

Attempts to obtain financial assistance from McDonnell Douglas Corporation to pay for the treatment and investigation of the contaminated groundwater were unsuccessful. URS's sampling efforts, along with additional studies in the Olympic/Centinela area of Santa Monica, have revealed no conclusive information regarding the source of the TCE contamination. The shallow and deeper aquifers in the vicinity of the site are both contaminated with TCE at concentrations exceeding the MCL; however, there has been no identified source attributing the Douglas or GTE facilities to the TCE contamination.

Although a regional TCE groundwater plume exists in the site vicinity, and municipal drinking water wells are contaminated with TCE, there has been no observed release to groundwater attributable to the McDonnell Douglas Aircraft Facility site. This is based on a lack of attribution of the TCE contamination in shallow groundwater and drinking water wells through the collection of subsurface soil samples by URS in July 1996.

Twelve City of Santa Monica wells, along with imported surface water, serve approximately 89,000 people in the City of Santa Monica. Water from some of the contaminated wells is blended with other water and treated at the well head prior to being served to residents of Santa Monica.

#### **4.3 Surface Water Pathway**

Since there are no identified sources of uncontrolled hazardous substances associated with the former Douglas site, the Surface Water pathway is not an HRS pathway of concern and was not evaluated for this SI.

#### **4.4 Soil Exposure and Air Pathways**

Since there are no identified sources of uncontrolled hazardous substances and there is no area of observed contamination associated with the former Douglas site, the Soil Exposure and Air Migration pathways are not HRS pathways of concern, and therefore were not evaluated for this SI.

## **5.0 Emergency Response Considerations**

The National Contingency Plan [40 CFR 300.415 (b) (2)] authorizes the Environmental Protection Agency to consider emergency response actions at those sites which pose an imminent threat to human health or the environment. For the following reason, a referral to EPA's Region IX Emergency Response Section does not appear to be necessary:

- There are no identified uncontrolled sources of hazardous waste present at the former Douglas site, including the GTE Santa Monica Plant Yard.

## **6.0 Summary**

The McDonnell Douglas Aircraft Facility (former Douglas site or "site") site, located on Exposition Boulevard in Santa Monica, Los Angeles County, California, was operated from the early 1940s until some time in the early 1970s. The site is located at Exposition Boulevard (2902 through 3303 Exposition) between Centinela Avenue and Stewart Street. GTE of California, Inc. purchased the property from McDonnell Douglas Corporation and has occupied the site since 1971. A portion of the former Douglas site, previously used by GTE as well, is currently for sale by GTE.

During the time the former Douglas facility was operating, trichloroethylene (TCE) was utilized at the facility, and was probably used in degreasing operations and plastics manufacturing. Two waste solvent underground storage tanks (USTs) formerly on-site have been identified in historical Douglas Aircraft figures of the site. Subsequent attempts to locate the tanks and determine if they had leaked were unsuccessful for IT Corporation in 1994, Eckland Consultants, Inc. in 1996, and URS Consultants, Inc. (URS) in 1996.

In 1985, approximately 8,000 gallons of gasoline were spilled at the GTE site from a UST. Subsequent UST removals and soil and groundwater investigations followed to remediate the problem associated with this tank. Since 1987, a groundwater pump and treat and product recovery system has been in place at the GTE site. This pump and treat system has been installed to remediate petroleum hydrocarbon contamination of the groundwater. Previous sampling at the site has been conducted through investigations related to the former USTs at the GTE Santa Monica Plant yard site.

There are no regulatory agencies aware of the Douglas facility site on Exposition Boulevard in Santa Monica. URS identified the site through historical telephone directories and through a Sanborn Fire Insurance map. Regulatory agencies currently overseeing environmental conditions at the GTE site are the Regional Water Quality Control Board (RWQCB) and the City of Santa Monica Environmental Programs Division (EPD).

Based on soil samples collected by Eckland Consultants, IT Corporation, and URS, there is currently no source of uncontrolled hazardous substances attributable to the former McDonnell Douglas Aircraft Facility site. A regional TCE groundwater contamination

problem exists in the vicinity of the former Douglas site. To date, no potentially responsible parties (PRPs) have been identified through soil and groundwater sampling investigations. Additional soil sampling and further investigation to determine the identification of PRPs is recommended in order to remediate the shallow groundwater in the area.

The following are the pertinent Hazard Ranking System (HRS) factors associated with the former Douglas site:

- There are no sources of uncontrolled hazardous substances associated with the former Douglas site.
- An observed release to the groundwater pathway could not be established due to the lack of attribution of the contamination to previously suspected sources at the Douglas site.
- The air migration, soil exposure, and surface water migration pathways are not HRS pathways of concern for the former Douglas site, based on the previously mentioned lack of uncontrolled sources of hazardous substances.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Site Name: McDonnell Douglas Aircraft Facility

EPA ID #: CAD000485326

Alias Site Names:

City: Santa Monica

County or Parish: Los Angeles County

State: CA

Refer to Report Dated: October 31, 1996

Report Type: CERCLA Site Inspection

Report developed by: URS Consultants, Inc.

DECISION:

1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

1b. Site may qualify for further action, but is deferred to:  RCRA  NRC

2. Further Assessment Needed Under CERCLA

2a. (optional) Priority:  Higher  Lower

2b. Activity Type  PA  SI  ESI  HRS evaluation

Other \_\_\_\_\_

DISCUSSION/RATIONALE:

Lined area for discussion/rationale text.

Report Reviewed and Approved by: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Site Decision Made by: Gordon Woodrow

Signature: Gordon Woodrow

Date: 9/29/97

# **EXHIBIT C**

## Data Gap Technical Memorandum

**Verizon Services Group  
Santa Monica Facility  
2902 Exposition Boulevard  
Santa Monica, California**

April 11, 2002

*Prepared for:*

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2888 Ficus Street  
Pomona, California

Verizon Services Group  
2888 Ficus Street  
Pomona, California

*Prepared by:*

**CDM**

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Project No. 5000-35364

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# Section 1

## Introduction

Verizon is required by the Los Angeles Regional Water Quality Control Board (RWQCB) to prepare a work plan for a groundwater quality investigation at the Verizon (formerly GTE) Santa Monica facility at 2902 Exposition Boulevard (Site). The RWQCB required this work plan based on the presence of trichloroethene (TCE) in drinking water wells and shallow perched groundwater in the general vicinity of the Site.

For any environmental investigation, it is necessary to understand investigation objectives to ensure that resulting data are of the type and quality needed to support management decisions. Existing data should be evaluated to determine whether they can be used to make site decisions (U.S. Environmental Protection Agency [EPA], 1998 and 2000).

This technical memorandum (TM) was prepared by CDM for Verizon. Its purpose is to identify groundwater quality investigation objectives, evaluate whether existing data can be used to meet these objectives, and determine whether there are gaps in the existing data set. The information presented in this document is intended to aid in the work plan planning process.

### 1.1 Scope of Work

CDM's scope of work for this TM consists of the following:

- Identify groundwater quality investigation objectives
- Review Site documentation available in Verizon and RWQCB files
- Identify possible source areas in and surrounding the Site
- Evaluate potential area receptors
- Identify potential gaps in available data

### 1.2 Document Organization

The remainder of this TM is organized into the following seven sections:

- Section 2 presents the objectives of the groundwater quality investigation.
- Section 3 provides background information on the Site, including location, land use, history, and other physical characteristics.
- Section 4 discusses the regulatory background of the Site.
- Section 5 discusses previous investigations at and in the vicinity of the Site, evaluates the extent of TCE contamination at the Site based on available data, identifies potential source areas in and surrounding the Site, and evaluates potential area receptors.

- Section 6 describes gaps in the existing data set.
- Section 7 presents conclusions.
- Section 8 provides references for documents cited in the report.

Figures and tables are presented at the end of each section where they are first discussed.

## Section 2

# Groundwater Quality Investigation Objectives

Objectives of the groundwater quality investigation are identified based on the RWQCB's letter to Verizon requesting the subject work plan (RWQCB, 2001). These objectives consist of the following:

- Determine whether TCE in the shallow perched groundwater at the Site has the potential to impact City of Santa Monica water supply wells.
- Identify potential source areas of TCE to shallow perched groundwater at the Site.
- Determine the lateral and vertical extent of TCE in the groundwater at the Site.

Physical information and chemical data needed to satisfy these objectives include geological and hydrogeological characteristics of the Site and surrounding area, information regarding current and historical Site uses and operations, and chemical data characterizing TCE concentrations in Site groundwater and soils. Previously conducted investigations are reviewed in the following sections to evaluate whether existing data can partially or completely satisfy these objectives.

# Section 3

## Background Information

### 3.1 Site Location

The Site is located at 2902 Exposition Boulevard in Santa Monica, California and occupies approximately 16 acres. The Site is bounded by Exposition Boulevard to the south, Dorchester Avenue to the east, Stewart Street to the west, and by an abandoned spur of the Pacific Electric Railroad to the north. The geographic coordinates of the Site are 34° 01' 54" N latitude and 118° 27' 31" W longitude (Township 2 south, Range 15 west, San Bernardino Baseline and Meridian, Beverly Hills, California 7.5-minute quadrangle). A Site location map is presented on Figure 3-1.

### 3.2 Land Use

Figure 3-2 shows the Site plan identifying Site boundaries and current land use. GTE (now owned by Verizon) acquired the Site in 1971. Activities conducted on-Site by GTE/Verizon consist of vehicle fueling, washing, and maintenance. The majority of the Site is covered with asphalt and is used for vehicle parking. Two buildings are located on-Site which are used by Verizon for administrative staff, storage, and vehicle maintenance. A tool shed, car wash rack, and fuel pumping station are also located on-Site. Hazardous wastes generated at the Site consist of waste oil (URS, 1996). GTE has proven through records and review of Site operations that TCE use has not occurred at the Site (URS, 1996 and RWQCB, 2001).

Land use in the general vicinity of the Site is a mix of commercial, residential, and industrial uses. Residences are primarily located to the south of the property.

### 3.3 Site History

The Site was used for agricultural purposes prior to the early 1940s (IT, 1994). Douglas Aircraft Company and subsequently McDonnell Douglas Corporation operated Douglas Aircraft Plant A7 (Douglas site) at 2902 through 3303 Exposition from 1942 until the property was purchased by GTE.

The Douglas site was used as a shipping and receiving facility. Wing-tip assembly and other manufacturing also took place at the Douglas site (Kennedy/Jenks, 1999). Buildings historically located at the Douglas site were used for activities such as storage of parts, lumber, crates, paint, and sheet metal, dipping and degreasing operations, laboratories for plastics and metals, shipping and receiving, and offices (URS, 1996). Figure 3-3, excerpted from Kennedy/Jenks (1999) shows buildings historically located on the Douglas site and identifies processes of interest. Figure 3-3 also indicates the boundaries of the current Site within the Douglas site.

## 3.4 Geology and Hydrogeology

The potential for contaminant migration depends upon the nature of subsurface materials underlying and in proximity to the Site. Therefore, descriptions of subsurface materials noted during prior investigations at the Site and in the vicinity of the Site are provided below. The following summary is based on information presented in United States Geological Survey reports, California Department of Water Resources reports, City of Santa Monica well logs, and Site boring logs as presented in Site investigation documents.

### 3.4.1 Regional Geology and Hydrogeology

The Site is located within the coastal plain at an approximate elevation of 150 feet above mean sea level (msl), about three miles south of the Santa Monica Mountains (IT, 1985a). The Site is located above the Santa Monica groundwater basin which is bounded on the north by the Santa Monica Mountains, on the east by the Newport-Inglewood Fault zone, on the south by the Ballona escarpment, and on the west by the Pacific Ocean (URS, 1996). The uppermost beneficial fresh water-bearing sediments are inferred to be about 200 feet below msl at the Site location, or about 350 feet below ground surface (bgs) of the Site (IT, 1985a). In addition, shallow perched groundwater is present at the Site at about 30 feet bgs.

A major fault system separates the Santa Monica Mountains from the Coastal Plain and separates two distinct geomorphic provinces: the Transverse Range to the north and the Peninsular Range to the south. The fault system consists of four main east-west trending faults: the Raymond Fault in the Pasadena area, the Hollywood Fault, the Santa Monica Fault, and the Malibu Coast Fault.

