CAMBRIA

August 28, 2002

Mr. Scott Seery
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Interim Remediation Work Plan**
Shell-branded Service Station
3790 Hopyard Road
Pleasanton, California
Incident #98995842
Cambria Project #244-0497

Dear Mr. Seery:

Cambria Environmental Technology, Inc. (Cambria) is submitting this *Interim Remediation Work Plan* on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). The work plan proposes to install an interim groundwater extraction (GWE) system at the site to address the elevated methyl tertiary butyl ether (MTBE) concentrations detected in groundwater beneath the site. The site characteristics and proposed scope of work are presented below.

SITE CHARACTERISTICS

Location: This active Shell-branded service station is located on the southwest corner of the intersection at Hopyard Road and Las Positas Boulevard in Pleasanton, California. The site is surrounded by primarily commercial and residential property (Figures 1 and 2). The service station layout includes a station building, two dispenser islands, two waste oil tanks, and a gasoline underground storage tank complex. The site is located in close proximity to several active municipal wells. The locations of these wells in relation to the site are shown on Figure 2.

Groundwater Depth and Flow Direction: Depth to groundwater has ranged from 11.52 to 19.59 feet below grade (fbg) in the site monitoring wells since groundwater monitoring was initiated in March of 1991. The groundwater flow direction, as determined by the on and off-site groundwater monitoring wells, has ranged from south to southeast.

Site Lithology: The site is underlain by interbedded layers of sandy clay, clayey sand, silty clay and clay to the total explored depth of 36 fbg.

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

PROPOSED SCOPE OF WORK

Interim GWE

Cambria proposes to install an interim GWE system at the subject site. The intent of the proposed GWE system is to hydraulically control MTBE migration in groundwater at the perimeter of the site and in source areas, and to remove dissolved MTBE from groundwater.

System Design: Cambria will prepare engineering design drawings for permitting and construction of the GWE system. The system will be designed with capacity for easy expansion to additional wells, and to handle additional groundwater flow, if necessary. Depending on the results of future investigation and monitoring activities, additional pumping wells may be added.

Data pertaining to anticipated groundwater flow rates has been collected during mobile GWE events currently conducted on a twice-monthly basis. Although these events do not serve as a formal pump test designed to calculate properties such as transmissivity and hydraulic conductivity, etc., sufficient data was gathered to allow for a reasonable estimation of system flow rates. Wells SR-1, SR-2 and SR-3 are anticipated to produce flows of approximately 1 gallon per minute (gpm) each, while T-2 is expected to yield approximately 3 gpm.

Pumping Locations: The proposed interim GWE and treatment system design includes pumping from three existing extraction wells (SR-1, SR-2 and SR-3) and from tank backfill well T-3. Additional chases will be installed along the northeast property line to be able to utilize additional wells as GWE extraction points. The remediation compound and treatment system will be oversized to provide for future expansion. Refer to Figure 3 for the location of these wells.

Wells SR-1, SR-2 and SR-3 were constructed using 4-inch diameter PVC casing installed to a total depth of 35 fbg. The wells were screened from 10 to 35 fbg with 0.020-inch slotted perforation. Backfill well T-3 was constructed using 4-inch diameter PVC casing screened its entire length to a total depth of 12 fbg.

Current depth to water is approximately 13 fbg, leaving a water column of approximately 22 feet in each extraction well.

System Equipment: Groundwater will be extracted from wells SR-1, SR-2, and SR-3 using submersible pneumatic pumps due to relatively low anticipated flow rates. Groundwater will be extracted from tank backfill well T-3 using a diaphragm or peristaltic pump. Selection of pump makes and models will be determined as part of the final design. An air compressor will provide compressed air to drive the pneumatic pumps.

The extracted groundwater will be pumped from the wells into a storage tank located in the remediation compound. The compound will be located behind the station building as shown in Figure 3. To prevent overflow of the storage tank, a float switch in the storage tank will shut off the pump when the tank is full. Extracted groundwater will then be pumped from the storage tank using a transfer pump, through a particulate filter and then through a series of aqueous-phase carbon vessels prior to discharge to the local sanitary sewer. Flow meters, pressure gauges, and sample ports, will be installed to control and monitor system operation.

