ConocoPhillips
76 Broadway
Sacramento, California 95818

January 4, 2006

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

Re: **Report Transmittal**
Work Plan – 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,

Thomas Kosel
Risk Management & Remediation

Attachment

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

www.deltaenv.com

3164 Gold Camp Drive • Suite 200
Rancho Cordova, California 95670 USA

916.638.2085 800.477.7411
Fax 916.638.8385

January 4, 2006

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

Re: Work Plan – Soil Boring Assessment
Delta Project No. C10-4186-011
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 seven soil borings and collection of soil samples and grab groundwater samples.

The purpose of drilling the soil borings is to (1) collect and analyze soil samples to delineate the vertical extent of contamination at the site, particularly in the vicinity of the source area surrounding the underground storage tank (UST) area, (2) define the lateral extent of contamination within the sand and gravel unit present at depths of approximately 35 to 40 feet below ground surface (bgs), and (3) clearly define subsurface lithology and delineate the upper and lower contacts of the sand and gravel unit. Figure 2 shows site facility details and locations of the proposed soil borings. Four of the borings are located along the north site boundary on a transect oriented perpendicular to the groundwater flow direction at the site to characterize potential downgradient pathways and offsite impacts.

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.

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 (TPHg) 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 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) TPHg, 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 TPHg, 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). TPHg, BTEX and MtBE were not detected in soil samples collected from the boreholes during well drilling. TPHg 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.

SITE GEOLOGY AND HYDROGEOLOGY

The subject site is located in the Livermore Valley in the north-central Coast Range and is underlain by interfingered Holocene age alluvial fan and gravel facies. These deposits are composed of semi-consolidated deposits of sand and gravel in a matrix of clayey sand. The Livermore Valley contains several northwest trending faults. The site is approximately 1.0 mile southwest of the Mocho Fault and approximately 1.5 miles northeast of the Livermore Fault. Previous field investigations have determined that the unsaturated (vadose) zone is composed predominantly of gravel with varying amounts of clay, silt and sand. The saturated zone is composed predominantly of clay with varying amounts of silt, sand, and gravel.

Groundwater was initially encountered at depths of 24 to 25 feet bgs during drilling at the site. Historical monitoring data show the static depth to water onsite varies from 23 to 31 feet bgs. Historical groundwater flow direction has varied from north to southwest with an average gradient of 0.02 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 seven soil borings to approximately 60 feet bgs with the initial five feet cleared by hand augering or with "air-knife" technology;
- Collect soil samples for laboratory analysis from the boreholes;
- Collect depth discrete grab groundwater samples from each borehole at approximately 25 feet bgs and 35 feet bgs;
- Upload analytical laboratory data into the State of California Geotracker System per requirements of AB 2886; and
- Prepare a report of findings.

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

The proposed soil borings (Figure 2) will be drilled by a licensed contractor using a cone penetrometer (CPT) rig. Three boreholes will be advanced for each proposed soil boring location. The initial borehole will be drilled to measure depth to first groundwater, provide a CPT log of subsurface lithologies, and collect soil samples for identification and laboratory analysis. The second and third boreholes will be drilled to collect depth-discrete groundwater samples at approximately 25 feet bgs and 35 feet bgs. Each boring will be advanced to a total depth of approximately 60 feet bgs. Soil samples will be collected every five feet from 10 to 60 feet bgs for lithologic identification, field analysis, and potential laboratory analysis. Each boring will be backfilled with grout upon completion.

