ConocoPhillips
76 Broadway
Sacramento, California 95818

January 12, 2007

Mr. Don Hwang
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Re: **Transmittal**
Work Plan – Site Investigation and
Injection Well Installation
76 Service Station #0843
1629 Webster Street
Alameda, CA

Dear Mr. Hwang:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact

Shelby S. Lathrop (Contractor)
ConocoPhillips
Risk Management & Remediation
76 Broadway
Sacramento, CA 95818
Phone: 916-558-7609
Fax: 916-558-7639

Sincerely,

Thomas Kosel
Risk Management & Remediation

Attachment

January 24, 2007

Mr. Donald Hwang
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Work Plan – Site Investigation and Injection Well Installation
76 Station No. 0843
1629 Webster Street
Alameda, California

DELTA

Dear Mr. Hwang:

On behalf of Conoco Phillips Company (COP), Delta Consultants (Delta), has prepared this work plan proposing the advancement of one soil boring to delineate the vertical extent of the petroleum hydrocarbon impact to the soil and groundwater beneath the site and the installation of five ozone injection wells to remediate the petroleum hydrocarbon impact to the groundwater on-site and down-gradient of the site located at 1629 Webster Street in Alameda, California (Figure 1).

The work proposed in this workplan will be initiated if no comment to the workplan is received from the Alameda County Health Agency within 60 days of submittal, as allowed by State law.

The vertical extent of the petroleum hydrocarbon impact to the soil and the groundwater has yet to be defined. Additionally, it appears that the hydrocarbon plume at this site has commingled with the hydrocarbon plume originating from the up-gradient Shell station and has migrated off-site, down-gradient of this site. Therefore, Delta is proposing the advancement of one boring to a depth of approximately 55 feet below the ground surface (bgs) to determine the vertical extent of the petroleum hydrocarbon impact to the soil and groundwater beneath the site. Additionally, three ozone injection wells will be installed for the purpose of remediation of the petroleum hydrocarbon impact to the groundwater beneath the site and down-gradient of the site. The proposed location of the soil boring and the location of the five ozone injection wells are shown on Figure 2.

3164 Gold Camp Drive Suite 200 Rancho Cordova, California 95670 USA
Phone 916.638.2085 / 800.477.7411 Fax 916.638.8385 www.deltaenv.com

SITE DESCRIPTION

The site is located at the southwest corner of the intersection of Webster Street and Pacific Avenue in Alameda California. The site is currently an inactive service station with the fuel dispenser, one underground waste-oil tank, and two underground gasoline storage tanks (USTs) previously been removed.

PREVIOUS ASSESSMENT

June 1998 - Tosco Marketing Company (Tosco, now ConocoPhillips) removed two 10,000-gallon gasoline underground storage tanks (USTs), one 550-gallon used oil UST, product lines, and dispensers. Two holes approximately ¾-inch in diameter were observed in the used oil tank during removal. Approximately 338 tons of hydrocarbon impacted soil and backfill were removed from beneath the former USTs, dispensers, and product lines during the UST removal activities.

March 1999 – Four soil borings (B1 through B4) were advanced at the site and converted to monitor wells MW-1 through MW-4. Groundwater was encountered from 8 to 15 feet below ground surface (bgs). Static water was observed between 4 and 6 feet bgs subsequent to well installation.

December 1999 – Two offsite soil borings (B5 and B6) were advanced and subsequently converted to monitor wells MW-5 and MW-6. Groundwater was initially present at approximately 10 feet below bgs. Static water was observed at 7 feet bgs subsequent to well installation.

March 2001 - An underground utility survey was conducted to identify and locate underground utilities beneath and in the vicinity of the site that could provide potential preferential pathways for groundwater flow.

May 2001 - Five direct-push soil borings (GP-1 through GP-5) were installed to evaluate whether underground utilities in the vicinity of the site are providing preferential pathways for groundwater flow and the migration of dissolved hydrocarbons. The results of the investigation indicated insufficient evidence that underground utility lines were providing preferential pathways for the off-site migration of dissolved petroleum hydrocarbons.