The Santa Monica Fault is postulated to exist at depth to the north of the Site. Seismic refraction surveying found no evidence of the Santa Monica Fault either upgradient of the Site as far north as Olympic Boulevard or downgradient of the Site as far south as Well 28 (located on Delaware Place, 2 blocks south of Exposition Boulevard) (IT, 1985a). The City of Santa Monica's 2002 Guidelines for Geotechnical Reports (Bing Yen and Associates, 2002) indicates that the Santa Monica Fault and the fault hazard management zone are located north of Olympic Boulevard (refer to Figure 3-4, excerpted from Bing Yen, 2002). The possibility of this fault, or any other fault, to provide a hydraulic connection between the perched groundwater zone and the deep confined beneficially used groundwater zone does not appear to be a factor in the area of the Site (IT, 1985a).

The City of Santa Monica operates three groundwater well fields within the Santa Monica Basin: the Santa Monica well field, located in the Olympic sub-basin; the Charnock well field, located in the Charnock sub-basin; and the Arcadia well field, located in the Arcadia sub-basin. As of mid-1996, production from both the Charnock and Arcadia wells ceased due to methyl-tert butyl ether (MtBE) contamination. A remediation system has been installed at the Arcadia well field so that it can continue to be used to produce drinking water (City of Santa Monica, 2000).

The Site is located within the Olympic sub-basin. This sub-basin is not impacted by MtBE. However, TCE has been detected in City of Santa Monica water supply wells located within the Olympic sub-basin (City of Santa Monica, 2000). Figure 3-5 shows the location of City of Santa Monica water supply wells in relation to the Site.

IT Corporation reviewed driller's well logs for four City of Santa Monica water supply wells in the Olympic sub-basin in 1985. This review was performed for GTE as part of an investigation associated with an accidental release of gasoline from an underground storage tank (UST) to shallow perched groundwater on-Site. These wells are in the vicinity of the Site, to the north and west. The depths of the uppermost-screened casings of the City of Santa Monica wells are:

- Well No. 2: 90 to 190 feet bgs
- Well No. 3: 210 to 270 feet bgs
- Well No. 4: 200 to 410 feet bgs
- Well No. 7: 200 to 544 feet bgs

City of Santa Monica driller's well logs, shown in Figure 3-6 (excerpted from IT, 1985b), suggest a more permeable soil layer extending from the ground surface to depths ranging from 27 to 50 feet. Under this first layer, the soils are more impermeable and clay-rich. These impermeable, clay-rich soils overlie the water producing zones. These conditions are also observed at the Site (IT, 1985b). IT's review indicated that there was little potential for water supply wells to be impacted by gasoline contamination in the shallow perched groundwater.

### 3.4.2 Site Geology and Hydrogeology

Site geologic and hydrologic characteristics are known from borehole drilling, seismic refraction surveys, and groundwater level measurements. From the surface to a depth of 10 to 21 feet, soft, brown, homogeneous silty clay believed to represent Holocene alluvium was encountered. This layer is underlain by an older, weathered alluvium which also consists of silty clay but contains traces of sand and weathered gravel and extends to depths ranging from about 30 to 40 feet. These upper layers are fairly permeable while soils at depths greater than 30 to 40 feet consist of tight, relatively impermeable clay (IT, 1985a). Figure 3-7 shows the location of seismic refraction survey lines and geologic cross section locations at the Site. Figures 3-8 and 3-9 show seismic refraction survey profiles and geologic cross sections, respectively. Figures 3-7 through 3-9 were excerpted from IT (1985a).

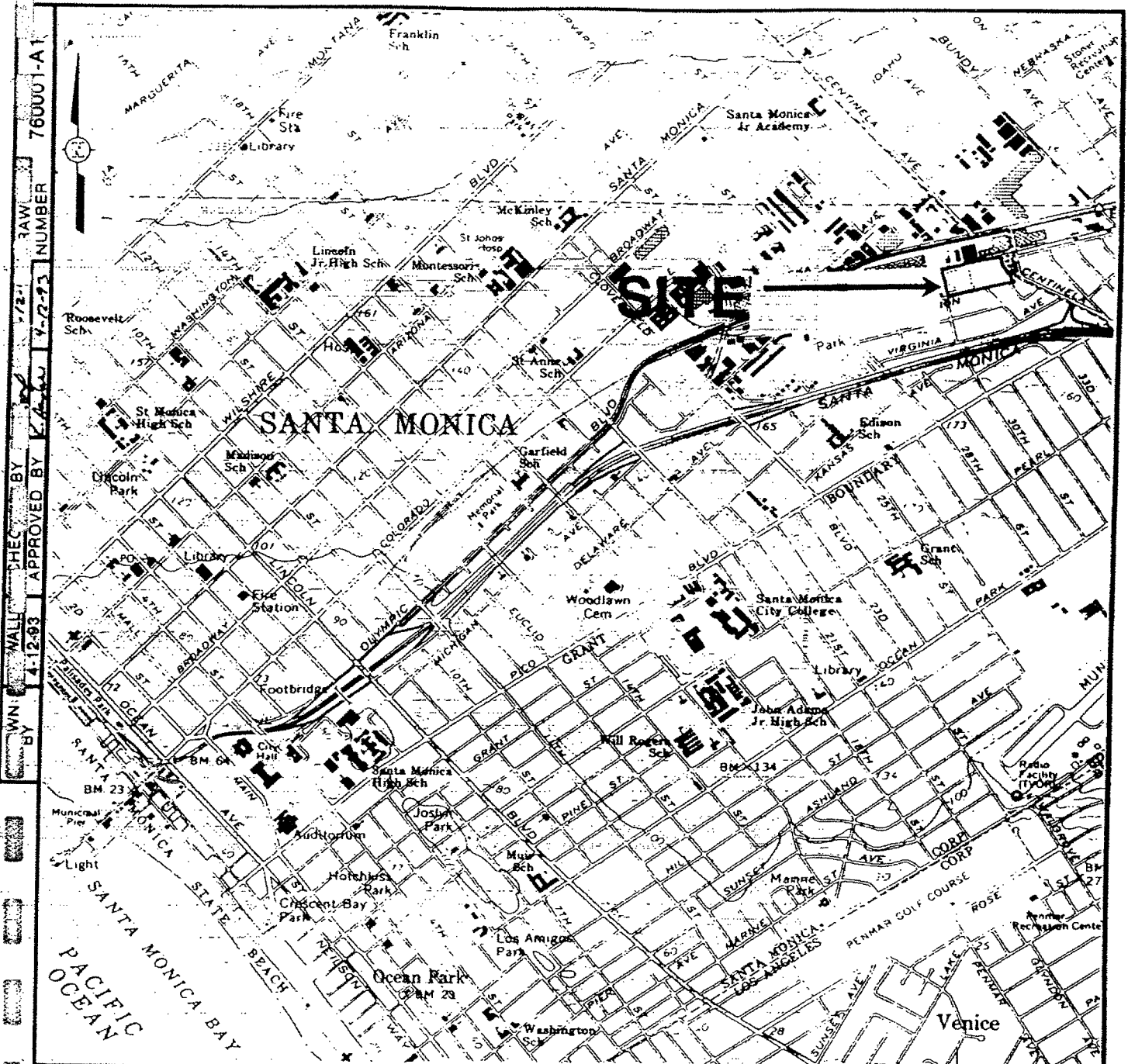
The sand and gravel at the base of the relatively permeable silty clay helps facilitate the occurrence of perched groundwater. A shallow perched groundwater zone is present starting at about 31 feet bgs and extends to the top of the impermeable layer. The shallow perched groundwater exists as interconnected shallow pools and pockets with "islands" where it is absent (IT, 1985b). Potential beneficial uses of the perched

groundwater zone are believed to be nonexistent based on its irregular distribution and thin nature (IT, 1985b). Perched groundwater contours at the Site for 1985 and 1995 are shown in Figures 3-10 and 3-11. Extraction wells were not pumping on the date that the 1985 contour map was prepared.

The gradient of the perched groundwater in the vicinity of the Site is reportedly to the south-southwest (IT, 1985b and 1994). Comparison of the two contour maps indicates that extraction well pumping may have had a localized effect on the groundwater gradient.

The perched groundwater zone is believed to be hydrologically isolated from known beneficial uses of groundwater (i.e., City of Santa Monica water supply wells). Water supply wells are separated from the shallow, perched groundwater by a vertical distance of at least 60 feet, which is composed of a relatively impermeable clay layer. Water supply wells are located either north (upgradient) of the Site or west (crossgradient) of the Site. No producing wells occur within 1.5 miles south of the Site (IT, 1985a, 1985b, and 1996).





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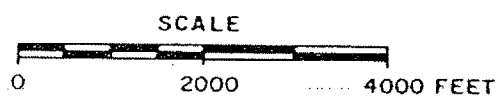


Figure 3-1

**SITE LOCATION MAP**  
 3303 EXPOSITION BLVD.  
 SANTA MONICA, CALIFORNIA

PREPARED FOR  
**GTE CALIFORNIA, INC.**  
 POMONA, CALIFORNIA

**REFERENCE:**  
 USGS 7.5 MINUTE TOPOGRAPHIC MAP OF  
 BEVERLY HILLS, CALIFORNIA QUADRANGLE  
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 SCALE 1:24,000

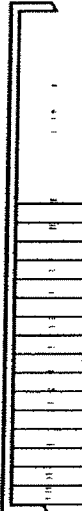


STEWART STREET

EXISTING A.C. PAVING



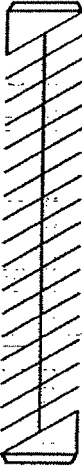
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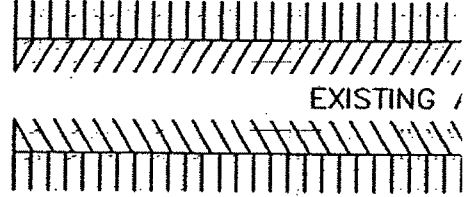
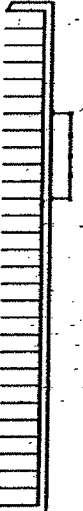
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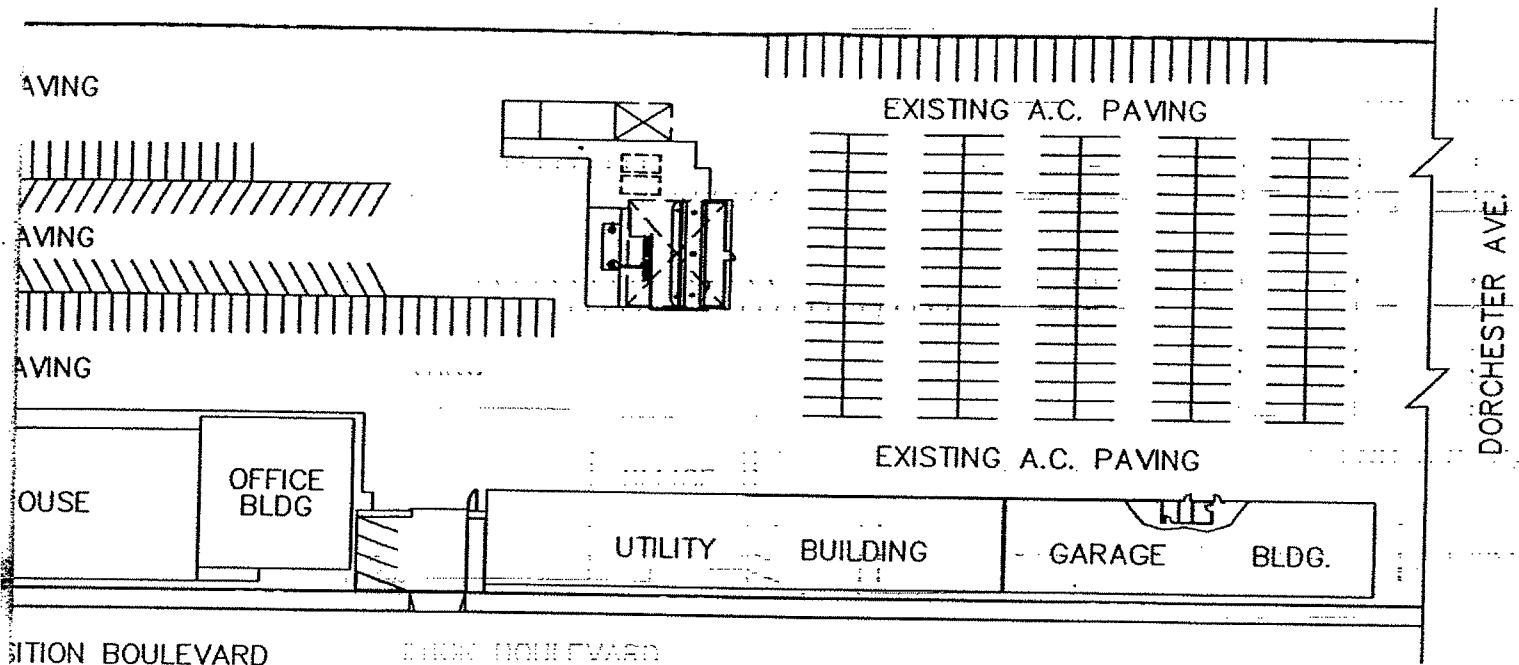
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ELECTRIC RAIL ROAD

