



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

August 24, 1993

IT Project No. 151933.02

Mr. Duane Wallace
Pacific Bell
2600 Camino Ramon, 3E 400 I
San Ramon, California 94583

Subject: Transmittal of Work Plan for
Subsurface Characterization
Pacific Bell Facility
2610 Norbridge Avenue
Castro Valley, California

Dear Mr. Wallace:

IT Corporation (IT) is pleased to present this work plan for subsurface characterization of the above-referenced site. If the work plan is acceptable to you, a copy of the work plan (enclosed) will be forwarded to:

Mr. Scott Seery
Alameda County Health Agency
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Rm. 350
Oakland, California 94621

Should you have any questions, please contact either of the undersigned at (408) 894 - 1200.

Respectfully submitted,
IT CORPORATION

Frank L. Horath
Senior Project Geologist

Reviewed and approved,
IT CORPORATION

Matthew J. Hopwood
Area Manager

cc: Ms. Irene Soto, Pacific Bell

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Regional Office

2055 Junction Avenue • San Jose, California 95131-2105 • 408-894-1200 • FAX: 408-894-0701

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Mr. Scott Seery
Alameda County Health Agency
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Rm. 350
Oakland, California 94621

Subject: Transmittal of Work Plan for
Subsurface Characterization
Pacific Bell Facility
2610 Norbridge Avenue
Castro Valley, California

Dear Mr Seery:

On behalf of Pacific Bell, IT is forwarding the proposed work plan for additional characterization at the above-referenced Pacific Bell Facility. As we discussed, the purpose of the subsurface investigation is to provide information to further characterize the horizontal distribution of hydrocarbon-impacted groundwater at the site. If you have any questions or comments, please contact the undersigned at (408) 894 - 1200.

Respectfully submitted,
IT CORPORATION

A handwritten signature in black ink that reads 'Frank Horath'.

Frank L. Horath
Senior Project Geologist

Reviewed and approved,

A handwritten signature in black ink that reads 'Matthew J. Hopwood'.

Matthew J. Hopwood
Area Manager

cc: Ms. Irene Soto, Pacific Bell

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**SUBSURFACE INVESTIGATION WORK PLAN
Pacific Bell Facility
2610 Norbridge Avenue
Castro Valley, California**

Prepared For:

**Pacific Bell
2600 Camino Ramon, 3E 400 I
San Ramon, California 94583**

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ATTORNEY-CLIENT PRIVILEGE AND/OR WORK PRODUCT DOCTRINE
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PERMISSION OF CAROLYN S. ATTKISSON, ATTORNEY**

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SUBSURFACE INVESTIGATION WORK PLAN
Pacific Bell Facility
2610 Norbridge Avenue
Castro Valley, California

Prepared For:

Pacific Bell
2600 Camino Ramon, 3E 400 I
San Ramon, California 94583

Prepared by:

IT CORPORATION
2055 Junction Avenue
San Jose, California 95131

Project Number 151933.02

August 1993

Frank Horath

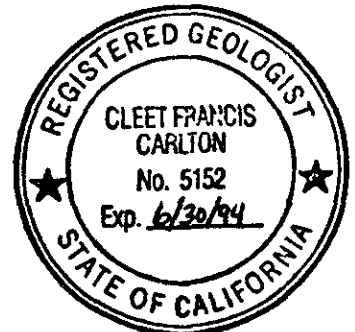
Frank Horath
Senior Project Geologist

Matthew J. Hopwood

Matthew J. Hopwood
Area Manager

Cleet F. Carlton

Cleet F. Carlton
California Registered Geologist No. 5152



**WORK PLAN FOR SUBSURFACE INVESTIGATION
PACIFIC BELL FACILITY
2610 Norbridge Avenue
Castro Valley, California**

1.0 INTRODUCTION

This work plan presents the scope of work to characterize hydrocarbon-impacted groundwater at the above-referenced site. The Pacific Bell maintenance facility is located at 2610 Norbridge Avenue in Castro Valley, California (Figure 1). The site plan and proposed monitoring well locations are presented in Figure 2.

During the recent underground storage tank (UST) removal hydrocarbons were detected in soil within and immediately adjacent to the tank pit, and in standing water within the pit. IT proposes to install four groundwater monitoring wells to assess the groundwater quality and the water table gradient at the site.