December 2001 - Twelve direct-push soil borings (GP-6 through GP-17) were completed to further assess the extent of residual hydrocarbons in the vadose zone beneath the site. The results of the investigation indicated that the extent of the residual hydrocarbon impact detected in the previous investigations was limited.

December 2002 - One on-site monitoring well (MW-2) was destroyed during remedial excavation of hydrocarbon-impacted soil. This well was completed in the vicinity of the former eastern dispenser island and was replaced with on-site backfill monitoring well MW-2A. Approximately 292 tons of hydrocarbon-impacted soil was removed from beneath the former eastern dispenser island.

September 2003 - A *Request and Work Plan for Closure* prepared by ERI was submitted to the Alameda County Health Care Services Agency, dated September 10, 2003. The report summarized why no further action is needed for the site; the report also included

plans to destroy the existing wells upon regulatory acceptance for no further action. Closure was not granted.

June 2004 – A work plan was submitted for two monitor wells down-gradient of MW-5.

May 2005 – A work plan titled *Work Plan Addendum – Site Assessment Activity* dated May 17, 2005 was prepared by ATC Associates Inc. for the installation of two offsite monitor wells.

September 2005 – A work plan was prepared by ATC Associates Inc., titled *Work Plan Subsurface Investigation*, for the installation of one onsite monitor well.

September 2005 – Site environmental consulting responsibilities were transferred to Delta.

SENSITIVE RECEPTORS

June/July 2002 - A groundwater receptor survey was conducted. Three irrigation wells are located within a one-half mile radius of the site. The wells are located approximately 1,980 feet west and 2,245 feet southwest of the site, cross-gradient and up-gradient of the site.

PROPOSED ACTIVITIES

Permitting, Utility Notification and Borehole Clearance

Before commencing field operations Delta will prepare a Health and Safety Plan in accordance with state and federal requirements for use during on-site assessment activities. In addition, drilling permits will be obtained for the soil boring and the ozone injection wells from the Alameda County Health Agency (ACHA). Prior to drilling, Underground Service Alert (USA) and a private utility locator will be notified as required to clear the proposed drilling locations for underground utilities.

Soil Borings and Grab Groundwater Samples

Delta proposes to advance one (1) exploratory boring, B-1 using a truck mounted 8-inch hollow stem auger adjacent to the former fuel dispenser island on the east side of the property. The soil boring will be advanced to a depth of approximately 55 feet bgs or until auger refusal.

Soil samples will be logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds by headspace analysis using a pre-calibrated photo-ionization detector (PID). Soil samples will be collected for lithologic interpretation and field screening at 5 foot intervals. The soil sample exhibiting the highest PID reading from the boring will be submitted for analysis. If PID readings do not indicate the presence of volatile organic compounds, the soil sample collected from above first water will be submitted for analysis. A chain-of-custody will accompany the samples during transportation to the laboratory. The selected soil sample will be submitted to a California-certified laboratory for analyses of total purgeable petroleum hydrocarbons (TPPH), benzene, toluene, ethyl-benzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), di-

isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), ethanol, and ethylene di-bromide (EDB) - (8 oxygenates) by EPA Method 8260B.

Groundwater samples will be collected at 10-foot intervals beginning at a depth of 25 feet bgs to the total depth of 55 feet bgs. Depth discrete grab groundwater samples will be obtained using a Hydropunch sampling tool. Non-disposable sampling equipment will be decontaminated between samples in a non-phosphate detergent and double rinsed with potable water.

Groundwater samples obtained from the borings will be decanted into 40-milliliter VOA vials containing hydrochloric acid (HCl) as a preservative, properly labeled and placed on ice as noted above pending transportation to a California-certified laboratory. A chain-of-custody will accompany the samples during transportation to the laboratory. The collected groundwater samples will be analyzed for TPPH, BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, Ethanol, and EDB - (8 oxygenates) by EPA Method 8260B.

Once the sampling has been completed, the borings will be backfilled to the surface with bentonite grout.