A separate electrical service will be installed to serve the remediation equipment. A separate meter and circuit breaker panel will be installed to provide monitoring of power consumption, to provide overload protection, and to de-energize the system if needed. An electrical control panel with a programmable logic controller will interlock and operate the controls of the GWE system. A telephone autodialer will be installed to remotely notify Cambria of system shutdown events.

Building Permits: Cambria will submit drawings and specifications to the City of Pleasanton for review and issuance of applicable construction permits.

Discharge Permitting: Cambria will submit a sewer discharge permit application to the Dublin-San Ramon Sewer District (DSRSD) for authorization to discharge treated groundwater to the sanitary sewer.

Construction: Cambria will issue drawings, specifications, and a detailed scope of work to contractors to develop and submit construction bids and schedules. The contractor will begin construction after Shell approves the construction cost and schedule. Cambria will provide oversight of construction activities included in the contractor's scope of work. The contractor will arrange all required inspections.

Utility Location: The contractor will notify Underground Service Alert of the construction activities. A private underground utility locator will be hired to locate utilities in the vicinity of the trench excavations.

Site Health and Safety Plan: The contractor will prepare a comprehensive site safety plan to protect site workers. The plan will be kept onsite during field activities and will be reviewed and signed by each site worker.

Start-up: After inspection approval, Cambria will collect GWE system start-up samples, as specified by the sewer discharge permit. The samples will be transported to a state-approved analytical laboratory for the appropriate chemical analysis. The analytical results will be submitted to the sewer district for review. Start-up of the GWE system will occur after receiving discharge approval from DSRSD. Copies of any start-up reports submitted to the DSRSD will also be sent to the Alameda County Health Care Services Agency.

CLOSING

Please call Jacquelyn Jones at (510) 420-3316 or Matthew Derby at (510) 420-3332 if you have any questions or comments. Thank you for your assistance.

Sincerely,
Cambria Environmental Technology, Inc.

Jacquelyn L. Jones
Project Geologist

Matthew W. Derby, P.E.
Senior Project Engineer

Figures:
1 - Vicinity/Area Well Survey Map
2 - Municipal Well Location Map
3 - Remedation System Site Plan

cc:
Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank CA 91510-7869
Chuck Headlee, RWQCB, 1515 Clay Street, Suite 1400, Oakland, CA 94612
Ted Klenk, Pleasanton Fire Department, 4444 Railroad Street, Pleasanton, CA 94566
Bill Stiles, 516 McGrath Court, Pleasant Hill, CA 94523
Matthew W. Katen, Zone 7 Water Agency, 5997 Parkside Drive, Pleasanton, CA 94588-5127
Victor Arcayena, Colliers International, 1850 Mt. Diablo Blvd., Suite 200, Walnut Creek, CA 94596