2.0 INVESTIGATION BACKGROUND

On May 4, 1993, a 10,000-gallon fiberglass unleaded gasoline underground storage tank (UST) was removed by Balch Petroleum of Milpitas, California, under the supervision of IT Corporation (IT). Following excavation and prior to removal, the UST was emptied of product using a vacuum truck. The tank was visually inspected and no holes or areas of high corrosion were observed. On May 5, 1993, standing water in the tank pit bottom was pumped from the open excavation via vacuum truck by Petroleum Recycling Corporation (PRC). Following pumping, a new double wall steel tank was installed, and the excavation was backfilled with clean pea gravel fill.

A groundwater grab sample GRABWATER-1 was collected from standing water 8 to 9 feet below ground surface (bgs) within the excavation following the tank removal. This sample contained 7,900 parts per billion (ppb) total petroleum hydrocarbons as gasoline (TPH-G) and constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations up to 110 ppb ethylbenzene and total xylenes.

IT collected and analyzed three soil samples (SOIL-1 through SOIL-3, Figure 2) from the original excavation sidewalls, approximately 6 feet below ground surface (bgs). TPH-G and BTEX were not detected within the northern (SOIL-1) and northeastern (SOIL-2) excavation corners. The southern sidewall sample (SOIL-3) contained 12 parts per million (ppm) TPH-G.

Due to the presence of detectable hydrocarbons in soil sample SOIL-3, IT over-excavated and extended the excavation approximately 10 feet in the southern direction. IT then collected three soil samples (SOIL-4 through SOIL-6) from the excavation sidewalls. SOIL-4 within the southwest corner of the excavation contained 430 ppm TPH-G at 6 feet bgs. TPH-G and BTEX were not detected in SOIL-5 and SOIL-6.

IT extended an exploratory trench, approximately 12 feet southwest of the southwestern corner of the excavation, to define the non-detect boundary of the soil plume. Soil sample SOIL-7 was collected from 6 feet bgs and did not contain detectable TPH-G and BTEX. The absence of detectable hydrocarbons at location SOIL-7 defined the southwest boundary of hydrocarbon impacted soil.

A second round of over-excavation was initiated to remove hydrocarbon impacted soil adjacent to the southwest corner of the excavation. This over-excavated area is shown in the attached Figure 2. Three verification samples (SOIL-8, SOIL-9, and SOIL-10) were collected from this over-excavated area. Detectable TPH-G or BTEX were not found in soil sample SOIL-10. Soil sample SOIL-8, collected just above the groundwater interface (7.5 feet bgs), contained 31 ppm TPH-G. BTEX concentrations up to 0.35 ppm ethyl benzene (SOIL-8) were found in soil samples SOIL-8 and SOIL-9.

3.0 OBJECTIVES AND WORK SCOPE

IT will advance four borings and install groundwater monitoring wells in each boring during this investigation. The objective is to characterize the horizontal distribution of hydrocarbon-impacted groundwater at the site. The scope of work has been divided into three tasks each with several work items as follows:

The scope of work includes the following tasks:

- Task 1. Permitting and work plan;
- Task 2. Monitoring Well Installation;
- Task 3. Monitoring Well Installation Report.

Task 1: Permitting and Work Plan

The following sub-tasks will be undertaken prior to initiation of field activities:

1. Obtain groundwater monitoring well permits from the Alameda County Water District;
2. Complete the investigation work plan and submit it to the Alameda County Health Department for review;
3. Complete the site health and safety plan (HASP).

Task 2: Monitoring Well Installation

IT will locate subsurface utilities by notifying Underground Service Alert (USA) at least five days prior to drilling and retaining a private utility locator to locate underground utilities and potential interferences before drilling.

Three borings (one upgradient and two in the anticipated downgradient groundwater direction of the tank pit) will be drilled (Figure 2) at the site and groundwater monitoring wells will be installed. The borings will be drilled using a truck-mounted drill rig equipped with ten-inch diameter hollow-stem augers. The fourth boring will be drilled, and a well installed, in the over-excavated area immediately downgradient of the tank pit for groundwater monitoring and extraction, if necessary. The borings will be advanced to approximately 20 feet below ground surface.