Ozone Well Installation

Delta proposes the installation of three injection wells at the site. Potential well locations include the vicinity of monitoring well MW-1 along the southern boundary of the property, down-gradient of the Shell service station, in the source area up-gradient from monitoring well MW-2A, and on-site, down-gradient of the former fuel dispenser island located along the eastern edge of the property. The wells will be installed at the proposed locations perpendicular to the axis of the TPPH and MTBE plumes present beneath the site. Potential proposed injection well locations are shown on Figure 2.

The injection wells will be constructed with ceramic ozone diffusers attached to ¾-inch poly-vinyl chloride (PVC) casing to surface grade. Sand filter packing will extend from total depth to one foot above the top of the screen interval, sealed with 5 feet of bentonite saturated in place, and then capped to the ground surface with cement grout and completed with traffic rated vault boxes. The screened interval depth will be based on the data obtained during the advancement of the previously discussed soil boring and may be modified based on the subsurface lithology encountered during the installation of the borings. A diagram detailing the injection well construction is included as Figure 3.

Delta anticipates that each of the proposed injection wells will be installed to a total depth of approximately 19 feet bgs, with the ceramic diffuser placed from 18 – 15 feet bgs. Soil samples for lithologic logging and chemical analysis will be collected at 5-foot intervals from each of the proposed borings. Selected soil samples will be field screened with a PID for the presence of volatile organic compounds. Delta will collect one soil sample from each boring at the depths that exhibit the highest PID readings. Selected soil samples will be analyzed for TPPH, BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, Ethanol, and EDB - (8 oxygenates) by EPA method 8260B.

Down-hole drilling tools will be decontaminated between borings to avoid cross contamination. The decontamination process will consist of multiple wash and rinse cycles using potable water and a non-phosphate detergent.

Disposal of Drill Cuttings and Wastewater

Drill cuttings and decontamination water generated during the soil boring advancement and well installation activities will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and stored on the property. Samples of the drill cuttings and wastewater will be collected, properly labeled and placed on ice for submittal to a California-certified laboratory and analyzed for TPPH, BTEX, and MTBE by EPA Method 8260B and total lead by EPA Method 6010B. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and wastewater will be profiled, transported, and disposed of at a COP approved facility.

Reporting

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the boring activities, including copies of boring permits, and details of disposal activities and copies of disposal documents. Required electronic submittals will be uploaded to the State Geotracker database.

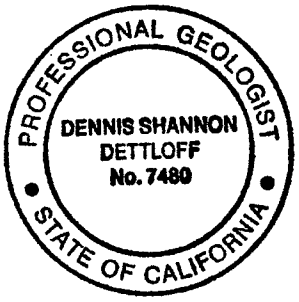
REMARKS/SIGNATURES

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions regarding this project, please contact me at (916) 503-1261 or Ms. Shelby Lathrop of ConocoPhillips at 916-558-7609.