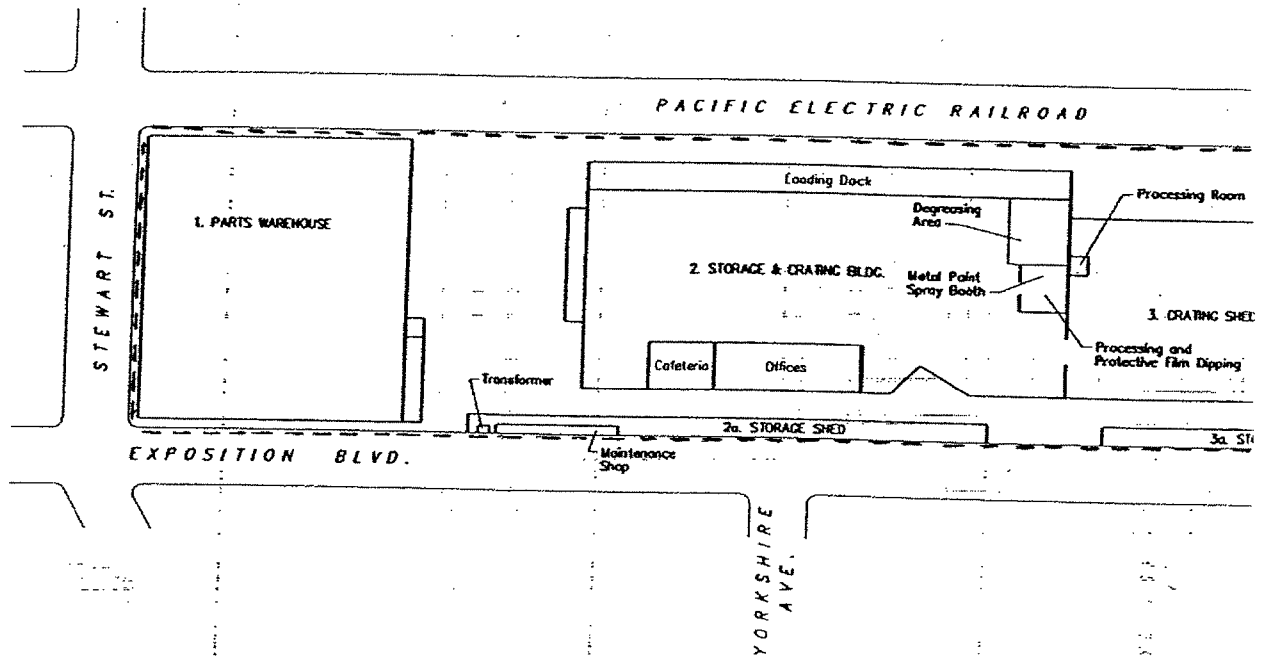


# E P L A N

1" = 100'-0"

Site Plan

Figure 3-2

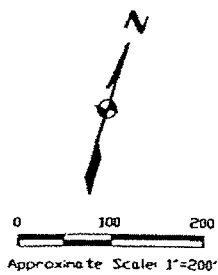
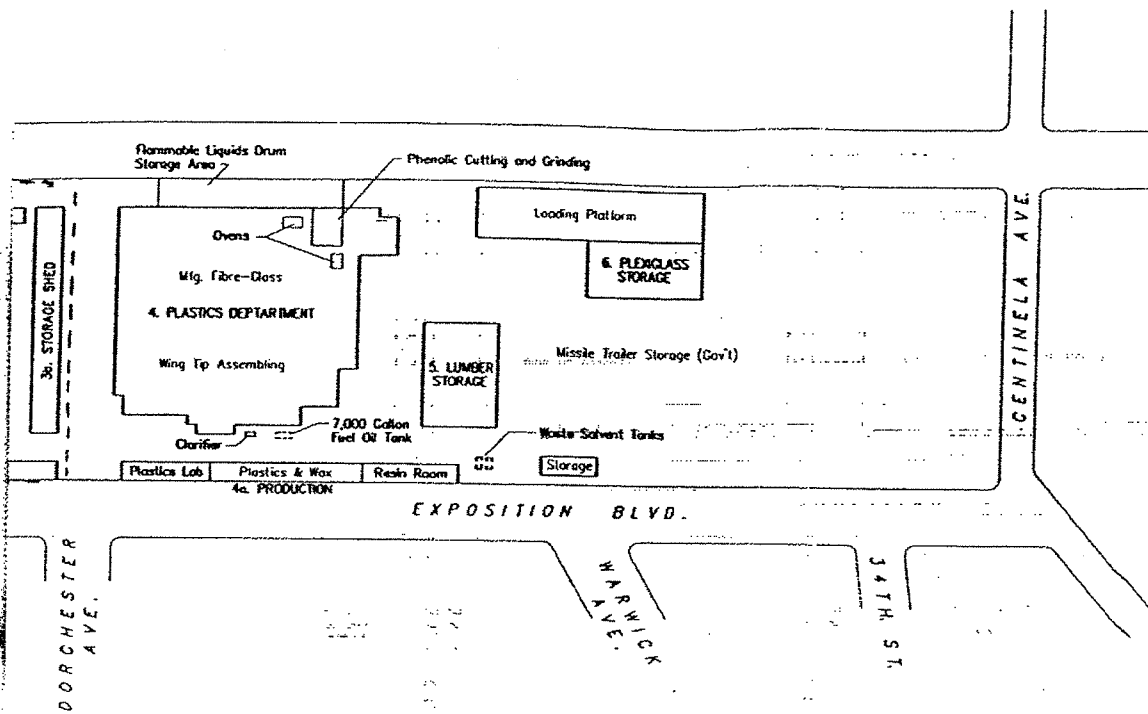


NOTES:

1. PARTS WAREHOUSE

BUILDING NUMBERS WERE ARBITRARILY ASSIGNED IN THIS STUDY FOR EASE OF DISCUSSION.  
 UNDERGROUND STORAGE TANK OR CLARIFIER.

- REFERENCES:
1. DOUGLAS AIRCRAFT, PLANT A7 FACILITY MAP, REVISED 1960, SCALE 1"=50'.
  2. SANBORN FIRE INSURANCE MAP FOR THE CITY OF SANTA MONICA, PUBLISHED 1961.
  3. IT CORPORATION, 1985, UNDERGROUND STORAGE TANK AND CLARIFIER REMOVAL CLOSURE REPORT, GTE SANTA MONICA PLANT YARD, 3303 EXPOSITION BOULEVARD, SANTA MONICA CALIFORNIA, 12 MAY 1995.



Kennedy/Jenks Consultants

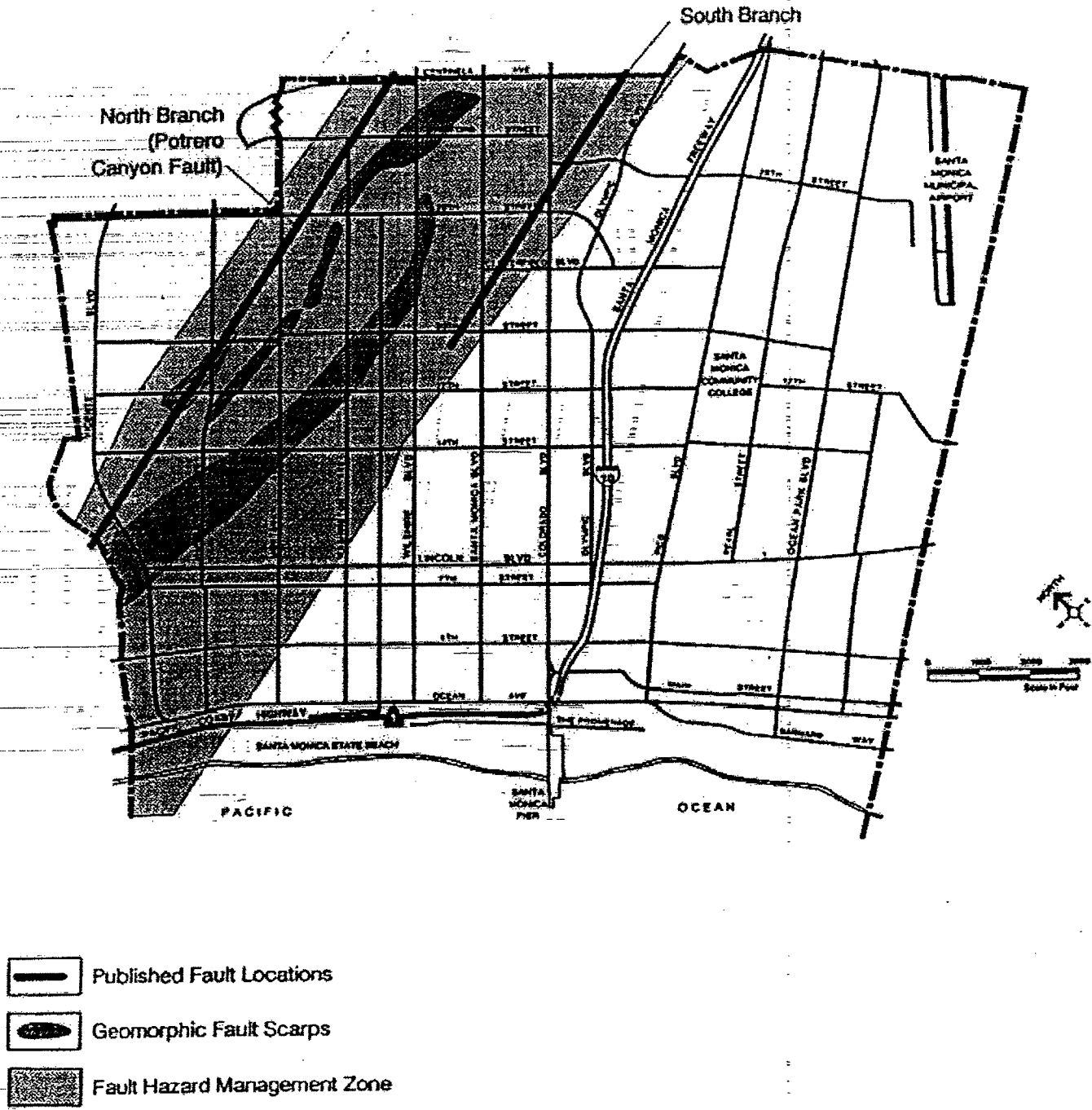
Boeing Company  
 Santa Monica, California

