the 6600 Block of San Pablo Avenue, Oakland, California. Geophysicist David Bissiri conducted the field investigation on July 17, 1998.

SITE DESCRIPTION AND PURPOSE

The site consists of a McDonald's restaurant having two parking lots and a drive-thru lane. The investigation was limited to a portion of the northern parking lot (see Plate 1). The site was previously the location of a gasoline service station. The purpose of the geophysical survey is to use vertical magnetic gradient (VMG), ground penetrating radar (GPR), and electro-magnetic metal-detection techniques to investigate for suspected underground storage tanks (USTs) associated with the former gasoline station.

GEOPHYSICAL METHODS

A Scintrix EnviMag proton precession magnetometer with gradient accessory was used to obtain VMG data. The instrument has a built-in memory that stores the magnetic data and horizontal control survey grid information. All information is down-loaded to a computer for further processing in order to produce a magnetic contour map at appropriate map scales and contour intervals. This map is useful in determining locations of subsurface ferrous objects and debris.

A Fisher TW-6 M-scope (a type of metal detector) was used to delineate shallowly buried metallic objects such as utilities, debris, or USTs. This instrument is useful in more precisely determining the areal extent of shallowly buried metallic features than magnetic methods usually can. However, in contrast to magnetic methods, instrument response for both large cylindrical objects like USTs and large flat objects like buried metal siding debris is similar.

A Geophysical Survey Systems Inc. SIR-2 ground penetrating radar unit with a 500 MHz antenna was used to investigate suspected targets located with the magnetometer or metal-detector. This instrument is often useful in determining relative depth of burial and general shape of objects, however its effectiveness is highly site-dependent.



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FIELD PROCEDURES

A survey grid system was established in portions of the L-shaped parking lot, drive-thru lane and adjoining planters. The baseline for the grid was placed approximately ten feet further south than the southern limit of the suspected area as delineated in the field by Bill Scott of Baseline. This grid was composed of approximately north-south data lines (parallel to San Pablo Ave.) spaced 5-foot apart with data stations also spaced at roughly 5-foot intervals. The grid extended to within approximately five feet of the building and fence along the western property line and had an approximate five foot overlap of the sidewalks along the northern and eastern boundaries.

The Fisher TW-6 M-scope was used for a reconnaissance of all accessible areas of the parking lot, planters, and drive-thru lane. In addition, further characterization of suspicious features identified on the VMG contour map was performed.

RESULTS

The results of the geophysical investigation are shown on Plates 1 and 2. Plate 1 shows the pertinent cultural features, boundaries of the VMG investigation area, a detected metal-detector anomaly, and location of GPR traverses.

Plate 2 is the VMG contour map, which shows numerous zones of localized magnetic VMG variations. These variations are characterized by closely spaced contours forming circular or elliptical enclosures within the investigation area and semi-circular/elliptical enclosures along the boundaries. All but one of these variations are attributed to above ground features such as light standards, menu boards, steel posts, etc. The one magnetic variation that could be considered anomalous is approximately centered at 35 East/70 North, though the relatively low magnitude of this anomaly (only about 300 nT/m) are not those typically associated with USTs.

Investigation with the metal detector of an approximately 20- by 20-foot area surrounding this VMG anomaly indicated the presence of a metallic object or objects buried within a roughly 8- by 5-foot area, approximately centered at 35 East/75 North. Instrument response of the metal detector was relatively weak, typical of a small amount of scattered debris being present. Bidirectional GPR traverses over both the VMG and metal-detector anomaly areas did not indicate the presence of any buried metallic objects. This suggests that the object(s) is probably buried deeper than the 2 to 3 feet detection limits of the GPR encountered at this site.



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STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to characterize the shallow subsurface. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. The services were performed in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate having the opportunity to provide you with this information.

