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76 Broadway
Sacramento, California 95818

August 24, 2006

Mr. Jerry Wickham
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Re: **Report Transmittal**
Work Plan – Additional Soil Boring Assessment
76 Service Station #4186
1771 First Street
Livermore, CA

Dear Mr. Wickham:

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,

A handwritten signature in black ink that reads "Thomas H. Kosel". The signature is written in a cursive, flowing style.

Thomas Kosel
Risk Management & Remediation

Attachment



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August 24, 2006

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Work Plan – Additional Soil Boring Assessment
Delta Project No. C104186061
76 Service Station No. 4186
1771 First Street
Livermore, California

Dear Mr. Wickham:

This work plan has been prepared by Delta Environmental Consultants, Inc. (Delta) on behalf of ConocoPhillips Company (COP) for the above referenced site. The proposed scope of work is for assessing site conditions through completion of three soil borings and collection of grab groundwater samples per the Alameda County Health Care Services Agency letter dated June 22, 2006. Figure 1 shows the site location.

The purpose of drilling the soil borings is to (1) define the vertical extent of contamination within the lower sand and gravel unit and (2) investigate the presence of a clay layer underlying the deep coarse-grained soils which may represent a regional aquitard. In addition, potential offsite upgradient sources of contamination will be investigated, site history evaluated, and historical site conditions assessed. Figure 2 shows site facility details and locations of the proposed soil borings.

SITE DESCRIPTION

The subject site is an operating service station located on the southwest corner of First Street and N Street in Livermore, California (Figure 2). The site is bounded on the north by First Street, on the east by N Street, and on the south and west by commercial buildings. The immediate site vicinity is a mix of commercial properties including restaurants, automobile repair shops, and shopping facilities. The site is located at an elevation of 480 feet above mean sea level (MSL).

Current aboveground site facilities consist of four dispenser islands, a canopy and a station building. Two 10,000-gallon gasoline USTs are located in a common pit on the east side of the site.

A member of:



SITE BACKGROUND AND ACTIVITY

During dispenser and piping replacement activities in June 1996, six soil samples were collected from beneath the fuel dispensers and along the product delivery piping. Analytical results were non-detect (ND) for Total Petroleum Hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene and total xylenes (BTEX) for each sample collected from beneath the dispenser islands and product delivery piping.

A soil gas survey was conducted on September 10, 1997, as part of a baseline site evaluation associated with the property transfer from Unocal Corporation to Tosco. Six soil gas probes were advanced and samples collected at 3 or 15 feet below ground surface (bgs) in the vicinity of the UST pit, dispenser islands, and product lines. Analytical results of soil gas samples ranged from 41 to 4,500 parts per billion by volume (ppb-v) TPH-G, ND to 110 ppb-v benzene, and ND to 8,000 ppb-v MTBE. The area of highest soil vapor concentration was localized around the USTs.

Alameda County Zone 7 Water Agency files were reviewed on April 8, 1998, to identify water supply wells located within a one half mile radius of the site. Two municipal wells were identified as present approximately 1,500 feet and 1,800 feet northwest of the site, and two domestic wells were located approximately 1,900 feet and 2,800 feet southwest and west of the site.

On June 16, 1998, three two-inch diameter groundwater monitor wells (U-1 through U-3) were drilled and completed at the site. The wells were installed to depths of 34 feet bgs. Analytical results of soil samples collected from the three well boreholes were reported as ND for TPH-G, benzene, and MTBE.

A site conceptual model (SCM) was completed for the site in May 2000. A groundwater flow velocity was calculated to estimate plume travel time to the nearest downgradient receptor. Groundwater velocity was calculated to be 46 feet per year. It was concluded that hydrocarbon impact to groundwater appears to fluctuate with the rise and fall of the groundwater surface beneath the site.

Two additional two-inch diameter groundwater monitor wells (U-4 and U-5) were installed offsite on February 21, 2001, at the locations shown on Figure 2. The wells were installed to depths of 45 feet (U-4) and 47 feet (U-5). TPH-G, BTEX and MTBE were not detected in soil samples collected from the boreholes during well drilling. TPH-G and benzene were not detected in groundwater samples collected from wells U-4 and U-5. MTBE was detected in the groundwater samples from both wells U-4 and U-5 at concentrations of 38.2 and 55.4 micrograms per liter (ug/l), respectively.