Historic Site Use

Dashed lines represent current Site boundary

Figure 3-3

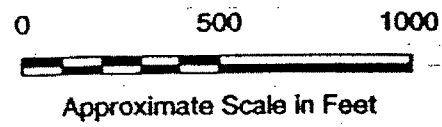
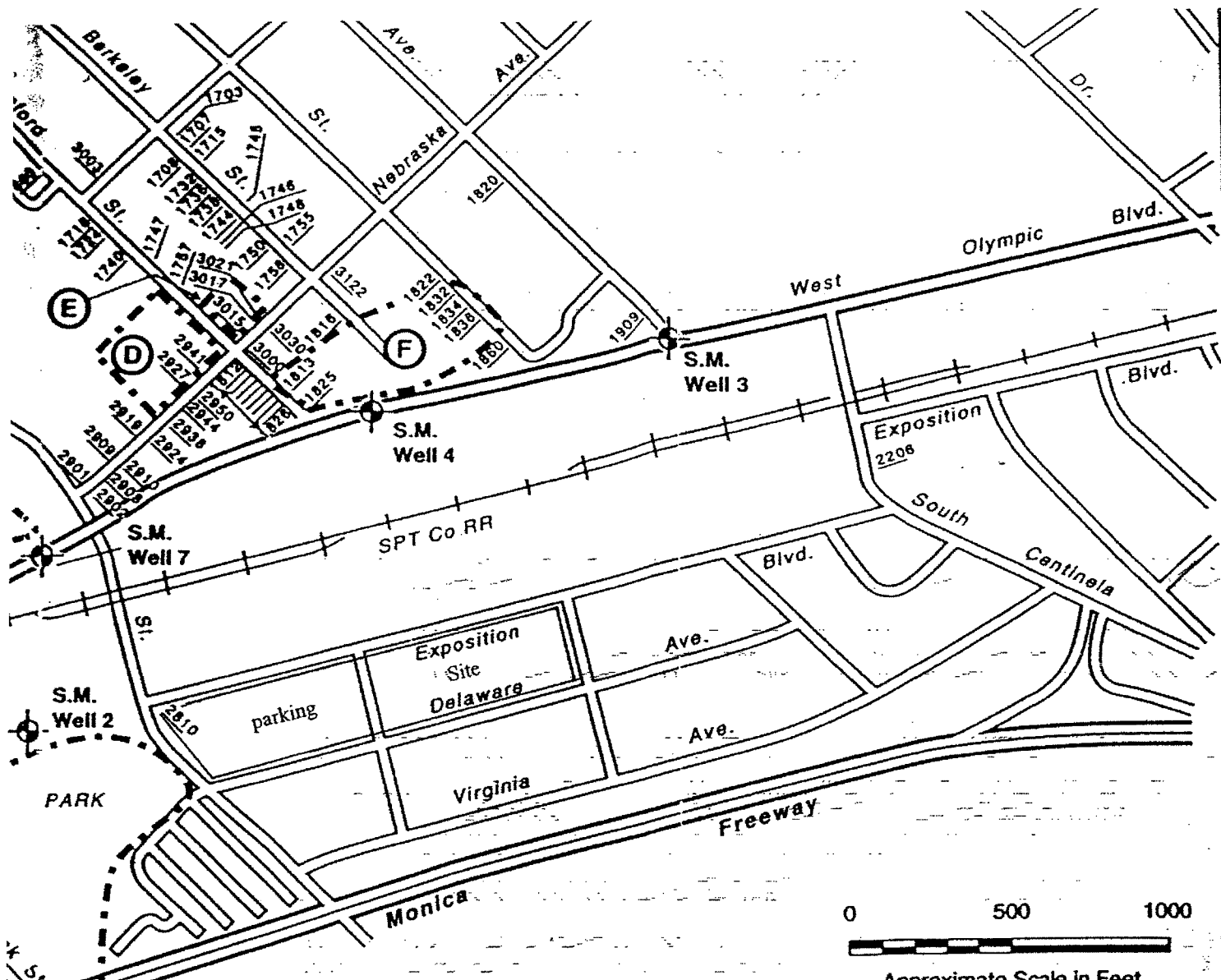
# SANTA MONICA FAULT HAZARD MANAGEMENT ZONE




**Santa Monica Fault  
Hazard Management Zone**


Figure 3-4.


Figure modified from City of Santa Monica Safety Element Environmental Impact Report, CBA Inc., January 1995

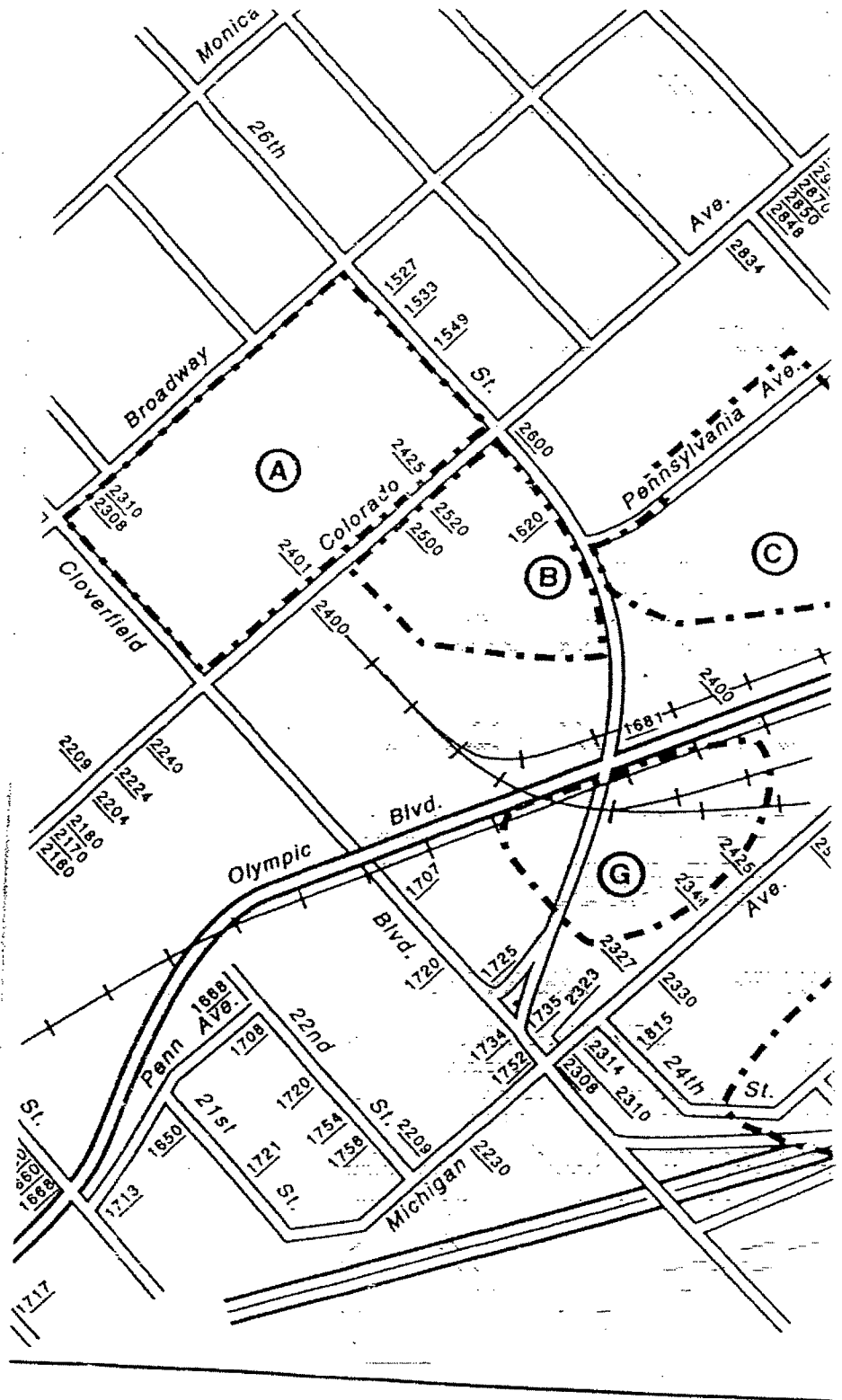


**EXPLANATION**

 Study Area with Designation  
(from *Aerial Photographic Analysis of Santa Monica Groundwater Area, February 1996*)

 S.M. Well 2  
Approximate Location of Santa Monica City Production Well with Designation

<b>Bechtel</b> SAN FRANCISCO		
SANTA MONICA SITE DISCOVERY		
Location of City of Santa Monica Water Supply Wells in Relation to the Site		
	Job Number	Drawing No.
	22447	Figure 3-5
		Rev. A





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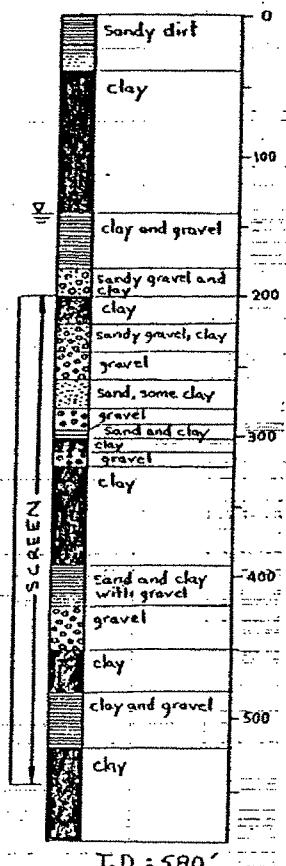
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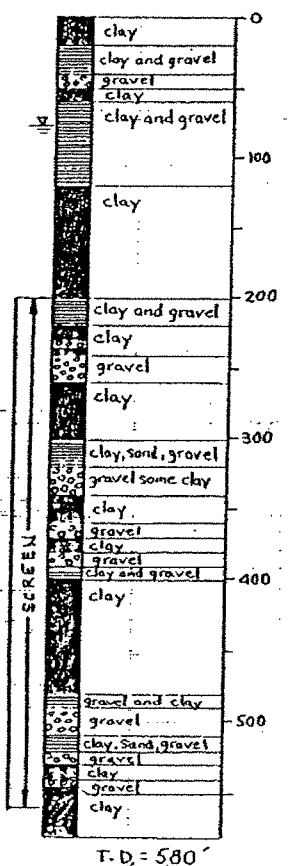
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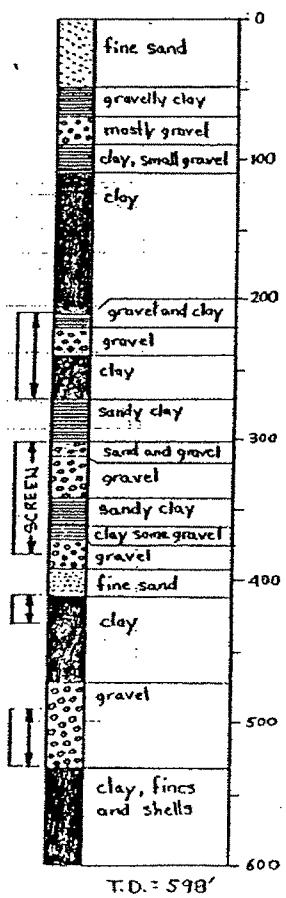
SANTA MONICA #7



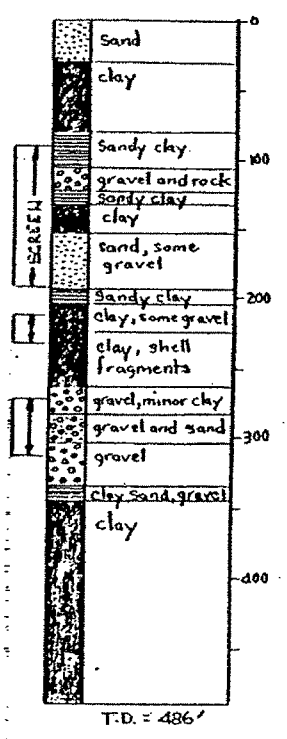
SANTA MONICA #4



SANTA MONICA #3



SANTA MONICA #2



EXPLANATION

- Relatively permeable gravel/sand
- Variable proportions of clay, sand, and gravel
- Relatively impermeable clay

Reported first encounter of water.

Figure 3-6

WELL LOGS FOR CITY OF SANTA MONICA WATER SUPPLY WELLS

PREPARED FOR

GENERAL TELEPHONE COMPANY SANTA MONICA PLANT YARD



Creating a Safer Tomorrow

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 APPROVED BY: BCC  
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 DRAWING NUMBER: 850021-B15

