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3164 Gold Camp Drive • Suite 200
Rancho Cordova, California 95670 USA
916.638.2085 800.477.7411
Fax 916.638.8385

January 31, 2006

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

Re: Work Plan Addendum – Site Assessment Activity
76 Service Station No. 6129
Delta Project No. C10-6129-011
3420 35th Avenue
Oakland, California

Dear Mr. Hwang:

Delta Environmental Consultants, Inc. (Delta) has prepared this Work Plan on behalf of ConocoPhillips Company for the above referenced site (Figure 1). This Work Plan Addendum has been prepared to amend the scope of services described in the *Work Plan for Additional Subsurface Site Assessment Activities* prepared by Miller Brooks Environmental Inc. dated October 11, 2004, and *Work Plan Addendum – Site Assessment Activity* prepared by ATC dated June 13, 2005.

The two work plans describe the completion of soil borings and monitor wells at the site to delineate the lateral and vertical extent of hydrocarbon-impacted soil and groundwater beneath the site. It is Delta's intent to drill only soil borings at this time and collect soil samples and grab groundwater samples prior to consideration of drilling monitor wells. This will provide for more accurate placement of monitor wells at the site should wells be needed or required.

BACKGROUND

In September 1989 two 10,000-gallon USTs and one 550-gallon waste oil UST were removed from the site. Analytical results of soil samples from beneath the gasoline and waste-oil USTs and product piping revealed low concentrations of petroleum hydrocarbons in each sampling area. Three groundwater monitoring wells were installed (MW-1 through MW-3) in December 1989 to depths of 44 feet below ground surface (bgs). Four soil borings, EB1 through EB4, were drilled at the site in March 1990 in the vicinity of monitoring well MW-3 to define the hydrocarbon impact to soil. Based on the results of the soil sampling from the four borings, in April



1991 approximately 230 cubic yards of soil were excavated from an area between the dispenser islands and around monitoring well MW-3. Excavation was conducted in a manner that did not impact monitoring well MW-3. Analytical results of soil samples collected after excavation activities indicated that most of the impacted soil had been removed from the area.

In November 2003, four soil borings, SB-1 and SB-3 through SB-5, were drilled to total depths of 31.5 to 36.5 feet bgs. Proposed soil boring SB-2 was not completed due to underground utilities or structures. Groundwater was encountered at a depth of approximately 35 feet bgs. Methyl tertiary butyl ether (MtBE) was reported at concentrations of 0.37-0.41 milligrams per kilogram (mg/kg) in the soil samples collected at depths of 26 to 31 feet bgs. Other constituents analyzed in the soil samples were reported below method detection limits.

The three monitoring wells were sampled on November 13, 2003, and the analytical results showed the presence of MtBE at concentrations of 240 to 3,700 micrograms per liter ($\mu\text{g/l}$), with the highest concentrations occurring in monitor wells MW-2 (2,100 $\mu\text{g/l}$) and MW-3 (3,700 $\mu\text{g/l}$).

SITE DESCRIPTION

The site is currently an operating 76 Service Station that dispenses gasoline stored in two 12,000-gallon underground storage tanks (USTs) from two dispenser islands. An automotive repair building is present at the site which contains three service bays. Additionally, there is one used-oil UST, three hydraulic lifts, and three groundwater monitoring wells (MW-1 through MW-3) present at the site. There was previously one used-oil UST, one clarifier beneath the central hydraulic lift, and two floor drains, all of which have been removed. Pertinent current and former site features are presented on Figure 2. An Exxon service station was located northeast immediately across Quigley Street from the site but is no longer operational.

The site is located at an elevation of approximately 185 feet above mean sea level (msl) and slopes gently to the southwest. Subsurface lithology at the site consists of silt and lean clay with varying amounts of sand and gravel to the maximum depth explored of 44 feet bgs. Subsurface stratigraphy is composed of alternating fine- and coarse-grained sediments of varying thickness which are laterally discontinuous across the site.

Groundwater at the site is present at approximately 29.2 feet bgs as measured in monitor wells MW-1 through MW-3 on December 6, 2005, and flows southwest at a gradient of 0.02 feet per foot (ft/ft). The groundwater hydraulic parameters at the site have been consistent through the life of the project.

PROPOSED SITE ASSESSMENT ACTIVITIES

The proposed scope of work addresses the following tasks:

- Obtaining drilling permits;
- Preparing a site-specific health and safety plan;
- Drilling 15 borings to approximately 40 feet bgs;
- Collecting soil samples every five feet for analysis;
- Collecting grab groundwater samples at varying discrete depths from each borehole;
- Submitting select soil samples and each groundwater sample for analysis;
- Arranging for disposal of waste materials; and
- Preparing a report presenting the results of the assessment activities.