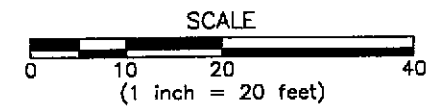
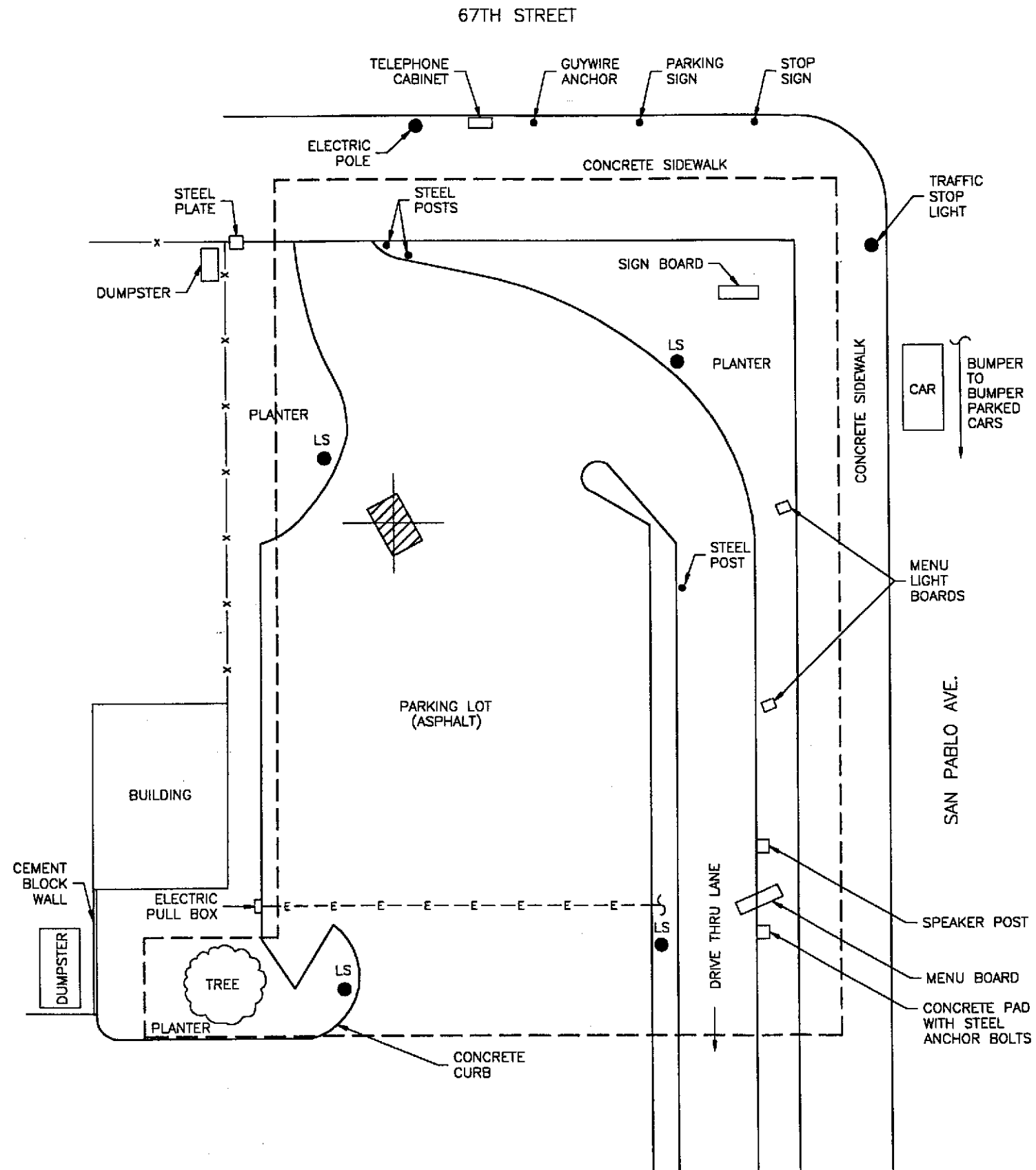
Respectfully,

NORCAL Geophysical Consultants, Inc.