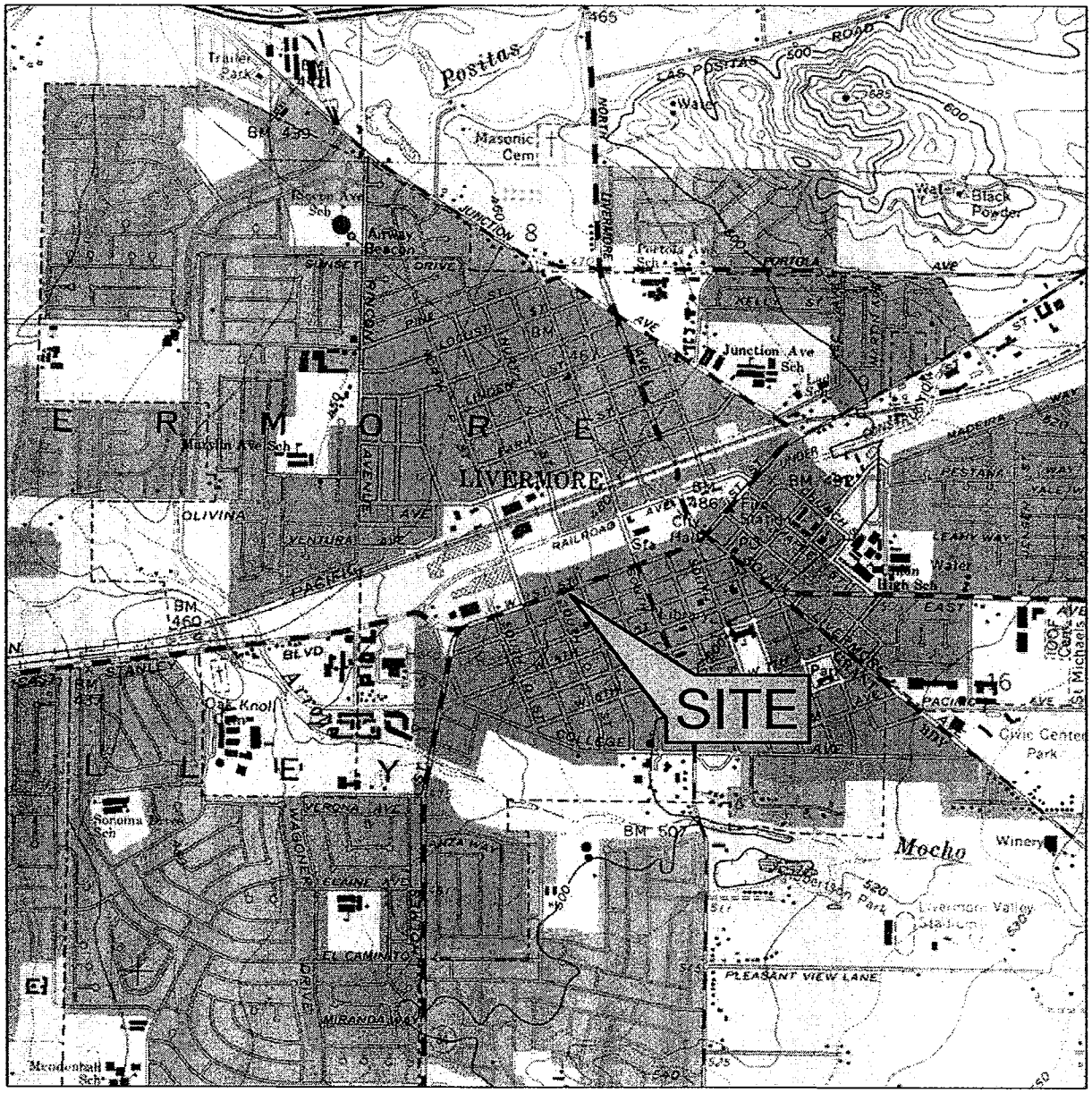
Soil samples will be collected using a direct push piston sampler. A sealed pointed piston will be advanced within the core barrel of the CPT to the desired sample depth. The piston will then be opened and driven to further depth to collect a soil sample at which time the piston assembly will be removed and the soil sample recovered. The sample tube from each interval will be sealed with Teflon tape and plastic end caps and placed in an ice chest cooled with ice for delivery to the analytical laboratory for analysis under chain-of-custody protocol. The remaining soil collected from the sample tubes will be used for field screening and lithologic description purposes. Soil samples from each sample interval will be field screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). It is anticipated that a minimum four soil samples per boring from depths 35-60 feet bgs will be collected for laboratory analysis. Additional soil samples will be submitted for analysis if the PID measurements show evidence of substantial contamination or if staining is observed. The PID measurements will be recorded on the soil boring log by the field geologist. Each soil sample will be logged using the Unified Soil Classification System (USCS).