Drilling and Sample Collection

Prior to drilling, Underground Service Alert and a private utility locator will be notified and the drilling locations at the site will be cleared for underground utilities. In addition, each boring location will be cleared to approximately five feet bgs using a hand auger to avoid damage to possible underground utilities. Alameda County Department of Public Health (ACDPH) will be notified a minimum 72 hours prior to commencement of field activities.

Fifteen boring locations will be drilled at the site, both upgradient and downgradient, to delineate the extent of hydrocarbon impacted soil and groundwater at the site. The proposed borings will be drilled on six transects perpendicular to the historical groundwater flow direction and the potential plume migration direction. Proposed boring locations are shown on Figure 2. The planned total depth of each borehole is 40 feet bgs. The deepest soil sample showing hydrocarbon contamination was collected from 31 feet bgs; deeper soil samples showed no hydrocarbon contamination present. However, hydrocarbon vapor screening of the soil samples will be conducted with a photoionization detector (PID) and the boreholes may be drilled deeper if detection of hydrocarbon contamination is noted in the samples. Groundwater samples will be collected from multiple discrete depths within the more coarse-grained soils encountered.

The proposed soil borings will be drilled by a licensed contractor. One borehole location per transect will be drilled using cone penetrometer technology (CPT). The CPT borings will provide accurate continuous records of the subsurface soil types and stratigraphy, and measure depth to first groundwater; it is anticipated that groundwater will initially be encountered at approximately 30 feet bgs. Groundwater samples will not be collected from the CPT borings.

The remaining soil borings, including one adjacent to each CPT boring, will be drilled using direct push technology, e.g., hydropunch or geoprobe. Soil samples will be collected every five feet for soil description, field hydrocarbon vapor screening, and laboratory analysis. Groundwater will be collected into sample containers directly from each borehole. Each groundwater sample will be appropriately labeled, sealed, and placed in an ice chest cooled with ice and transported under chain-of-custody protocol to a state-certified laboratory for analysis.

Soil and groundwater samples will be submitted for 48-hour turnaround time. The analytical results will be plotted on a base map of the site. If, based on the analytical results, the contamination at the site is delineated, then monitoring wells will be drilled and constructed at points of highest groundwater contamination and at the delineation boundaries per approval of the regulatory agency. If the plotted analytical results show that contamination is not delineated, then a revised plot plan of additional boring locations will be prepared and submitted to the regulatory agency for approval prior to continued drilling and sampling. This programmed approach will continue until the contamination at the site is delineated. Close communication will be maintained with the regulatory agency such that the assessment and drilling program continues without interruption.

As noted, the subsurface stratigraphy at the site is laterally discontinuous alternating fine-grained soils (silt and lean clay) and coarse-grained soils (sand and gravel). Monitoring wells will be constructed with short screens (3-5 feet) placed to intersect preferential paths of groundwater flow, i.e., sandy or gravelly layers, and, hence, will monitor potential migration paths of dissolved petroleum hydrocarbons. It is anticipated that a maximum five wells will be constructed. The wells will be screened at varying depths, as determined in the field, to collect depth-discrete

samples; sampling will thus monitor different zones of preferential groundwater flow. The current monitoring wells have 20-foot screens set within both fine- and coarse-grained soils; based on the continuing assessment, one or more of these current monitoring wells may be destroyed and potentially replaced with wells that monitor more discrete depth intervals.

Laboratory Analysis

The soil and groundwater samples will analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethybenzene, and total xylenes (BTEX), MtBE, tert-butyl alcohol (TBA), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tert-amyl methyl ether (TAME), and ethanol by EPA Method 8260B. One soil sample will be analyzed for total lead by EPA Method 6010 for waste profiling purposes.

Report Preparation

A report will be prepared upon completion of delineation of hydrocarbon contamination at the site. The report will summarize field activities and present results of soil and groundwater analyses, and will include logs of each borehole, cross-sections of subsurface geology, and maps showing limits of hydrocarbon contamination at the site. The completed report and accompanying tables and figures will be uploaded to the GeoTracker database.

PROJECT SCHEDULE

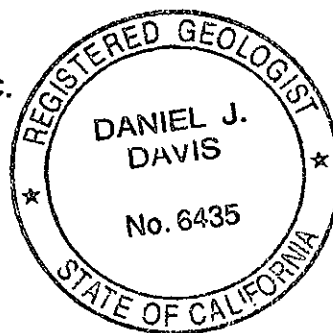
Field activities will be scheduled within 30 days following approval of this work plan. It is anticipated that Delta will submit a final report of assessment activities 60 days after completion of field activities.