During drilling, soil samples will be collected using a modified California split-spoon sampler lined with stainless steel sample tubes for observation of the soil lithology, field measurement of volatile organic compounds with a field screening meter, and laboratory analysis. Soil samples will be collected at 5-foot intervals or less based on field conditions. Laboratory analysis will include TPH-G and BTEX by EPA Methods 8015 (modified) and 8020.

Four soil samples, one from the vadose zone of each boring, will be submitted to a State-certified laboratory for analysis of TPH-G/BTEX. Drill cuttings generated from the investigation will be stored on and covered by plastic, pending laboratory analysis to determine disposal options. Procedures for drilling, logging, and soil sampling will be in accordance with regulatory guidelines and IT technical procedures.

The monitoring wells will be constructed of two-inch diameter, schedule 40 poly vinyl chloride (PVC) casing. The upper portion of the wells will consist of solid, blank casing. The lower, screened portion of the wells will be constructed of 0.020-inch width machine slotted screen. The solid casing will be installed from approximately 0.5 to 7 feet bgs. The screened casing will be placed between approximately 7 and 22 feet bgs. The annular space around the screened interval will be backfilled with No. 2 Lonestar sand filter pack. The sand filter pack will be capped with a six-inch layer of granular bentonite. Neat portland cement grout will be placed in the annulus above the bentonite seal to about 0.5 feet bgs. A locking cap will be placed atop the well, and a secured surface enclosure will be set in concrete flush with the site ground surface.

The newly installed wells will be developed following installation. We will initially surge the wells with a bailer or surge block. After surging, the well will be developed by removing at least five well water volumes. All groundwater removed from the well, as well as rinse water from drilling operations, will be placed in containers and stored on-site pending water quality characterization.

The well will be considered developed when temperature, conductivity and pH stabilize and/or when the water is relatively free of suspended material. The maximum variation between three consecutive readings are as follows:

PARAMETER	MAXIMUM VARIATION FOR STABILIZATION
Electrical Conductivity, EC	10% of the instrument scale unit.
Temperature °F	1°
pH	0.1 unit
Water clarity	Water is clear or color stable

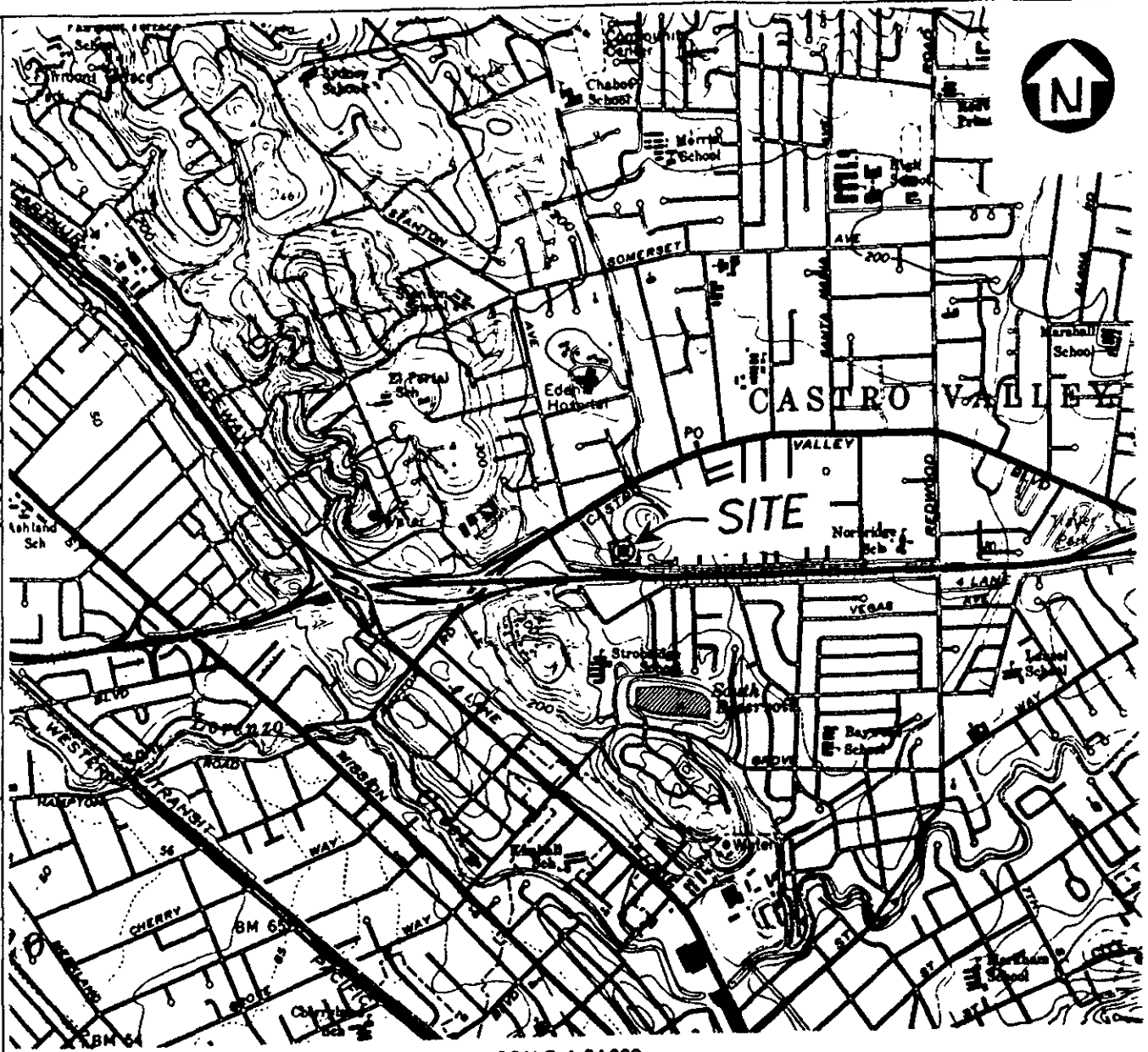
Field parameters will be recorded on a data sheet and included in the report appendices. The purged water will be stored on-site in 55-gallon, (DOT-17E) drums until analyses are completed. The water will be properly disposed as determined by the analytical results. A groundwater sample from each well will be analyzed for TPH-G/BTEX. IT will transport and dispose of all soil and groundwater wastes generated during the field activities.