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 transferred 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

Soil and groundwater samples will be submitted under chain of custody protocol to a



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

FIGURE 1

SITE LOCATION MAP

76 STATION NO. 4186
1771 FIRST STREET
LIVERMORE, CA

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

Delta Environmental Consultants, Inc.

California-certified laboratory. The soil and groundwater samples will be analyzed for TPHg by United States Environmental Protection Agency (US EPA) Method 8015 and BTEX, MtBE, DIPE, ETBA, TAME, and ethanol by EPA Method 8260B. In addition, for waste profiling purposes, one soil sample will be analyzed for total lead by EPA Method 6010.

Waste Disposal

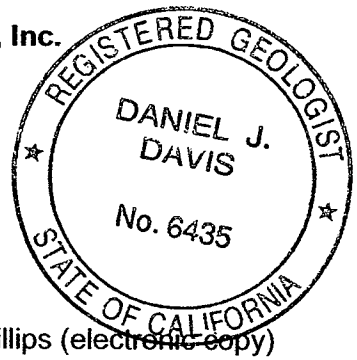
Soil cuttings generated during this investigation will be temporarily stored onsite in appropriately labeled 55-gallon Department of Transportation (DOT)-approved drums pending disposal arrangements. The soil will be transported offsite by a licensed waste hauler once an approved destination for the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

Report

The findings of the field investigation will be presented in a Subsurface Investigation Report. The contents of the report will include a sample location map, copies of the analytical laboratory data sheets, soil boring/monitor well construction logs, a cross section, and conclusions and recommendations for additional investigation, monitoring, and/or remediation.