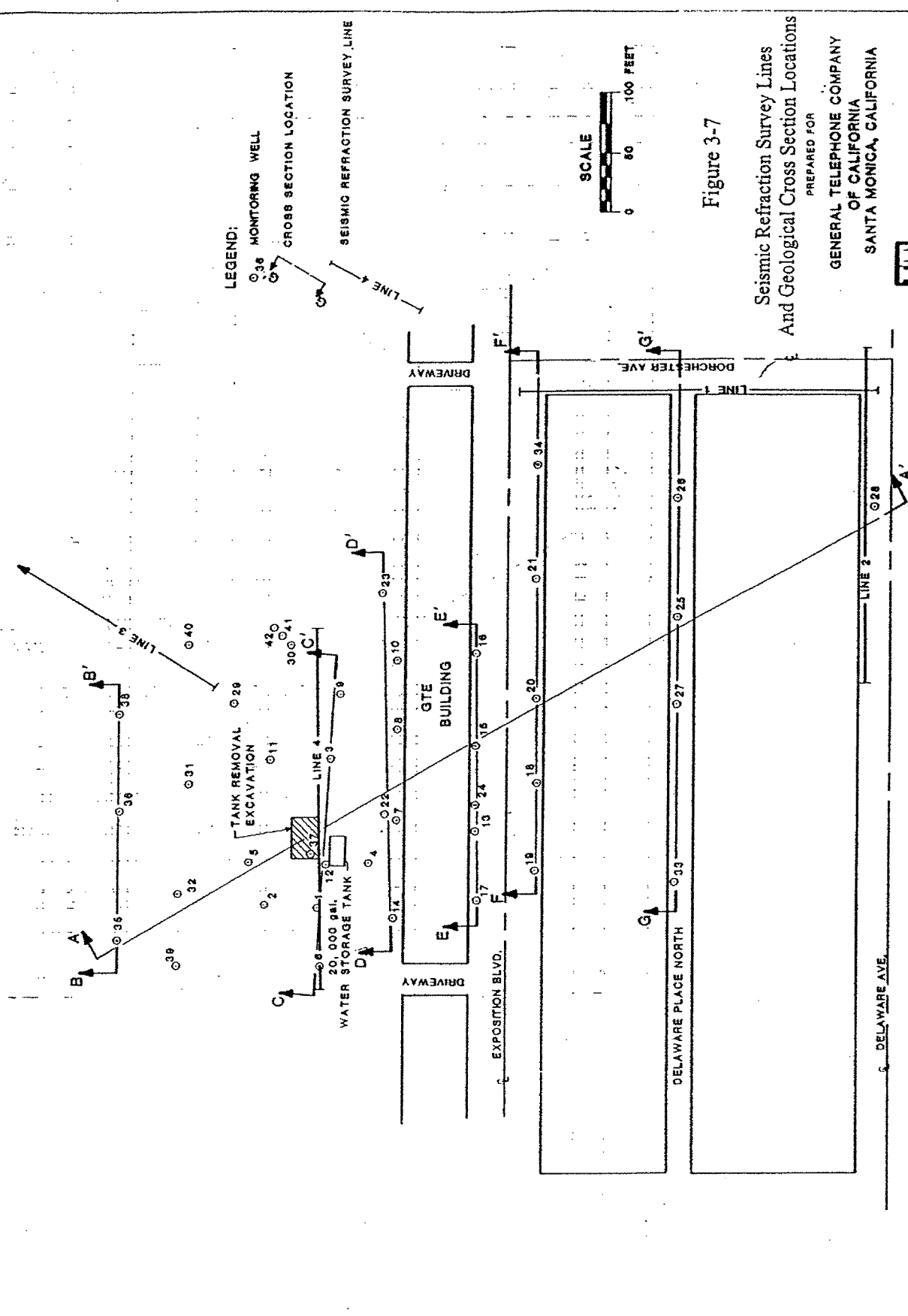


Figure 3-7

Seismic Refraction Survey Lines  
 And Geological Cross Section Locations  
 PREPARED FOR  
 GENERAL TELEPHONE COMPANY  
 OF CALIFORNIA  
 SANTA MONICA, CALIFORNIA

... Creating a Safer Tomorrow

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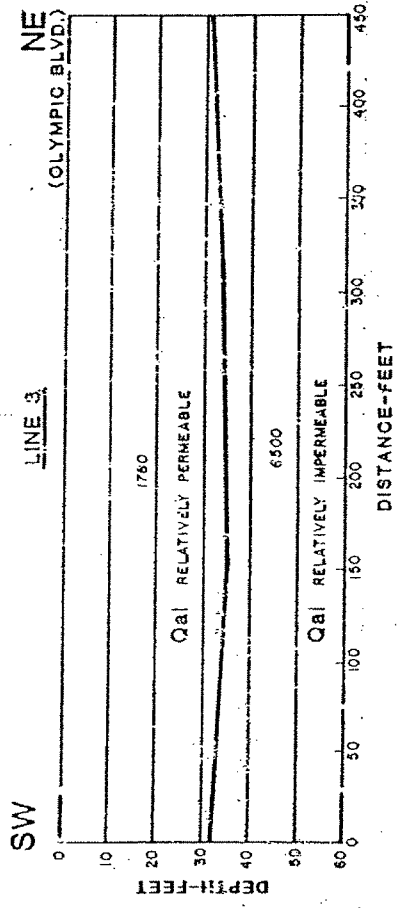
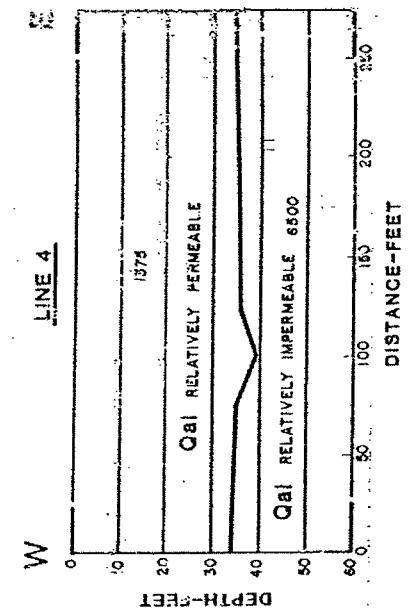
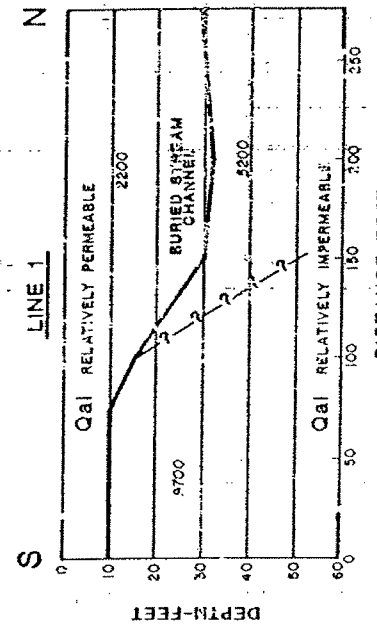
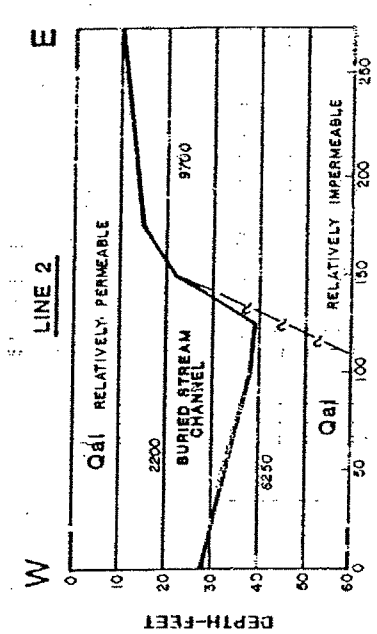


Figure 3-8  
Seismic Refraction  
Survey Profiles

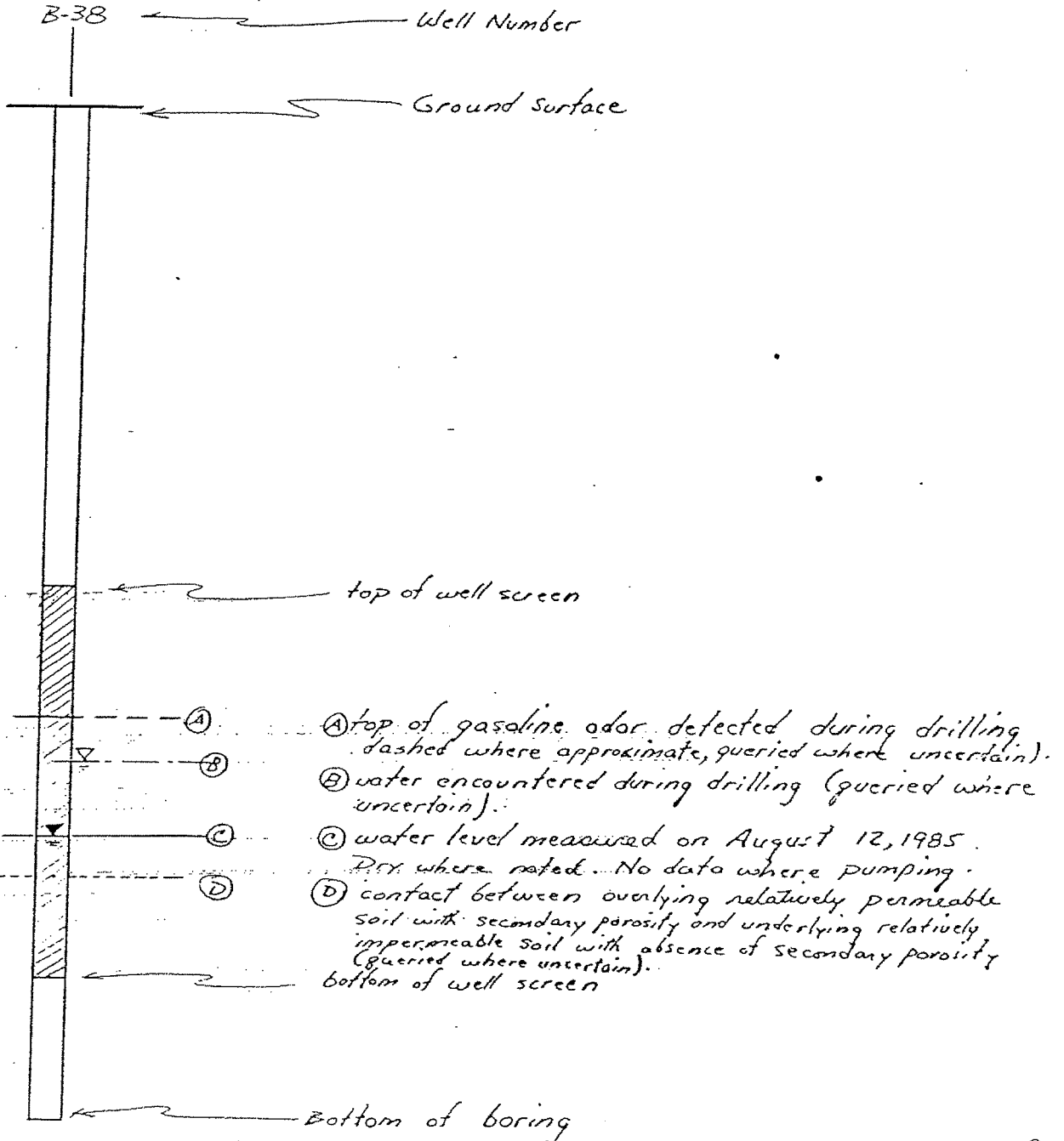
PREPARED FOR  
GTC  
SANTA MONICA PLANT YARD



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DATE: 10/2/84  
DRAWN: MGR  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

EXPLANATION



8,500 *	concentration of benzene in water (ug/l).	Sampled on July 1985
15,000 *	" " toluene " " " " " "	" " " " " " " "
11,000 *	" " xylenes and ethyl benzene isomers " " " " " "	" " " " " " " "

ND = none detected

\* = water sampled from common discharge line for pumping wells B-8, B-15, and B-24.

Section A-A'  
 GTE - Santa Monica Plant Yard  
 Job No. 850021  
 D. Gillis 8/19/85

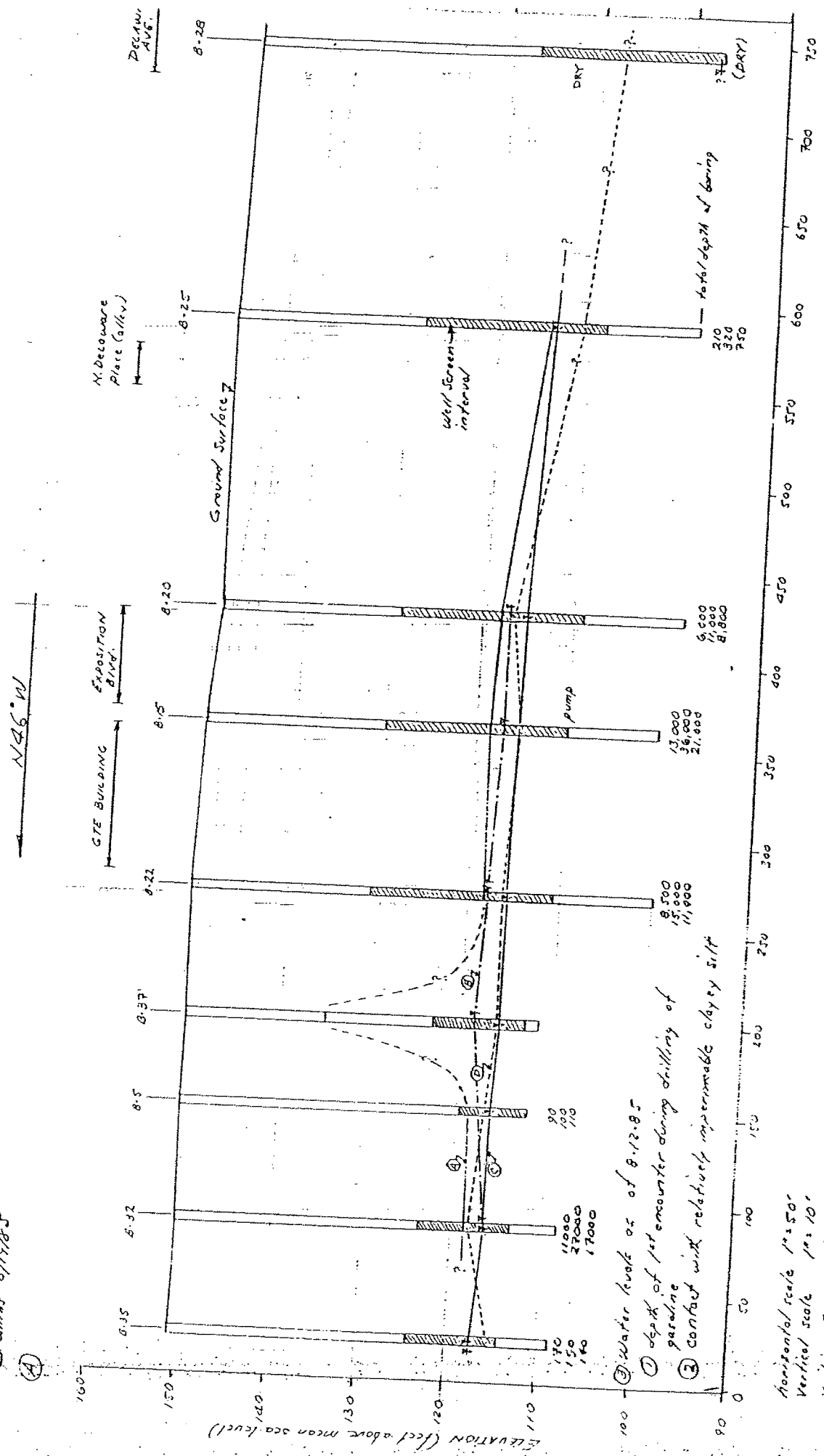


Figure 3-9b - CROSS SECTION A-A'



