Conor Pacific

January 2, 2001
Project No. BNC102

Mr. Balaji Angle
Angle Enterprises
5131 Shattuck Avenue
Oakland, California 94609

Re: Workplan Addendum for Additional Downgradient Investigation, B&C Gas Mini Mart, 2008 First Street, Livermore, California

Dear Mr. Angle:

Conor Pacific has prepared the following Workplan Addendum for additional downgradient investigation for the B&C Gas Mini Mart (B&C) at 2008 First Street, Livermore, California (Figure 1). A previous Workplan[1] prepared in 1998 described a downgradient investigation for the B&C site. The investigation was completed in 1999,[2] and indicated that petroleum hydrocarbon compounds are not fully defined. Based on the results of the investigation conducted in 1999 and on subsequent quarterly groundwater monitoring results, the Alameda County Environmental Health Services (ACEHS) requested that additional monitoring wells be installed.[3]

The purpose of this scope of work is to delineate the plume in the area north of wells MW-8 and MW-13. The 1998 Workplan[1] described the background information for the site. This information is not represented in this Addendum since this information has not changed.

Because this investigation is occurring off-site, potentially on both private property and City of Livermore (City) property, conducting access negotiations and obtaining agreements from all property owners is integral to completing the scope of work. Conor Pacific has had difficulty in the past with gaining access to these properties. This issue was discussed with Ms. Eva Chu of the ACEHS and she indicated that ACEHS might be able to provide some assistance in gaining access to these properties.

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[1] Einarson, Fowler & Watson. *Workplan for Additional Downgradient Investigation, B&C Gas Mini Mart, 2008 First Street, Livermore, California.* September 8, 1998.
[2] Einarson, Fowler & Watson. *Report of Downgradient Investigation, B&C Gas Mini Mart, 2008 First Street, Livermore, California.* November 5, 1999.
[3] Alameda County Environmental Health Services. Re: Additional Groundwater Monitoring Wells at 2008 1st Street, September 11, 2000.

SCOPE OF WORK

The purpose of this scope of work is to delineate the plume with permanent wells. This work involves the installation of two groundwater monitoring wells in the upper aquifer. The scope of work is divided into several tasks:

1. Pre-field access negotiations, scheduling, and permitting.
2. Installation of two groundwater monitoring wells at the northern boundary of the plume in the upper aquifer.
3. Well surveying and groundwater sampling and analysis.
4. Reporting of field work and analytical results.

Task 1 - Pre-Field Access Negotiations, Scheduling, and Permitting

All of the wells proposed in this workplan would be located off-site of the B&C property. Access needs to be obtained from either of two private property owners and from the City of Livermore. Conor Pacific will make the initial contacts with these property owners in order to attempt to gain access. If access cannot be readily obtained, we will contact the ACEHS to seek assistance in obtaining access from these property owners. After obtaining access, the wells will be permitted with Zone 7 of the Alameda County Water District. Underground utilities will be cleared for well installations by contacting the Underground Service Alert (USA) and contracting a private utility locator.

Task 2 - Installation of Wells within the Upper Aquifer Plume

The purpose of installing two groundwater monitoring wells (MW-14 and MW-15) in the upper aquifer is to establish the extent of contamination at the northern boundary of the plume. These wells will be located north-northwest of wells MW-8 and MW-13 in an attempt to define the extent of the benzene and methyl tertiary-butyl ether found in these wells.

The borings for the wells will be drilled using an 8-inch-diameter hollow-stem auger. The borings are anticipated to be drilled to approximately 55 to 60 feet, similar to wells MW-8 and MW-13. Continuous soil samples will be collected while drilling below a depth of 25 feet, where first groundwater may be encountered. Soils will be logged by a Conor Pacific staff scientist according to the Unified Soil Classification System (USCS) under the supervision of a California Registered Geologist. Periodic soil samples will be screened in the field using an organic vapor analyzer (OVA) to evaluate the presence of hydrocarbons in the soil.

Any OVA hits should have SS collected for lab analysis.