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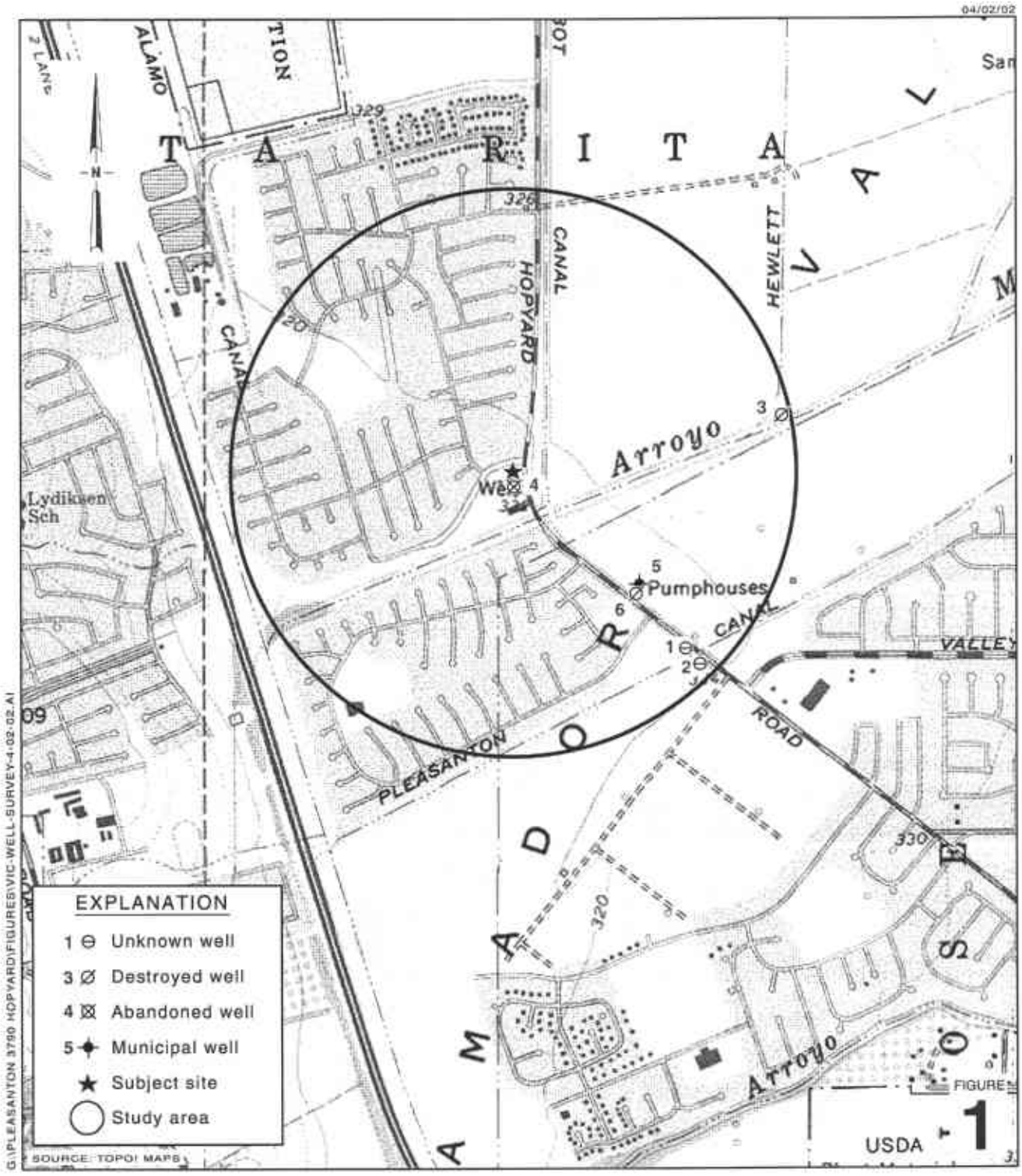

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Vicinity/Area Well Survey Map

1/2 Mile Radius

08/29/02

EXPLANATION

- Active Municipal well
- Inactive Municipal well

CUBOT CANAL

ARROYO MOCHO CANAL

SITE

LAS POSITAS BLVD.

Hopyard 6

Hopyard 9

PARKSIDE DRIVE

HOPYARD ROAD

Pleas 7

Valero Station
(Formerly Exxon)

N

0 250 500 1,000

Scale (ft)