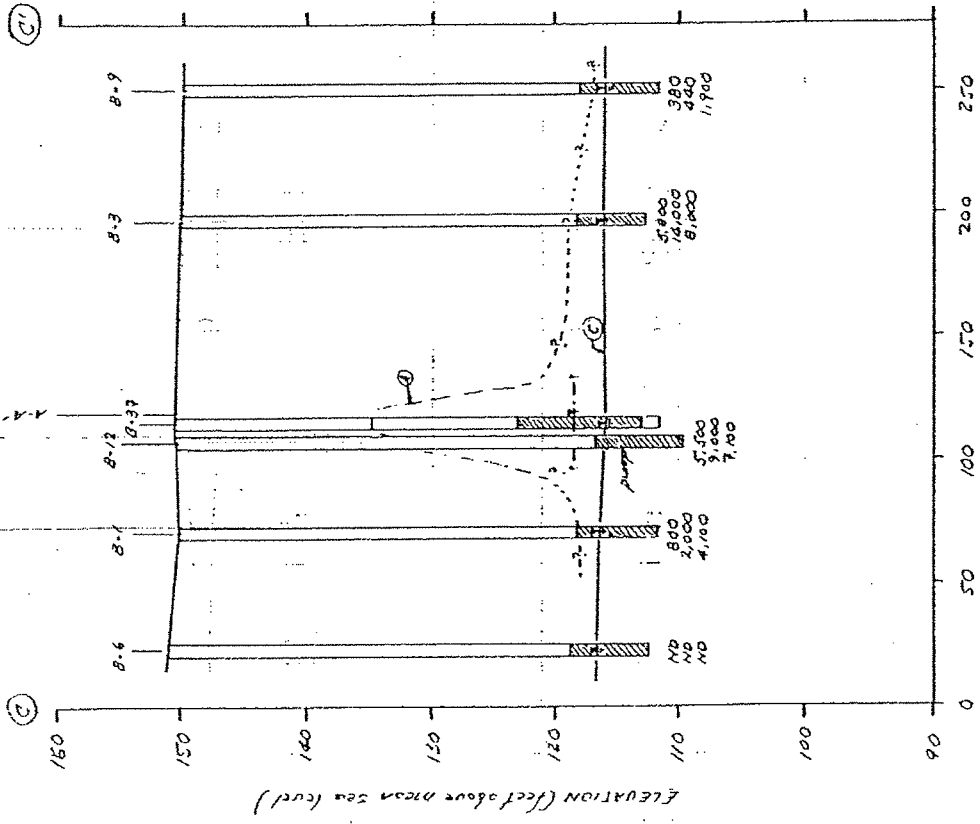
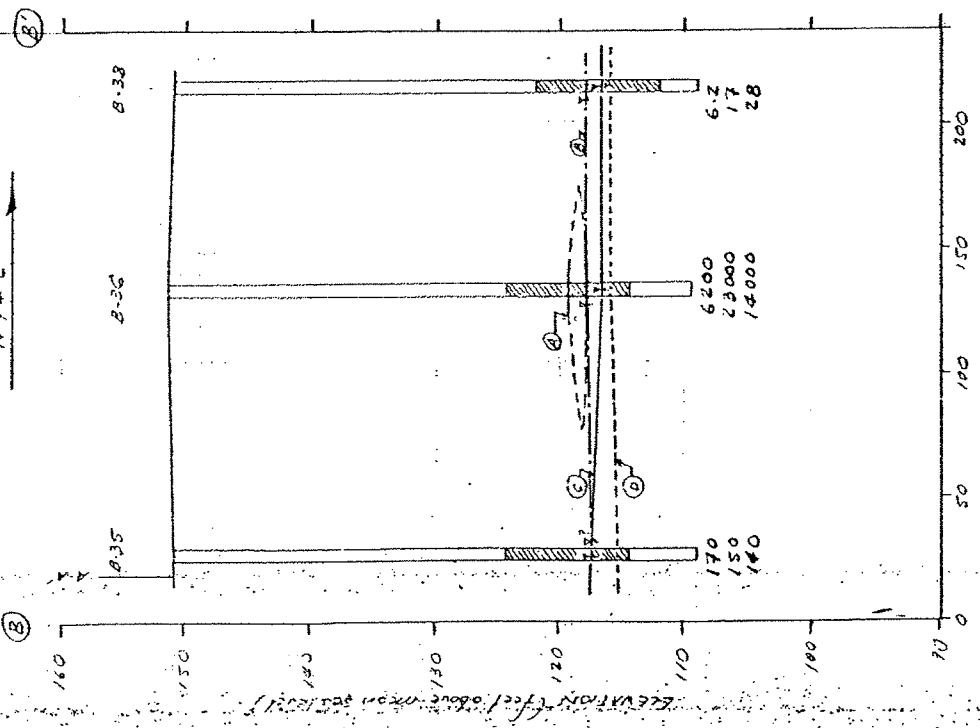
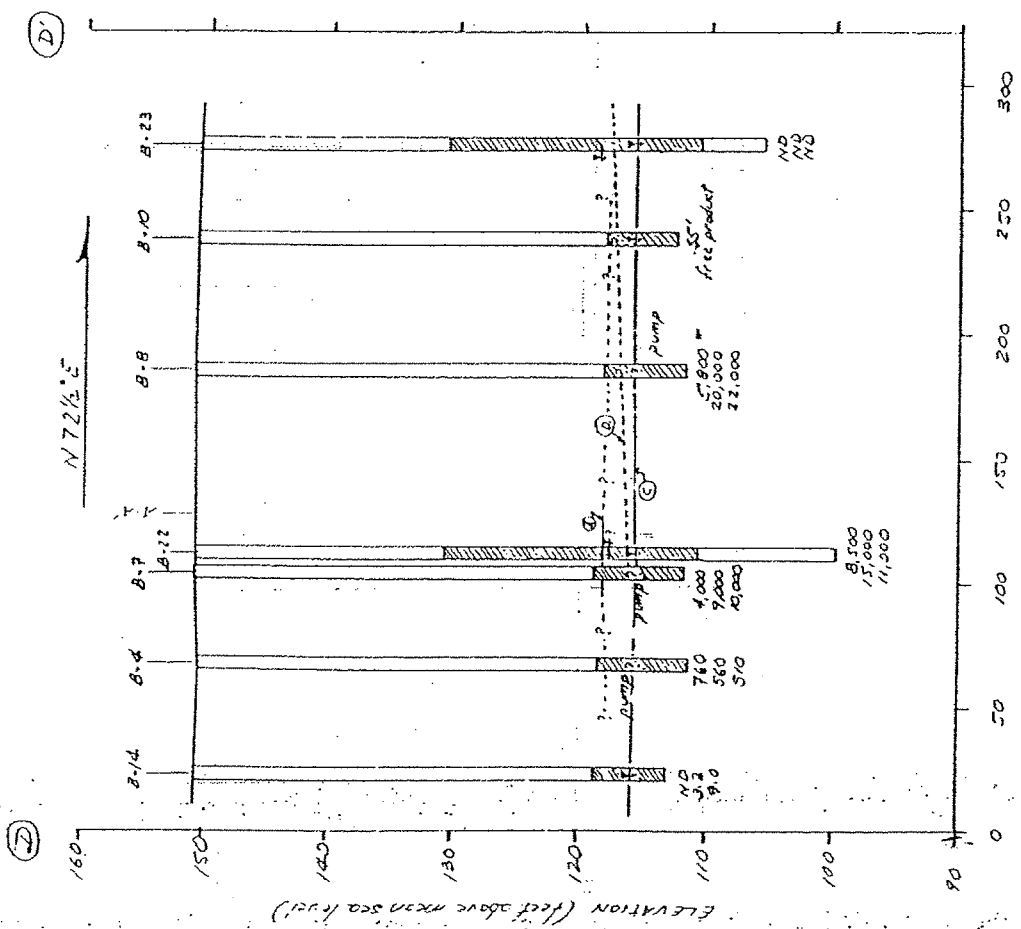
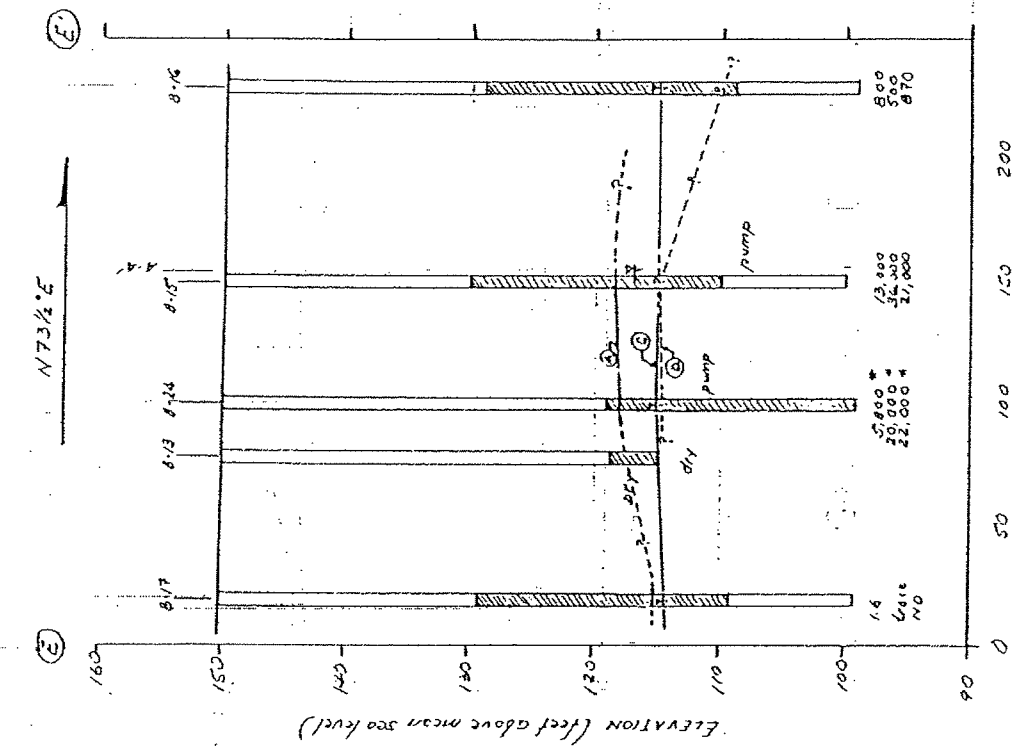


Figure 3-90 CROSS SECTIONS B-B, C-C'