Monitoring and sampling of the wells at the site was initiated in July 1998, and has continued on a quarterly basis to the present time. Historically, groundwater flow directions have varied from north to southwest. Depth to groundwater has varied from 21.62 feet bgs (U-3) to 46.31 feet bgs (U-5).

On December 5 – 7, 2001, two monitor wells (U-6 and U-7) and eight ozone microsparge points (SP-1 through SP-8) were installed. The monitor wells were installed to 45 feet bgs using 8-inch diameter hollow stem augers. Borings SP-1 through SP-8 were completed as sparge points with the installation of 2-inch diameter KVA sparge points attached to ¾-inch diameter blank schedule 80 PVC casing. The sparge points are composed of 30-inch long microporous plastic. Sparge points SP-1 through SP-4 were installed to depths of 45 feet

bgs. Sparge points SP-6S and SP-7S were installed to depths of 25 feet bgs. The remaining two sparge locations contained nested sparge points (SP-5, SP-5S, SP-8 and SP-8S) installed to 25 and 45 feet bgs in each boring. With completion of the sparge point installation, an interim remedial measure system was installed consisting of a K-V Associates, Inc. (KVA) "C-Sparge" ozone microsparge system.

On April 19 – 26, 2006 seven soil borings (B-1 through B-7) were drilled at the site. Analysis of depth-discrete groundwater samples showed contamination present to 65-foot depth.

SITE GEOLOGY AND HYDROGEOLOGY

During previous field investigations, it was determined that the unsaturated (vadose) zone is composed predominantly of gravel with varying amounts of clay, silt and sand. The saturated zone is composed of clay, silty sand, and gravel.

Soil encountered during the April 2006 soil boring assessment consisted primarily of gravel with varying amounts of clay and silt near the surface, and continued to a depth of approximately 25 feet bgs. A clay unit with various amounts of silt and sand continued from approximately 25 feet to 36 feet bgs. A saturated layer generally consisting of silty sand with gravel and comprised of multiple smaller units consisting of various amounts of gravel, sand and silt was encountered at approximately 36 feet bgs and continued to a depth of approximately 43 feet bgs. A clay unit with varying amounts of silt and sand was present from approximately 43 feet to 55 feet bgs. Underlying the clay unit and continuing to total depth explored was silty sand with gravel and gravel with sandy silt. Groundwater was initially encountered between depths of 32 to 42 feet bgs. Zones of saturated soil varied in thickness and lithology within and between borings.

Historical monitoring data show the static depth to water onsite varies from 23 to 31 feet bgs. The historical groundwater flow direction has varied from north to southwest with an average gradient of 0.02 foot per foot (ft/ft). The nearest surface water to the site is the Arroyo Mocho Creek, located approximately 2,900 feet south of the site.

PROPOSED SCOPE OF WORK

The proposed scope of work includes the following activities:

- Conduct utility clearance and obtain drilling permit from the Zone 7 Water Agency and Alameda County Public Works Agency;
- Drill three soil borings to a lower clay unit or to maximum 100 feet bgs with the initial five feet cleared by "air-knife" technology;
- Using the CPT logs, collect depth discrete grab groundwater samples within the lower coarse-grained unit from each borehole;
- Upload analytical laboratory data into the State of California Geotracker System per requirements of AB 2886; and
- Prepare a report of findings.

In addition, specific technical comments presented in the agency letter will be addressed as discussed in the following paragraphs.

Technical Comments and Methods for Answering Technical Comments

"Identify any possible sources of fuel hydrocarbons upgradient of the site and clarify the basis for additional investigation in the upgradient direction."

Delta proposes a data base search using Environmental Data Resources Inc. (EDR). The report will include a radius map report; physical setting sources; sanborn fire insurance maps; aerial photo decade package; historical topographic map report; city directory abstract; USGS 7.5 minute topographic map; historical gas stations database; and historical drycleaner database. The EDR report may reveal potential upgradient sources of fuel hydrocarbons. Upon reviewing the EDR report Delta will present a summary of the results and consider proposing an additional upgradient investigation.

“Identify any possible sources of fuel hydrocarbons from recent or historic releases from the site.”

Delta proposes a site history review. Using the appropriate data bases (WebXtender and GeoTracker) and utilizing site historical files, prior locations of tanks, dispensers, and product lines will be determined; review as-builts for site utility trenches; and identify recent or historical releases from the site. The compilation of the site history will help identify possible sources of fuel hydrocarbons.