The wells will be constructed within the 8-inch hollow-stem augers using 2-inch-diameter, Schedule 40, flush-threaded polyvinyl chloride (PVC) casing. Twenty-foot well screens will be placed so that the water table is intersected considering the historical variability of groundwater elevations. A sand pack compatible with the aquifer will be placed from the bottom of each boring to approximately 2 feet above the top of the screened interval. A

bentonite seal of at least 2 feet will be placed above the sand pack. A sanitary seal of neat cement will be placed to within one foot of ground surface. A traffic-rated well vault box will be installed at the surface and the well heads will be capped with water-tight locking expansion caps and locks.

The wells will be developed prior to groundwater sampling. The wells will be developed by bailing and surging the groundwater in the wells until the water is free of sediment, and the temperature, pH, and specific conductance of the water has stabilized. The purge water generated during development will be contained and subsequently disposed of properly.

Task 3 – Well Surveying and Groundwater Sampling and Analysis.

Following well installation, the top of casing of each new well will be surveyed to mean sea level using local benchmarks. Depth to groundwater will then be measured and groundwater elevations calculated for production of a groundwater contour map of the plume area.

Groundwater samples will be obtained from each of the groundwater monitoring wells installed in this investigation according to Conor Pacific's standard sampling methods. Field measurements of electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, and pH will be taken at each monitoring well and recorded on water sample field data sheets. All purge water will be contained and will be properly disposed of consistent with analytical results. All groundwater samples will be analyzed for TPH-G, MTBE, and BTEX by a state-certified laboratory.

Task 4 - Reporting of Field Work and Analytical Results.

The data collected during this investigation will be evaluated and a report will be prepared presenting the results of the investigation. The report will include a description of the field methods, an evaluation of the subsurface conditions and analytical results, maps illustrating the plume conditions, geologic sections, boring logs, and copies of laboratory analytical reports. Recommendations for continued monitoring of the wells, or additional characterization for corrective action will be included in the report.

SCHEDULE AND COST ESTIMATE

We are prepared to begin work immediately following approval from the State of California Underground Storage Tank Cleanup Fund. We estimate that the finalization of access and encroachment, and clearance of boring locations will take up to four weeks. Well installation will start immediately following underground utility clearance and is anticipated to take 3 days. Well development and groundwater sampling will be performed immediately after well installation and will take two days. Laboratory analyses will be performed on a standard turn-around time of two weeks. The report preparation is anticipated to be complete three weeks after receiving the analytical results.

A detailed cost estimate spreadsheet is attached. Conor Pacific will not exceed the cost estimate without prior authorization. All charges will be provided on a time-and-expense basis in accordance with our terms and conditions.

If you are in agreement with the scope of work, estimated costs, and schedule outlined in this proposal, please sign and return the attached work authorization form. We look forward to helping you with this project. Please feel free to call me if you have any questions.

Please call if you have any questions about this workplan.