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

Sincerely,
DELTA ENVIRONMENTAL, INC.



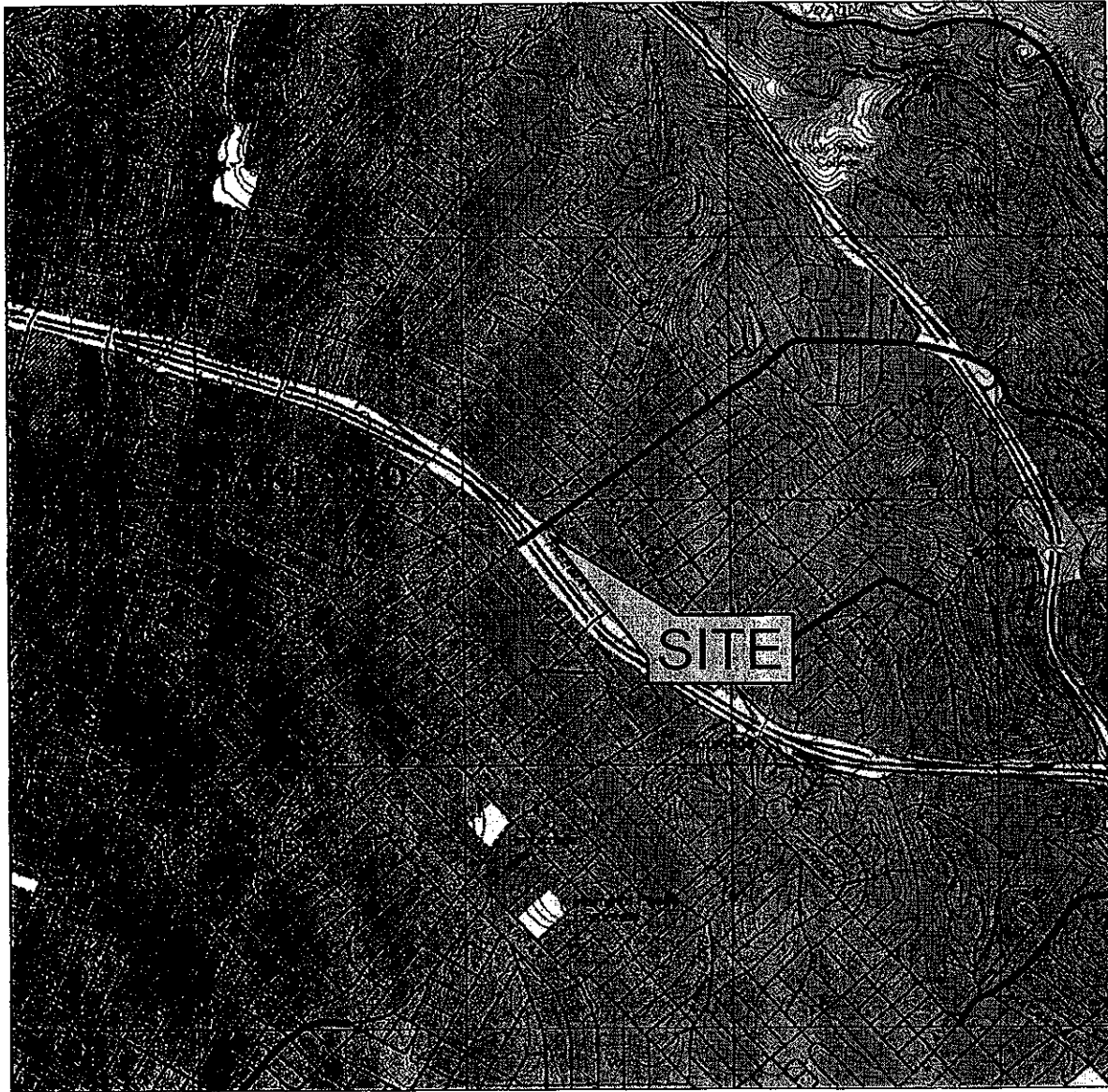
Daniel J. Davis, R.G.
Senior Project Manager



Cc: Shelby Lathrop – ConocoPhillips (electronic copy)

Attachments:

- Figure 1 – Site Vicinity Map
- Figure 2 – Site Map with Proposed Soil Boring Locations



0 1000 FT 2000 FT
SCALE: 1 : 24,000



FIGURE 1

SITE LOCATION MAP

76 STATION NO. 6129
3420 35th AVENUE
OAKLAND, CA

PROJECT NO. C106-129	DRAWN BY MC 12/9/05
FILE NO. Site Locator 6129	PREPARED BY MC
REVISION NO. 1	REVIEWED BY



Delta
Environmental
Consultants, Inc.

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE, 1967