“Evaluate historic groundwater flow directions and how the ozone sparge system may be affecting the distribution of dissolved phase hydrocarbons.”

Delta will review remediation system design assumptions and evaluate field results to verify the system radius of influence in relation to the dissolved gasoline plume distribution and concentration trends.

Pre-Field Investigation Activities

A utility survey will be completed prior to conducting the field investigation. Underground Services Alert (USA) will be notified at least 48 hours prior to drilling operations, and the services of a private utility locating company will be utilized to reduce the risk of damage to utilities beneath the property. Additionally, the first five feet of each borehole will be cleared before drilling is begun.

Delta will prepare a site-specific Health and Safety (H&S) plan in accordance Title 8, Section 5192 of the California Code of Regulations. The H&S plan will contain a list of emergency contacts, as well as a hospital route map to the nearest emergency facility.

A drilling permit will be obtained from the Zone 7 Water Agency and Alameda County Public Works Agency prior to scheduling the field work.

Soil Boring and Sampling Procedures

Three proposed soil borings (Figure 2) will be drilled by a licensed contractor using a cone penetrometer (CPT) rig. Two boreholes will be advanced for each proposed soil boring location. The initial borehole will be drilled to provide a CPT log of subsurface lithologies, and determine where grab groundwater samples should be collected. The second borehole will be drilled to collect depth-discrete groundwater samples. Each boring will be advanced to a lower clay unit or to maximum 100 feet bgs. Each boring will be backfilled with grout upon completion.

Groundwater samples will be collected using a closed screen sampler. The assembly is driven with the outer tube casing in place. When the desired groundwater sample depth is

reached, the outer casing is retracted to expose the screen to groundwater. A small-diameter bailer will then be lowered through the drill casing and a groundwater sample collected. The expendable drive point is left in place when the drill casing and sampling assembly are removed.

Each groundwater sample will be decanted from the bailer into an appropriately labeled container, sealed, and placed in an ice chest cooled with ice and transported to a state-certified laboratory for analysis under chain-of-custody protocol.

Laboratory Analysis

Groundwater samples will be submitted under chain of custody protocol to a California-certified laboratory. The groundwater samples will be analyzed for TPH-G, BTEX, MTBE, TBA, ETBE, TAME, DIPE, and ethanol United States Environmental Protection Agency (US EPA) Method 8260B. In addition, for waste profiling purposes, one soil sample will be analyzed for TPH-G and BTEX by EPA Method 8260B and total lead by EPA Method 6010.

Waste Disposal

Soil cuttings generated during this investigation will be temporarily stored onsite in appropriately labeled 55-gallon Department of Transportation (DOT)-approved drums pending disposal arrangements. The soil will be transported offsite by a licensed waste hauler once an approved destination for the waste is found.

Report

The findings of the field investigation will be presented in a Additional Subsurface Investigation Report. The contents of the report will include a sample location map, copies of the analytical laboratory data sheets, boring logs, and conclusions and recommendations for additional investigation, monitoring, and/or remediation. A section of the report will address the above mentioned Technical Comments and Methods for Answering Technical Comments.

If you have questions regarding this work plan, please call Daniel Davis at (916) 503-1260.

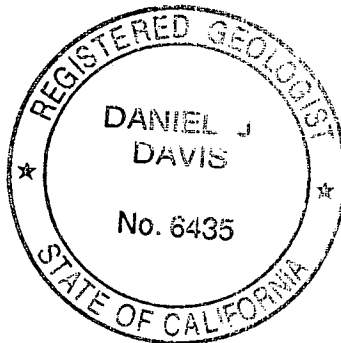
Sincerely,
Delta Environmental Consultants, Inc.