Monitoring wells will be surveyed with respect to an established benchmark to mean sea level for groundwater gradient determination. Elevations will be measured to the nearest 0.01 foot.

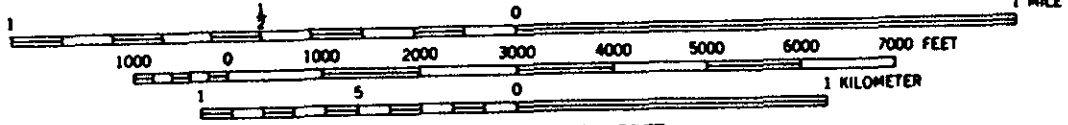
Task 3: Monitoring Well Installation Report

Upon completion of Task 2, a report presenting the results of the well installation will be submitted to the applicable regulatory agencies. The report will present: site plan, groundwater elevation contours, TPH-G and BTEX concentrations in groundwater, laboratory results, boring logs, and well construction data.

DRAWN BY: J.M.
 APPROVED BY: M. Miller
 OA/OC BY: F. Hoek
 DISK/FILE: SKD09/151933VM
 151933-VM
 07-08-93




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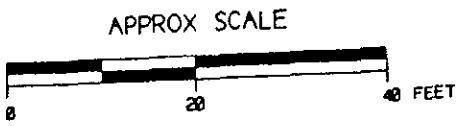
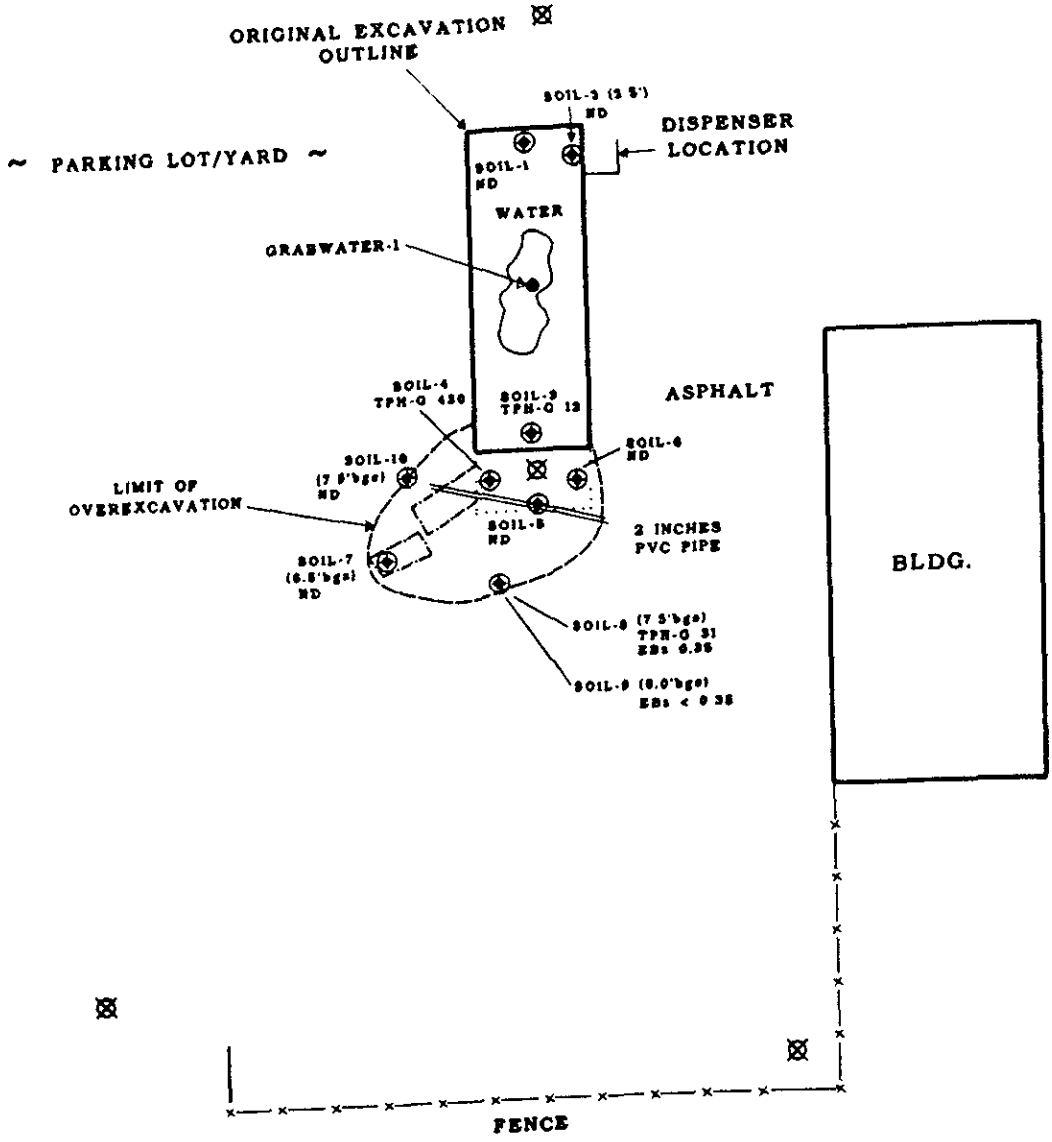
CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 5-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



REFERENCE