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

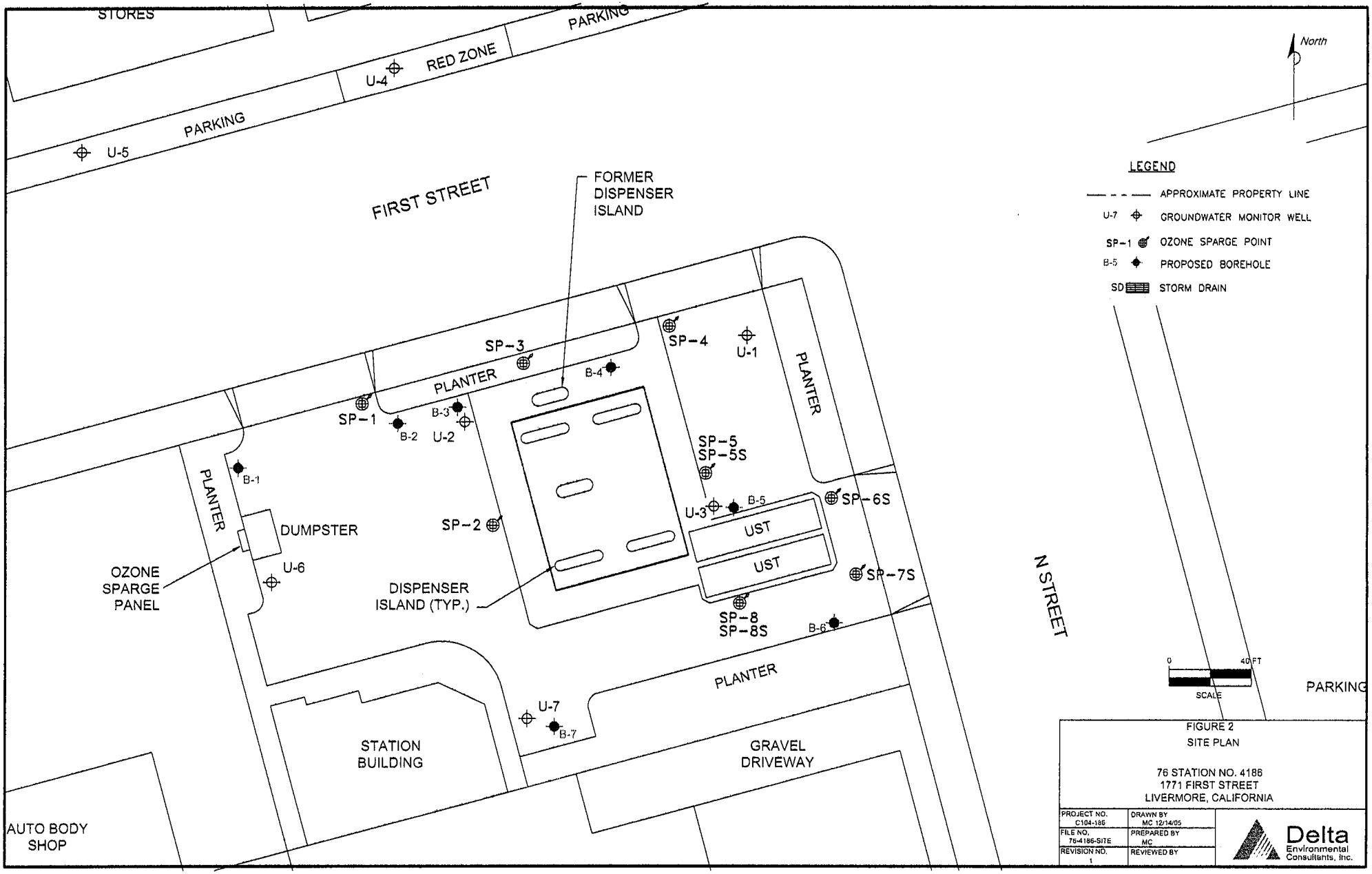
Sincerely,
Delta Environmental Consultants, Inc.



Daniel J. Davis, R.G.
Senior Project Manager

Cc: Shelby Lathrop – ConocoPhillips (electronic copy)

Attachments: Figure 1 – Site Vicinity Map
Figure 2 – Site Map with Proposed Well Locations


STORES
PARKING
U-4
RED ZONE
PARKING
U-5
FIRST STREET
FORMER
DISPENSER
ISLAND
North
LEGEND
APPROXIMATE PROPERTY LINE
U-7 GROUNDWATER MONITOR WELL
SP-1 OZONE SPARGE POINT
B-5 PROPOSED BOREHOLE
SD STORM DRAIN
SP-3
PLANTER
B-4
SP-4
U-1
PLANTER
SP-1
B-3
B-2
U-2
SP-5
SP-5S
PLANTER
B-1
DUMPSTER
SP-2
U-3
B-5
SP-6S
UST
UST
SP-7S
OZONE
SPARGE
PANEL
U-6
DISPENSER
ISLAND (TYP.)
SP-8
SP-8S
B-6
N STREET
PLANTER
U-7
B-7
STATION
BUILDING
GRAVEL
DRIVEWAY
PARKING
AUTO BODY
SHOP
0
40 FT
SCALE
FIGURE 2
SITE PLAN
76 STATION NO. 4186
1771 FIRST STREET
LIVERMORE, CALIFORNIA
PROJECT NO. C104-186
DRAWN BY MC 12/14/05
FILE NO. 76-4186-SITE
PREPARED BY MC
REVISION NO. 1
REVIEWED BY
Delta
Environmental
Consultants, Inc.