Sincerely,

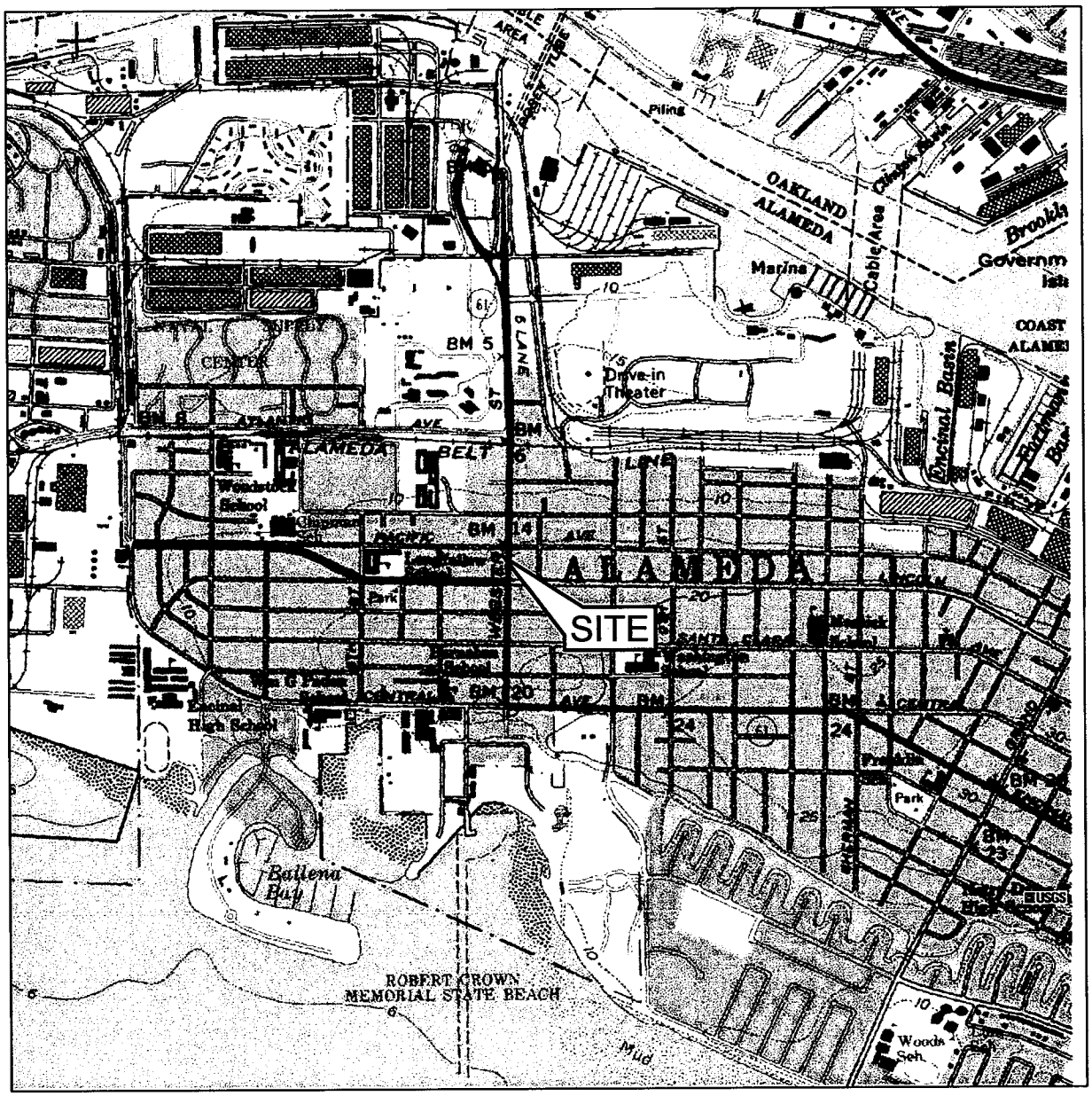
DELTA ENVIRONMENTAL CONSULTANTS, INC.



Dennis S. Dettloff, P.G.
Senior Project Manger
California Registered Professional Geologist No. 7480

Attachments:
Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Well Construction Diagram

cc: Ms. Shelby Lathrop, ConocoPhillips (electronic copy only)