FIGURE

2

Municipal Well Location Map

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Shell-branded Service Station
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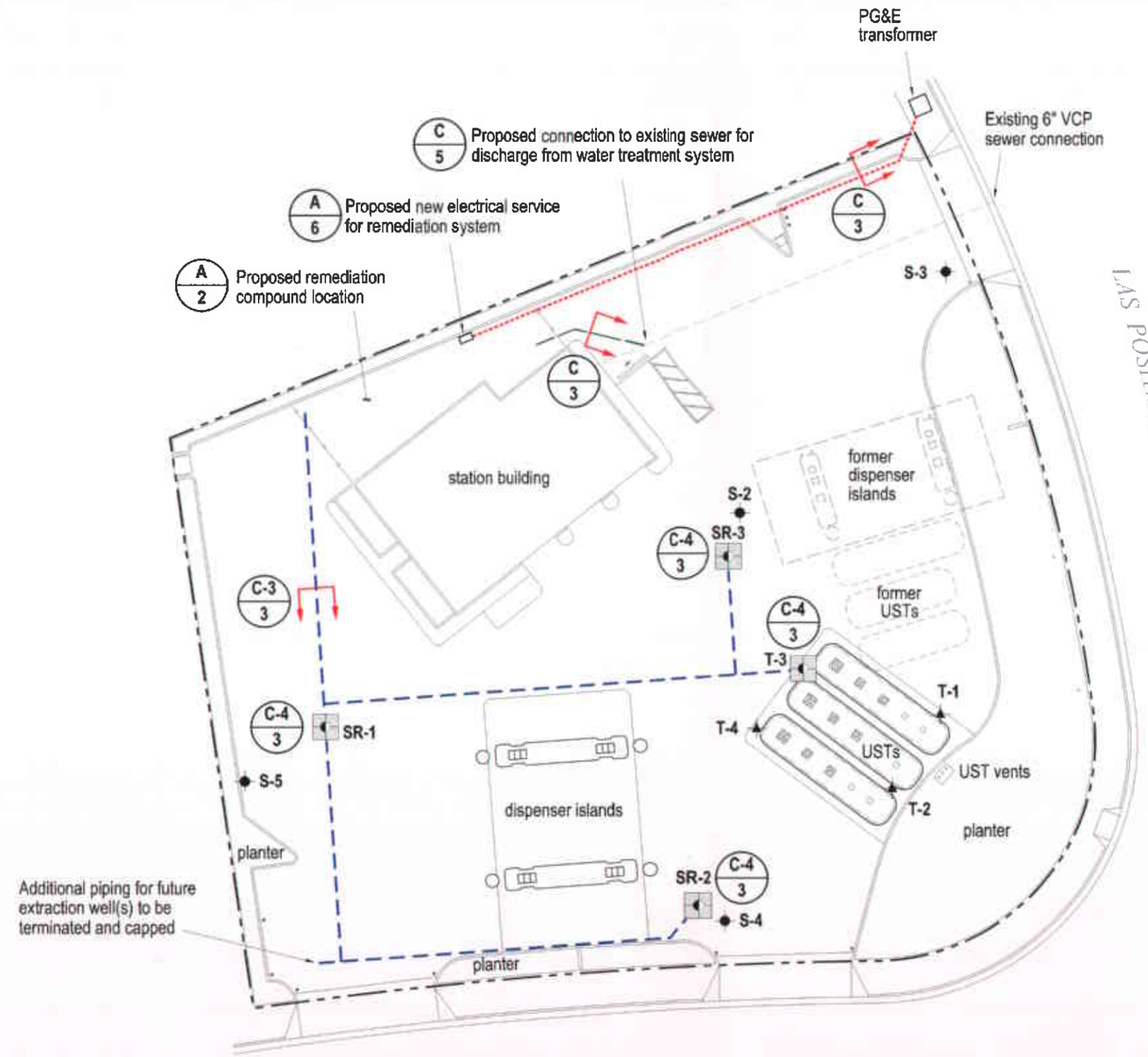
Remediation System Site Plan



EXPLANATION

- MW-1 — Monitoring well location
- SR-1 — Wells proposed for shallow groundwater extraction
- T-1 — Existing Tank Backfill Well
- Proposed electrical service trench location
- Proposed water discharge connection
- Proposed fence
- Proposed remediation trench location
- D/3 — Denotes Shell Standard Detail Drawing Number
- D/3 — Cross-Section Indicator & Detail Designator

0 15 30 60
Scale (ft)

FIGURE
3

Shell-branded Service Station
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