Horizontal Scale: 1"=50'  
 Vertical Scale: 1"=10'  
 Vertical Exaggeration = 5X



GT& Sons Mania Plant Yard  
 Job No. 85021  
 D. Gillin 2/20/85



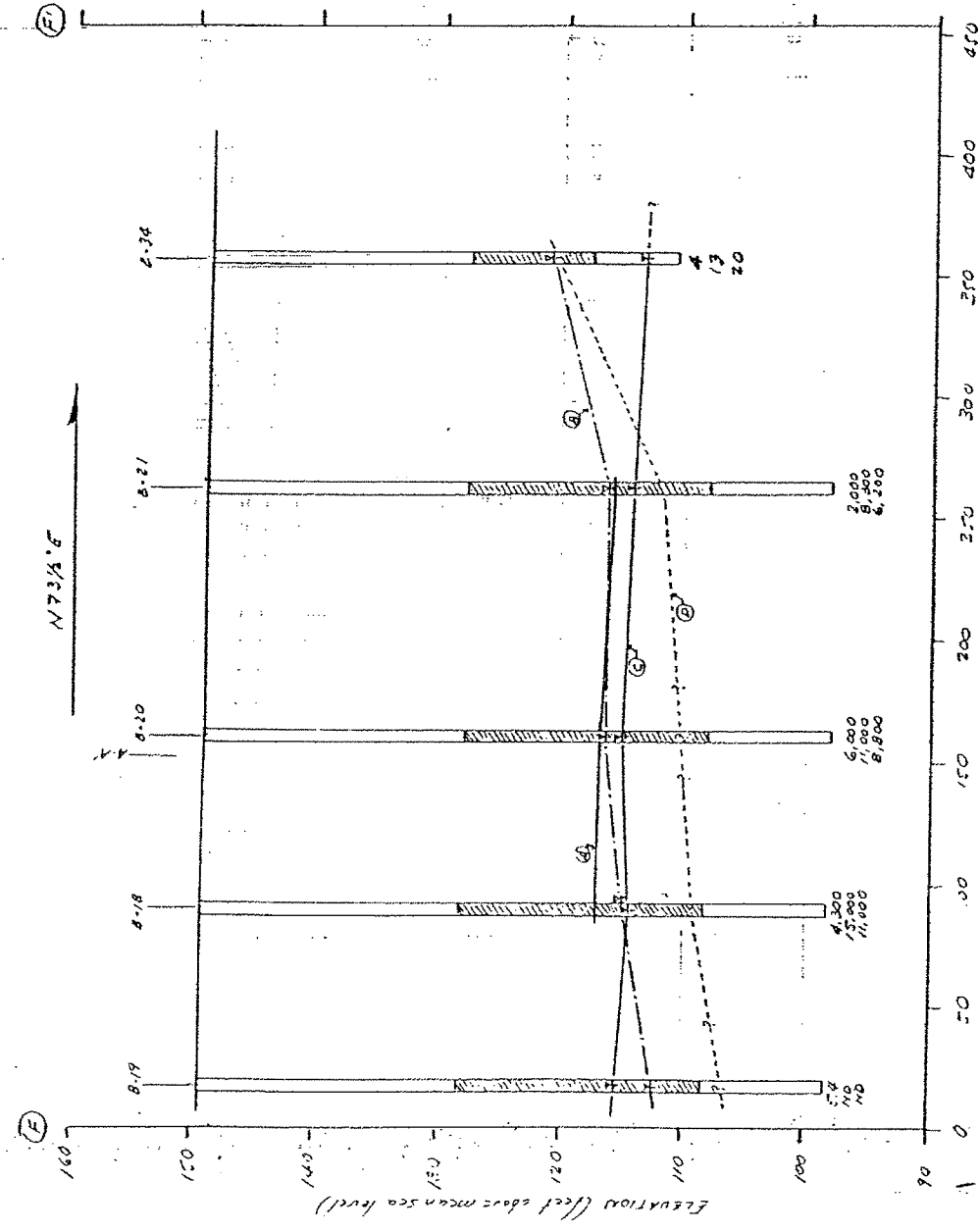
Horizontal Scale 1" = 50'  
 Vertical Scale 1" = 10'  
 Vertical Exaggeration = 5x

G.T. Santa Monica Plant Yard  
 Vol. No. 870021  
 D. Gilmer 8/20/65

Figure 3-9d CROSS SECTION D-D, E-E'



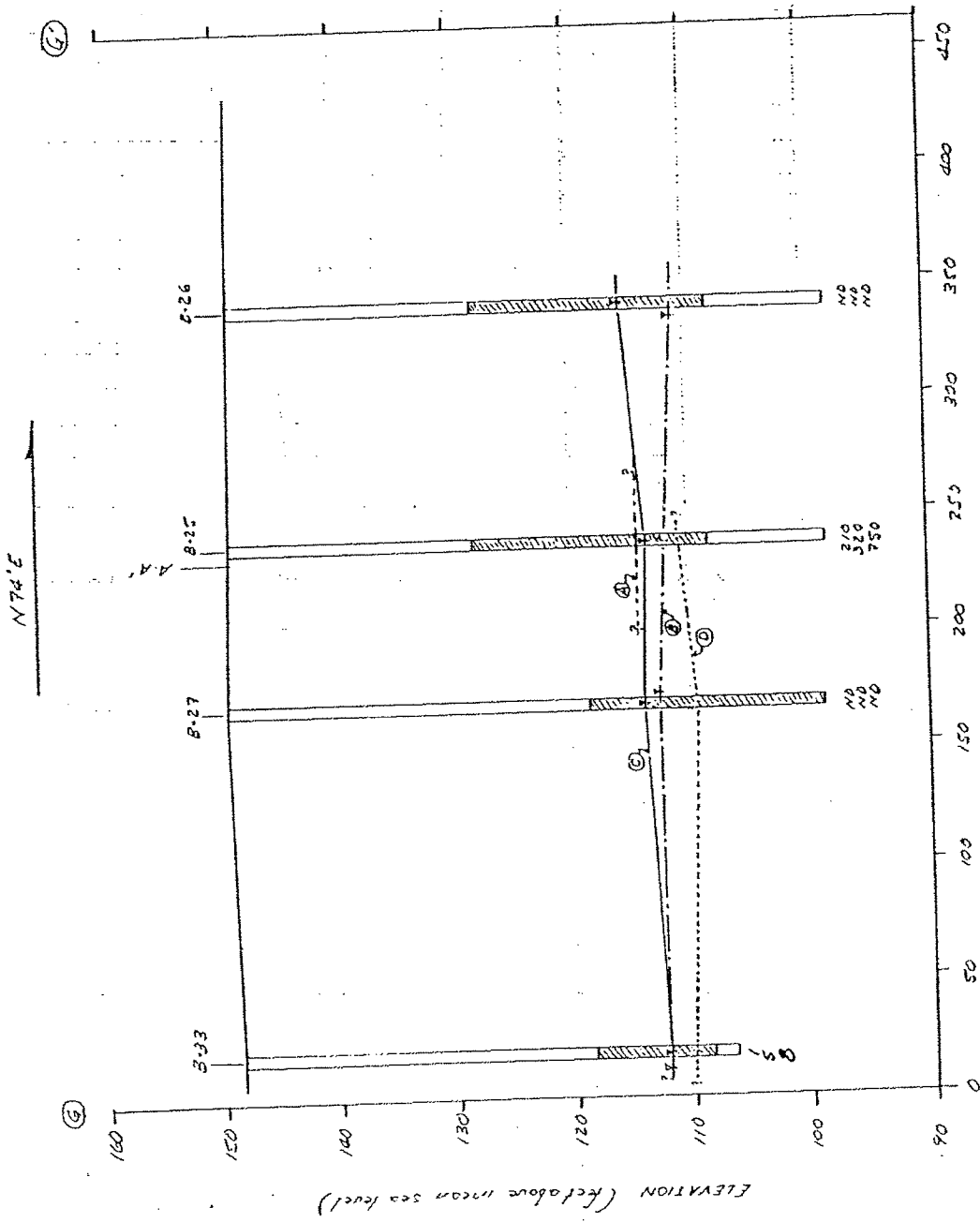
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)



Horizontal Scale: 1" = 50'  
 Vertical Scale: 1" = 10'  
 Vertical Exaggeration = 5X

GTE - Santa Monica Plant Yard  
 Job No. 850021  
 D. Collins 8/20/75

Figure 3-9e CROSS SECTION F-F'

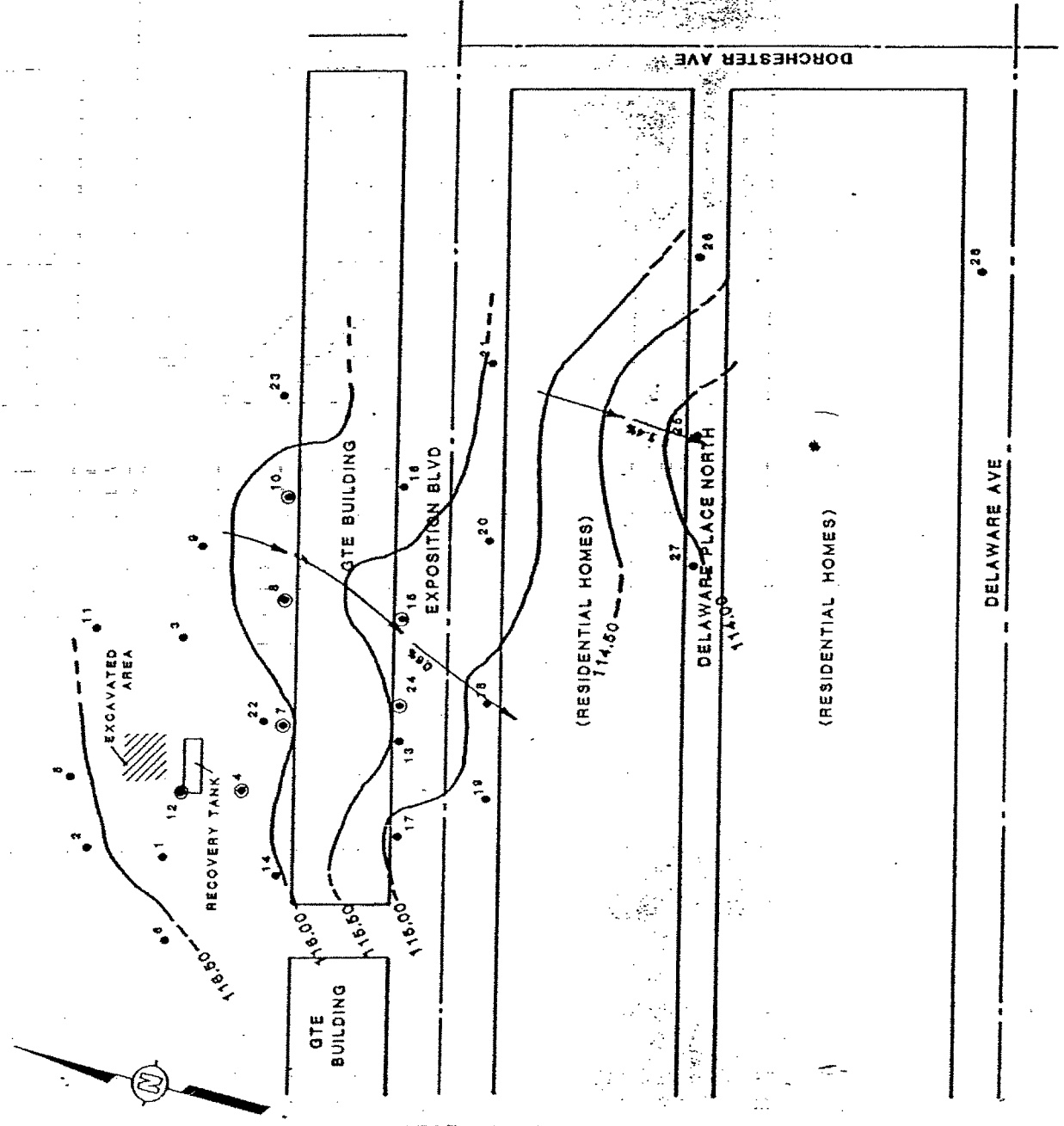


GTE - Sonora, Sonora Plant Map  
 Job No. 95002  
 D. Collins 8/30/45

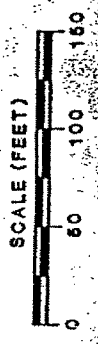
Horizontal Scale: 1"=150'  
 Vertical Scale: 1"=10'  
 Horizontal Exaggeration = 5x

Figure 3-9f CROSS SECTION G-G'

DRAWN BY RWH CHECKED BY JCH APPROVED BY T-23-96  
 DRAWING NUMBER 650021-85



**LEGEND:**  
 MAJOR GROUND WATER FLOW DIRECTION AND ITS GRADIENT  
 MONITORING WELL  
 PUMPING WELL  
 NATURAL GROUND WATER CONTOUR LINE (6/23/86)