Ben Wright
Staff Geologist



Daniel J. Davis, R.G.
Project Manager



Cc: Shelby Lathrop – ConocoPhillips (electronic copy)

Attachments: Figure 1 -- Site Vicinity Map
Figure 2 – Site Plan with Proposed Borehole Locations

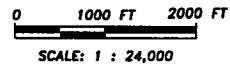
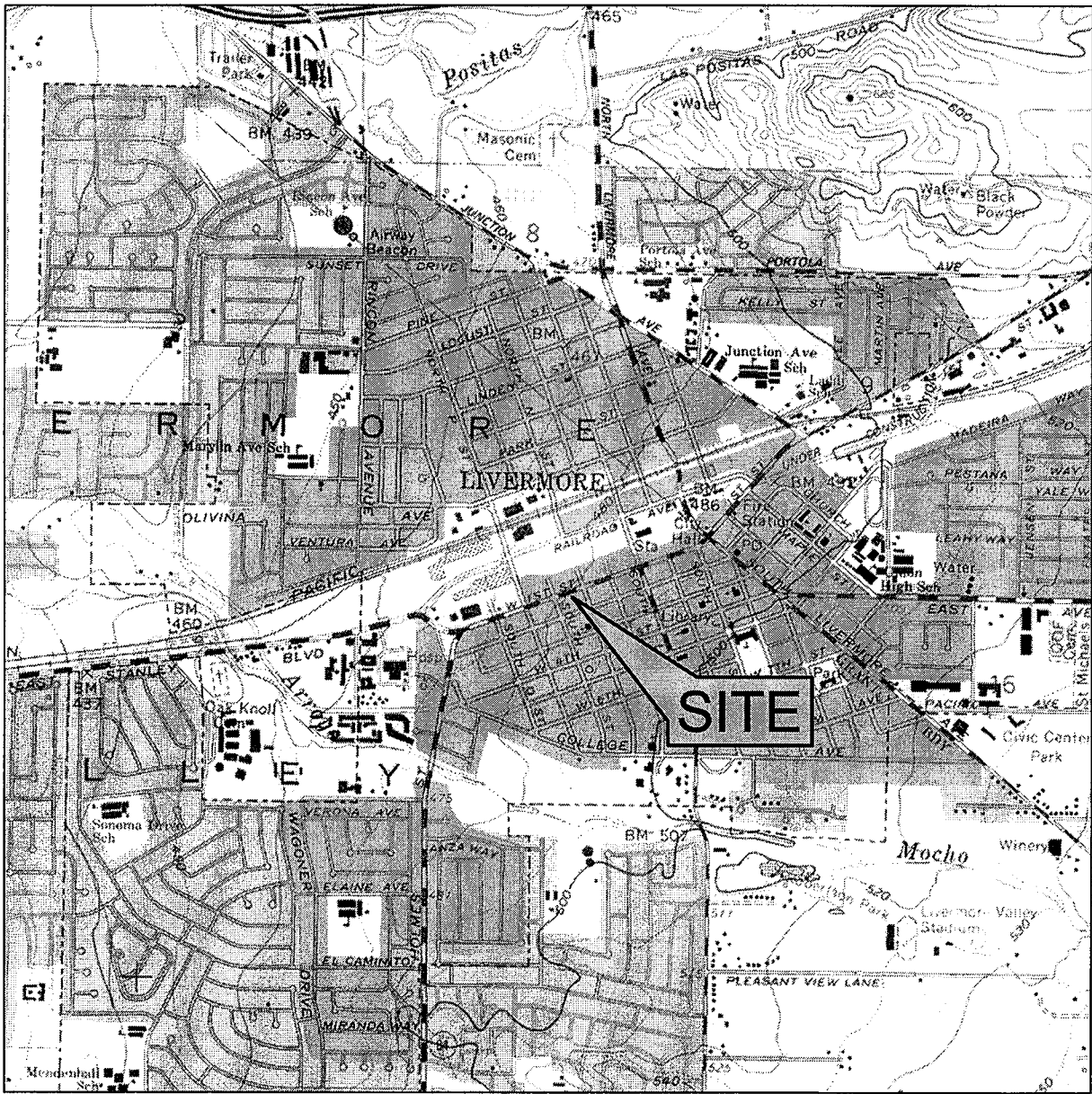
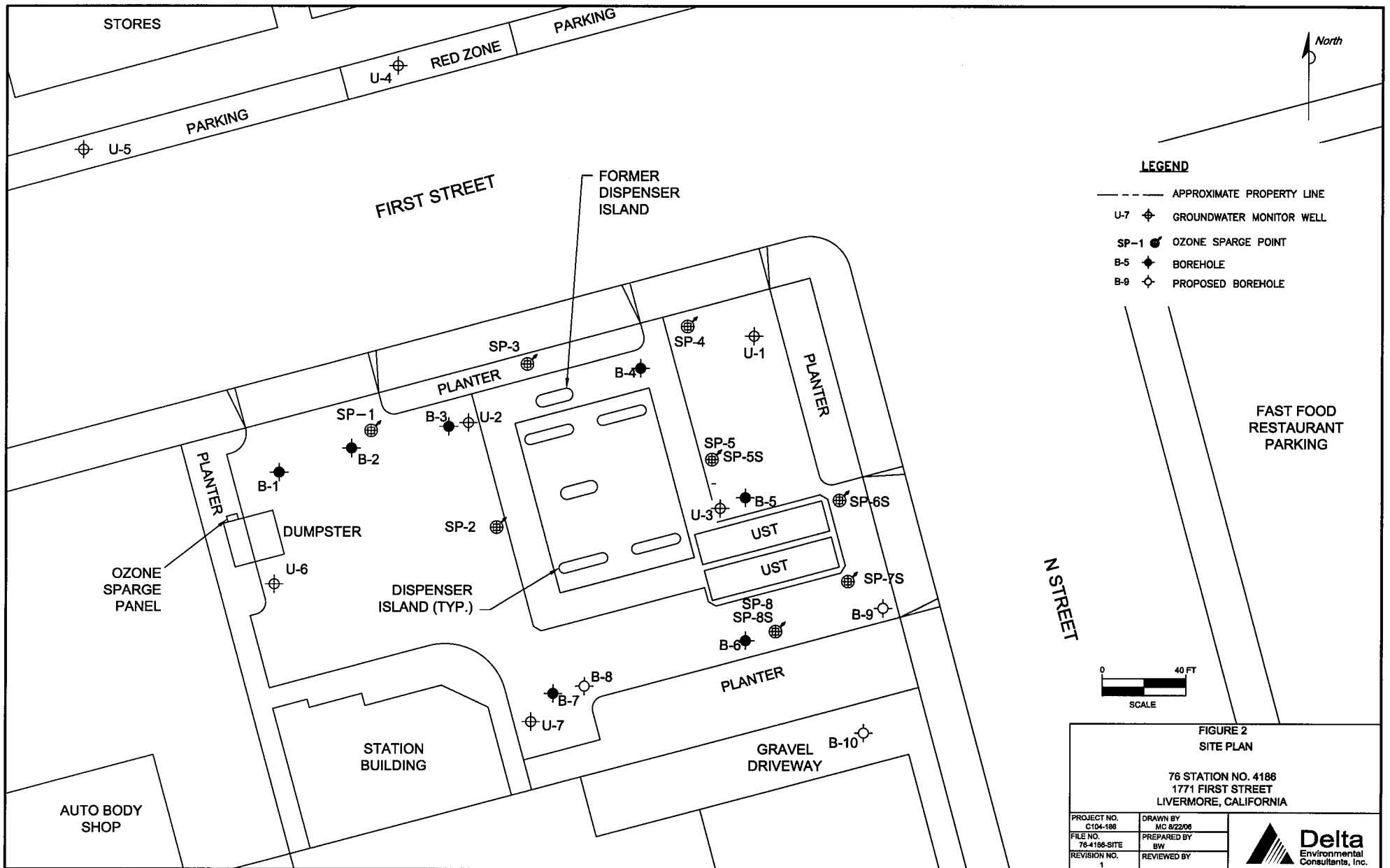


FIGURE 1
 SITE LOCATION MAP
 76 STATION NO. 4186
 1771 FIRST STREET
 LIVERMORE, CA

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, CALABASAS QUADRANGLE, 1967

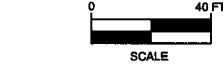
PROJECT NO. C104-186	DRAWN BY MC 12/28/05
FILE NO. Site Locator 4186	PREPARED BY MC
REVISION NO. 1	REVIEWED BY





LEGEND

- APPROXIMATE PROPERTY LINE
- U-7 GROUNDWATER MONITOR WELL
- SP-1 OZONE SPARGE POINT
- B-5 BOREHOLE
- B-9 PROPOSED BOREHOLE



**FIGURE 2
SITE PLAN**

76 STATION NO. 4186
1771 FIRST STREET
LIVERMORE, CALIFORNIA

PROJECT NO. C104-188	DRAWN BY MC 822/08
FILE NO. 78-4188-SITE	PREPARED BY BY
REVISION NO. 1	REVIEWED BY

Delta
Environmental
Consultants, Inc.