David Bissiri
Geophysicist GP-1009

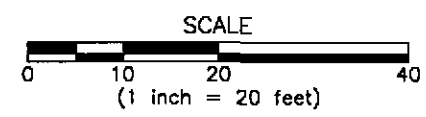
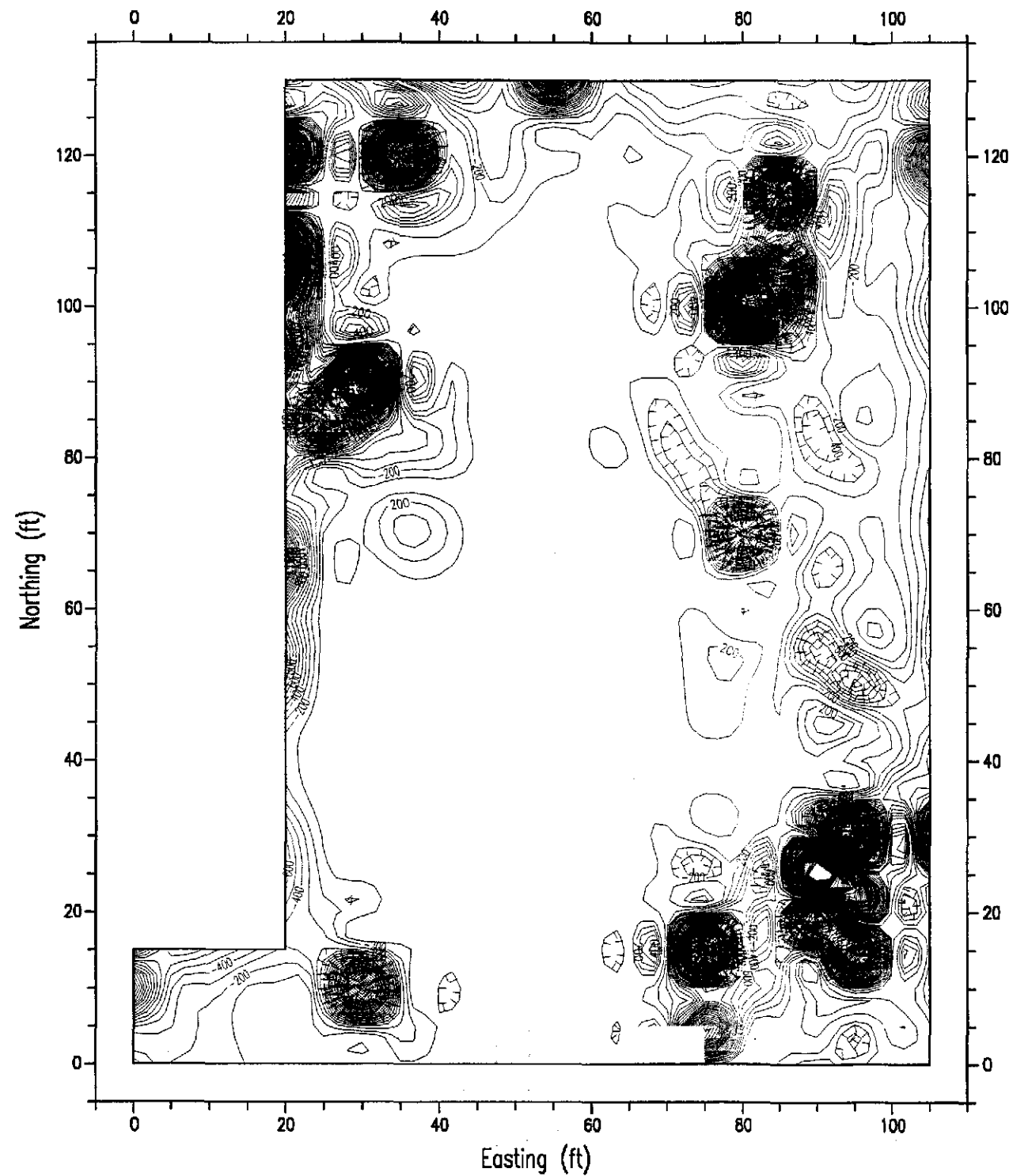
DJB/KGB/jh

Enclosures: Plates 1 and 2



LEGEND	
---	LIMITS OF VERTICAL MAGNETIC GRADIENT SURVEY
---	GPR TRAVERSE
▨	M-SCOPE ANOMALY
LS	LIGHT STANDARD
-E-	ELECTRIC LINE
-x-	FENCE LINE

 NORCAL	LOCATION MAP		PLATE 1
	LOCATION: San Pablo Ave., Oakland, California		
	CLIENT: Baseline Environmental Consulting		
	NORCAL GEOPHYSICAL CONSULTANTS INC.		
JOB #: 98-202.03	DATE: JULY, 1998	DRAWN BY: S. DRISCOLL	APPROVED BY: DJB



LEGEND	
	VERTICAL MAGNETIC GRADIENT CONTOUR CONTOUR INTERVAL = 100 nT/m

 NORCAL	VERTICAL MAGNETIC GRADIENT CONTOUR MAP		
	LOCATION: San Pablo Ave., Oakland, California		
	CLIENT: Baseline Environmental Consulting	PLATE 2	
	JOB #: 98-202.03	NORCAL GEOPHYSICAL CONSULTANTS INC.	
DATE: JULY 1998	DRAWN BY: S. DRISCOLL	APPROVED BY: DJB	