**NOTE:**  
 NO PUMPS WERE PUMPING ON THIS DATE.

Figure 3-10

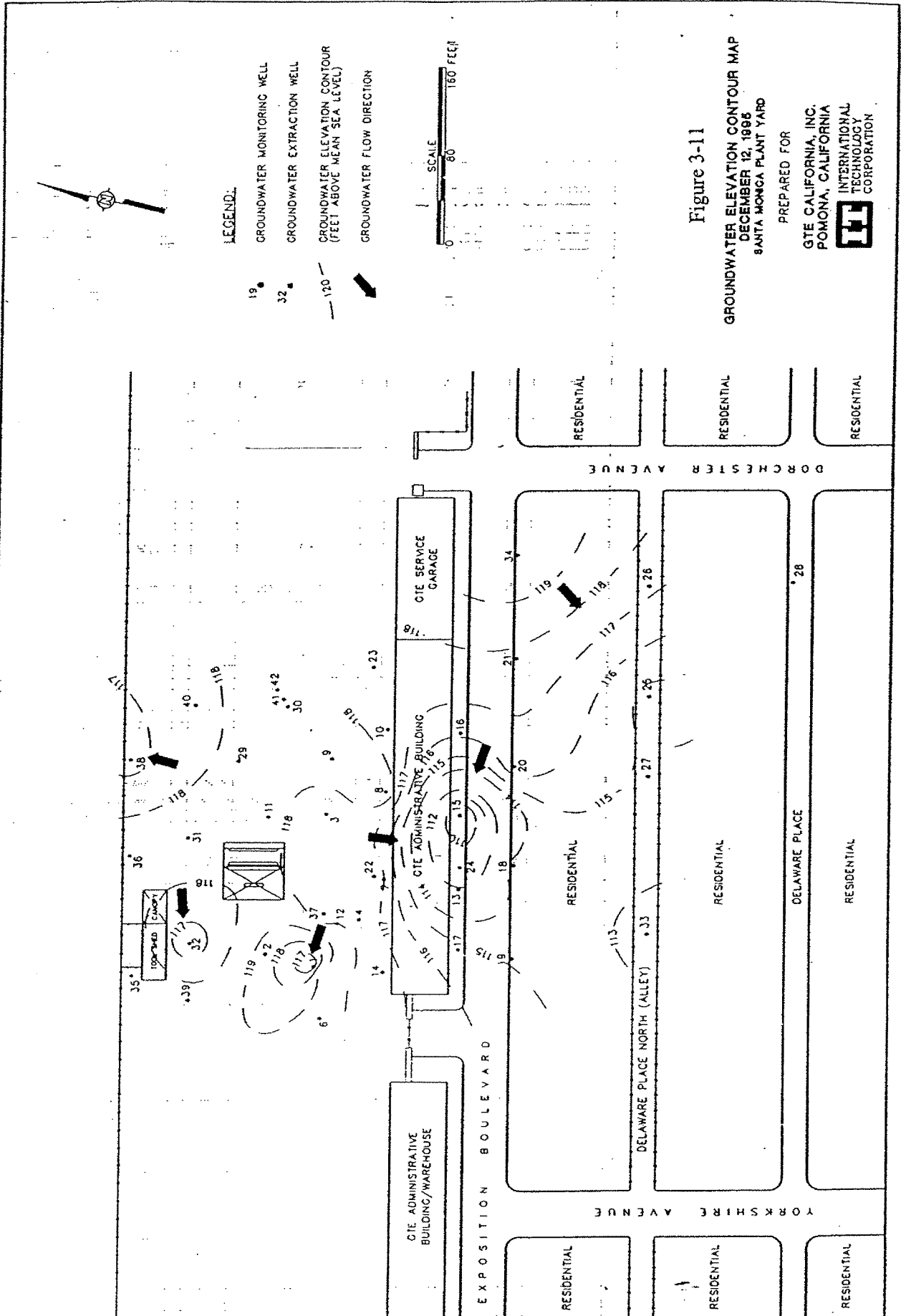
GROUND WATER CONTOUR MAP  
 FOR JUNE 26, 1986

PREPARED FOR  
 GENERAL TELEPHONE COMPANY  
 OF CALIFORNIA  
 SANTA MONICA PLANT YARD



... Creating a Safer Tomorrow

DRAWN BY JFC  
 CHECKED BY KMP  
 APPROVED BY JFC  
 DATE 1-17-96  
 DRAWING NUMBER 760001-B17



**Figure 3-11**  
 GROUNDWATER ELEVATION CONTOUR MAP  
 DECEMBER 12, 1995  
 SANTA MONICA PLANT YARD  
 PREPARED FOR  
 GTE CALIFORNIA, INC.  
 POMONA, CALIFORNIA  
 INTERNATIONAL TECHNOLOGY CORPORATION

## Section 4

# Regulatory Background

### 4.1 McDonnell Douglas Aircraft Facility

EPA identified the Douglas site as a potential hazardous waste site and entered the site into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) in July 1994. The Douglas site was discovered through an EPA Site Discovery project in the City of Santa Monica, conducted to determine the source of TCE in Santa Monica water supply wells No. 2, 3, 4, and 7. EPA did not identify any regulatory agencies as being involved with the Douglas site at that time.

EPA performed a Preliminary Assessment (PA) of the Douglas site in March 1996. After reviewing the PA, EPA determined that it was necessary to perform additional investigation. This investigation is discussed below in Section 5. Results of EPA's investigation indicated that there are no sources of uncontrolled hazardous substances on-site. EPA attributed TCE contamination in City of Santa Monica water supply wells and GTE monitoring wells to an unknown off-site, upgradient source. EPA determined that further remedial assessment was not required at the Site (URS, 1996).

Boeing acquired McDonnell Douglas Corporation in 1997 (Kennedy/Jenks, 1999). The RWQCB requested in April 1998 that Boeing determine whether possible releases from the Douglas site contributed to TCE contamination in City of Santa Monica water supply wells or threatened the quality of waters of the State. The RWQCB requested a facility audit to identify possible source areas at the former plant and a work plan to investigate the extent of possible chemical releases. Boeing finalized this work plan in January 1999 (Kennedy/Jenks, 1999) and subsequently performed the investigation. Investigation results are discussed in Section 5.

Based on the results of Boeing's investigation, the RWQCB determined that the Douglas site was not a source of contamination to groundwater. Boeing was not required to perform further action.

### 4.2 GTE Santa Monica Plant Yard

GTE received regulatory oversight from the RWQCB from 1985 to 1996 as a result of an accidental release of gasoline to the subsurface environment from an UST. The gasoline migrated vertically to a perched groundwater zone at a depth of about 33 feet bgs. Groundwater sampling and treatment activities were conducted by GTE in response to this release through 1996 (URS, 1996). The RWQCB issued a no further action letter for the gasoline release on December 16, 1996, agreeing to allow remediation of the groundwater through monitored natural attenuation (RWQCB, 1996 and 2001).

The City of Santa Monica Environmental Programs Division (EPD) oversees UST removals and installations, soil and groundwater sampling, and remediation activities associated with USTs. EPD received data on the groundwater sampling and treatment system associated with the UST release at the Site. In addition, EPD has investigative authority related to installation and removal of USTs at the Site (URS, 1996). CDM's document review of Verizon files yielded numerous correspondences between Verizon (GTE) and EPD with regard to UST removal, installation, and associated sampling. Review of these documents indicates that Verizon has obtained EPD approval on all UST removals and installations at the Site.

The RWQCB indicated that they did not consider GTE's refueling operations to be the source of TCE (RWQCB, 2001 and URS, 1996). However, in a letter dated December 4, 2001, the RWQCB required GTE (Verizon) to submit a work plan to investigate and determine the lateral and vertical extent of TCE in the groundwater.

# Section 5

## Previous Investigations and Extent of TCE Contamination

### 5.1 Previous Investigations

Several investigations have been conducted at or in the vicinity of the Site between the years 1980 and 2000. In general, these investigations were conducted to determine whether the Site was a source of TCE to groundwater (i.e., City of Santa Monica water supply wells). In some instances, data generated during Site groundwater recovery and treatment activities associated with the accidental release of gasoline are also pertinent to this objective. Investigations associated with the UST release are not discussed below unless they provide data pertinent to the objectives of this TM.

#### *Pacific Soils Engineering, Inc. 1980. Phase I Report. Exploratory Drilling and Sampling Ground Water Study for Presence of TCE.*

The City of Santa Monica funded an investigation in 1980 in response to the detection of TCE in Santa Monica well field water supply wells No. 2 and 3. A total of seven exploratory borings were drilled in the vicinity of these wells using a truck-mounted hollow stem auger. The report did not provide a figure showing boring locations. Soil and groundwater samples were collected for TCE analysis. Review of soil data indicated that TCE recovery was outside of acceptable limits; therefore, soil data were rejected as unusable for quantitative evaluations. The highest concentration of TCE in groundwater (60 micrograms per liter [ $\mu\text{g}/\text{L}$ ]) was detected at 40 feet bgs in Boring 7 near the former Douglas site. The approximate location of Boring 7 is presented on Figures 5-1a through 5-1c, based on the location description presented in the driller's log. Groundwater was not encountered in Borings 3 or 5 to depths of 50 and 100 feet, respectively. A second phase of investigation was proposed to confirm or eliminate the former Douglas site as a source of the TCE contamination.

#### *Pacific Soils Engineering, Inc. 1981. Phase II Report. Ground Water Study for Presence of TCE.*

The City of Santa Monica funded this study in 1981 to confirm or eliminate the former Douglas site as a source of TCE contamination. The scope of work also included evaluation of the possibility of TCE contamination at a proposed water well location about 1,000 feet west of water supply well No. 3.

Five exploratory borings were drilled using a truck-mounted hollow stem auger. Boring locations and analytical results are shown on Figures 5-1a through 5-1c. Groundwater was encountered in all borings at depths of 30 to 35 feet. Groundwater samples were collected for TCE analysis. Results of the investigation indicated that the upper groundwater zone represents a perched condition. The study also concluded that the upper, perched groundwater is separated from the lower, beneficially used aquifer by a relatively impermeable clay layer.

The source of TCE contamination in the shallow perched groundwater could not be established due to the inconsistent concentrations of TCE detected in the observation wells. The highest concentration varied between Boring 10 and 11 over the course of three sampling events between April and May, 1981. In general, TCE concentrations were fairly low at Boring 8 nearest the Site and increased in concentration at borings upgradient from the Site. Only one round of groundwater samples were collected in the first phase of this study (see Pacific Soils Engineering 1980 discussion above), so concentration variations over time were not available for Boring 7.

The study indicated that TCE concentrations detected in the perched groundwater were not sufficiently high to be the source of TCE contamination to the lower aquifer. The study allowed siting for the proposed Santa Monica water supply well No. 4, with the qualification that water in the lower aquifer at the proposed site should be tested for TCE before full development of the well. It is unknown whether this sampling and analysis took place.

***IT. 1994. Environmental Audit Report. 3303 Exposition Boulevard.***

IT performed an environmental audit (EA) for GTE on property located at 3303 Exposition Boulevard in Santa Monica, California. The purpose of the EA was to provide GTE with information on the environmental condition of the property and disclose any information related to potential hazardous substance releases to the subsurface.

Results of the EA indicated that two locations on the property warranted further evaluation. These locations consisted of suspected waste solvent tanks and a fuel oil tank. In addition, the EA noted that several sites upgradient from the property had reported releases of chemicals to the subsurface. The nearest of these properties is a minimum of 0.2 miles from the property. The EA indicated that the UST release at the adjacent property (the Site) had not impacted the subject property.

The EA recommended additional literature searches on sites identified in the report as showing a reported release. The EA also recommended investigation in the area of the potential tanks.

***IT. 1995a. Underground Storage Tank and Clarifier Removal Closure Report. GTE Santa Monica Plant Yard.***

Based on the results of the 1994 EA, GTE had IT remove the fuel oil tank and a clarifier. Soil samples did not indicate the presence of volatile organic compounds (VOCs). In addition, IT performed soil sampling in the area of the suspected solvent tanks. The results did not reveal the presence of VOC-contaminated soil.

***IT. 1995b. Annual Waste Discharge Report. Calendar Year 1995.***

***GTE Santa Monica Plant Yard. Santa Monica, California. Prepared for GTE.***  
As part of the groundwater recovery and treatment activities related to the fuel release, samples collected in May 1995 were analyzed for VOCs in addition to benzene, toluene, ethylbenzene, and total xylenes. The additional analyses were