 UNITED STATES DEPT. OF THE INTERIOR, GEOLOGICAL SURVEY
 STATE OF CALIFORNIA, HAYWARD QUADRANGLE,
 7.5 MINUTE SERIES (TOPOGRAPHIC).

Figure 1
 VICINITY MAP
 IT PROJECT No. 151933
 PACIFIC BELL FACILITY
 2610 NORBRIDGE AVENUE
 CASTRO VALLEY, CALIFORNIA
 PREPARED FOR
 PACIFIC BELL
 SAN JOSE, CALIFORNIA
 **INTERNATIONAL TECHNOLOGY CORPORATION**

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 QA/QC BY 7 Month, 8/1/93
 APPROVED BY
 06-30-93
 DRAWN BY



LEGEND

- ☒ PROPOSED WELL LOCATIONS
- ⊕ SOIL SAMPLE (6' bgs. EXCEPT WHERE NOTED)
- TPH-Q 430 TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN PPM
- EBI 0.35 ETHYLBENZENE IN PPM
- ND NON-DETECT
- FIRST OVEREXCAVATION
- EXPLORATORY TRENCH
- SECOND OVEREXCAVATION

Figure 2
SITE PLAN
 IT PROJECT NO. 151933
 PACIFIC BELL FACILITY
 2610 NORBRIDGE AVENUE
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 SAN JOSE, CALIFORNIA
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 CORPORATION