0 1000 FT 2000 FT

SCALE: 1 : 24,000

North

FIGURE 1

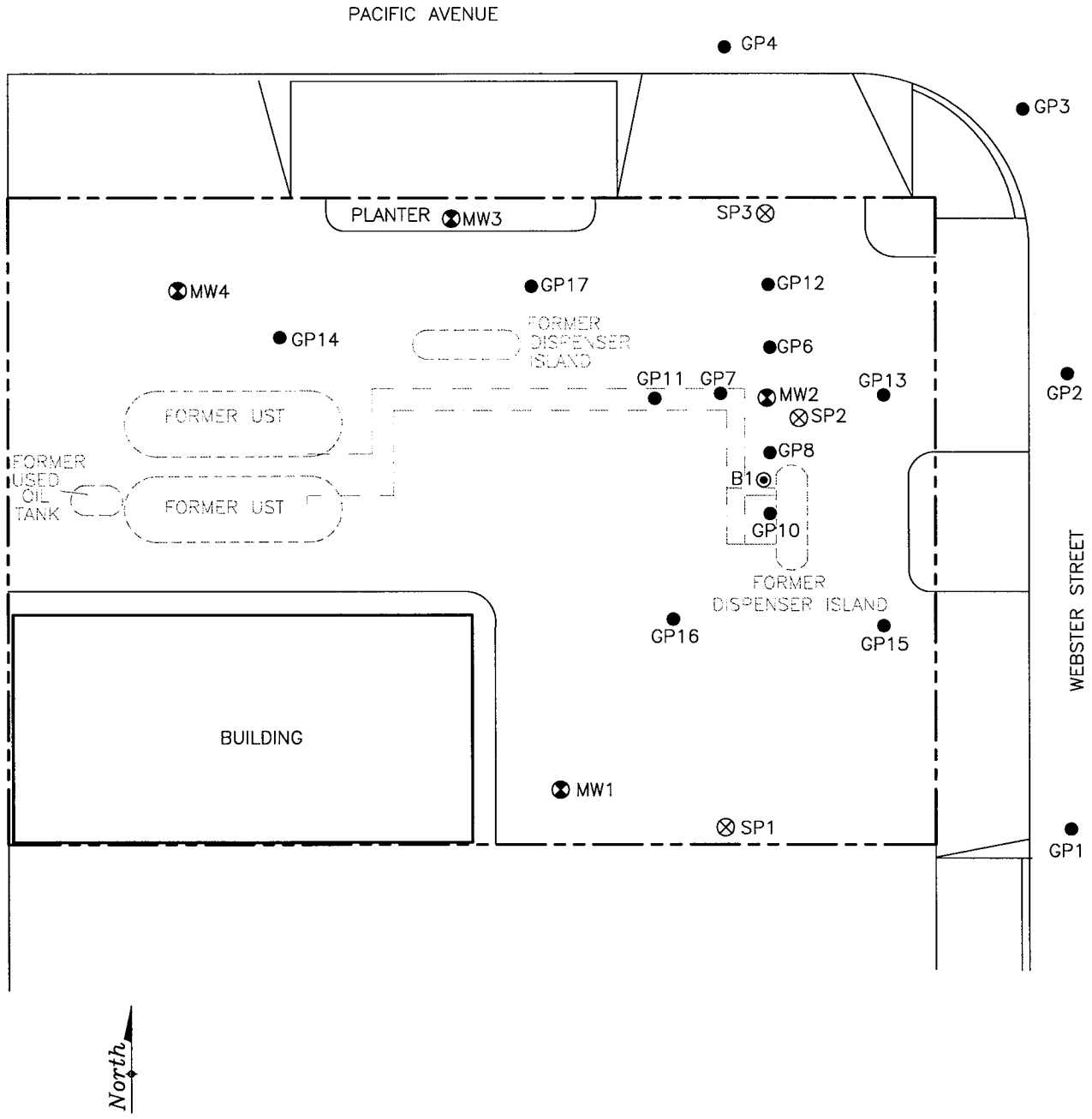
SITE LOCATION MAP

76 STATION NO. 0843
1629 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO. C100-843	DRAWN BY JH 01/24/07
FILE NO. Site Locator 0843	PREPARED BY JH
REVISION NO. 1	REVIEWED BY

DELTA

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND WEST QUADRANGLE, 1996



PLAN ADAPTED FROM A DRAWING DATED MAY 23, 2001 TITLED "GENERALIZED SITE PLAN" PREPARED BY ENVIRONMENTAL RESOLUTION INC., AND SUPPLIED BY THE CLIENT.

LEGEND:

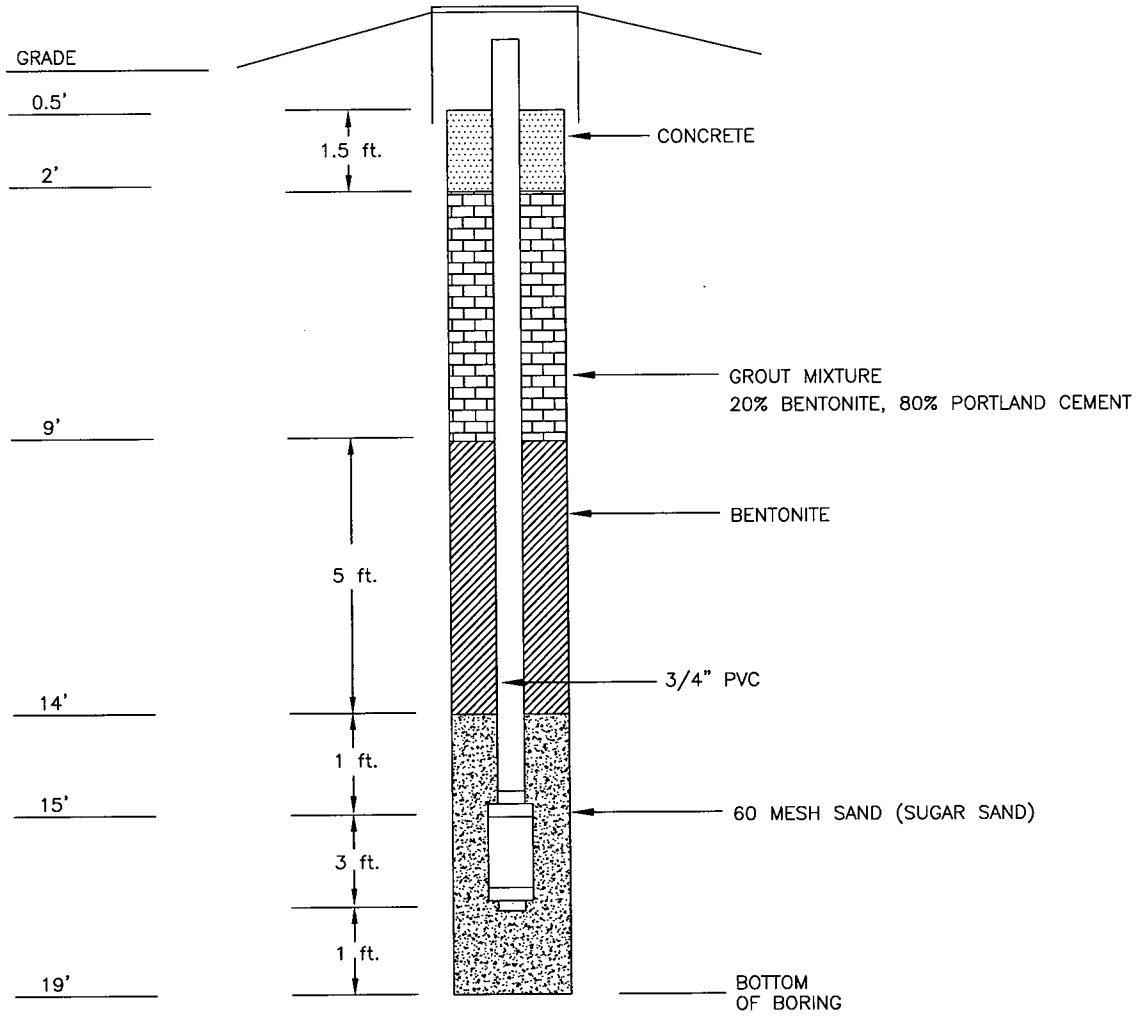
- PROPERTY BOUNDARY
- MONITORING WELL
- DIRECT-PUSH SOIL BORING
- PROPOSED OZONE INJECTION WELL
- PROPOSED SOIL BORING
- FORMER PRODUCT LINE

FIGURE 2
SITE PLAN

FORMER 76 SERVICE STATION 0843
1629 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C102439121	DD	JH
DATE	REVIEWED BY	FILE NAME
01/24/07		76-0843

DELTA



NOTES:

1. NOT DRAWN TO SCALE
2. DEPTH MEASUREMENTS AND INTERVALS ARE APPROXIMATE. ACTUAL WELL DESIGN WILL BE BASED ON EXPLORATORY BORING AND SITE CONDITIONS

FIGURE 3
SPARGE POINT CONSTRUCTION DETAILS

FORMER 76 STATION 0843
1629 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C102349121	DD	JH
DATE	REVIEWED BY	FILE NAME
01/24/07		0843-PROSP

DELTA