Sincerely,
Conor Pacific

Mark Smolley

Mark Smolley, R.G. 4650
Senior Geologist

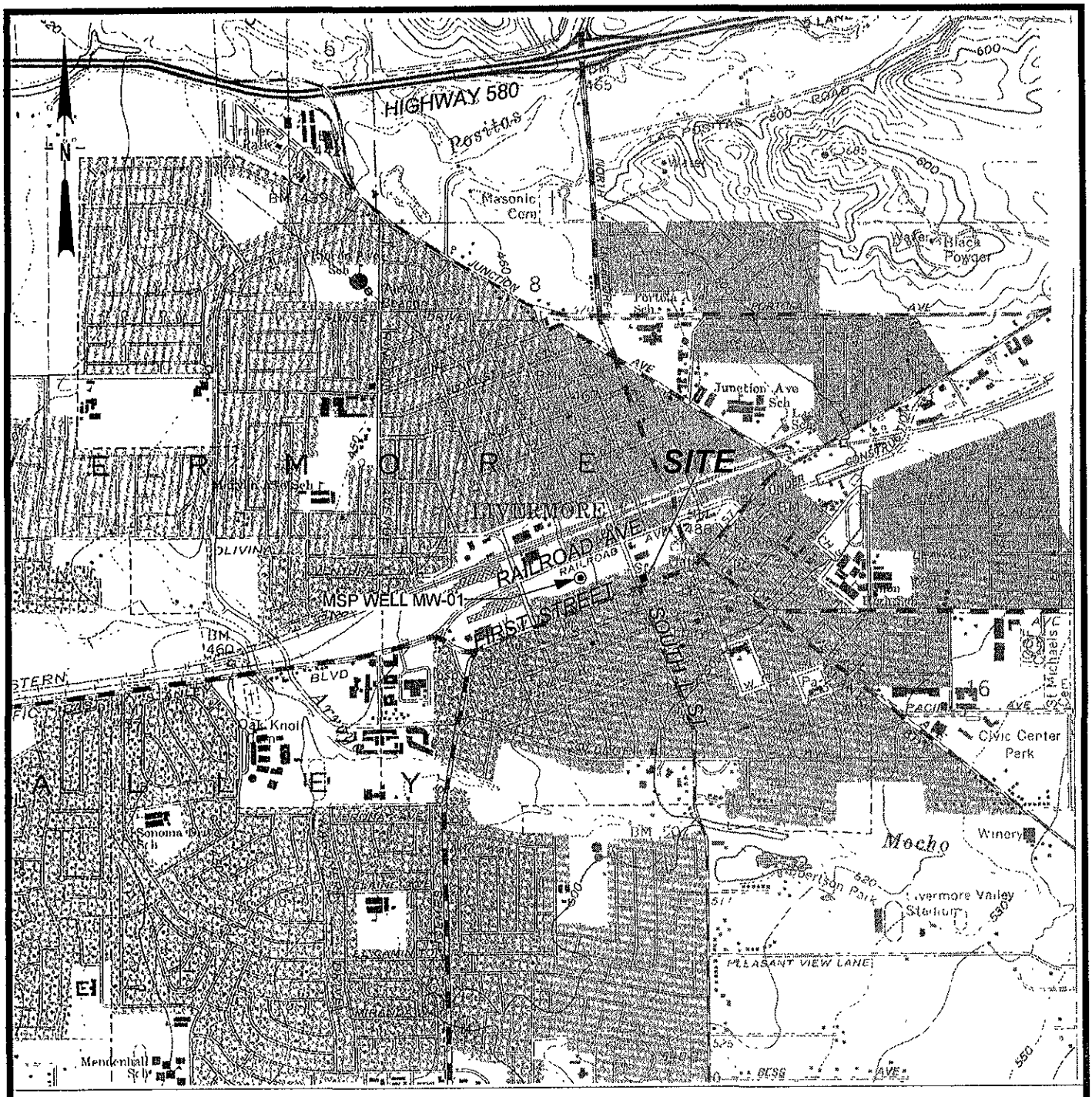
Kris H. Johnson

Kris H. Johnson, C.E.G. 1763
Senior Engineering Geologist

Figures
Figure 1 - Site Location
Figure 2 - Site Vicinity and Proposed Well Locations

Appendices
Appendix A – Cost Estimate Spreadsheet

cc: Ms. Eva Chu, ACEHS (without Appendix A)
Mr. Matt Katen, Alameda County Zone 7 (without Appendix A)
RWQCB, USTCF



Base map: USGS 7.5' topography, Livermore, California (1961; photorevised 1980)

SCALE: 0 2,000 4,000 FEET

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Conor Pacific EFW

GROUNDWATER MONITORING
B & C GAS MINI MART
LIVERMORE, CALIFORINA

SITE LOCATION MAP

FIGURE 1

PROJECT NO. BNC102

PROPOSED WELL LOCATIONS

MW-14

MW-15

SPT/UNION PACIFIC RAILROAD

FORMER MILLER'S OUTPOST SHOPPING CENTER (Currently Livermore Valley Square)

PAUL'S CLEANERS

GRANADA BOWLING ALLEY

BANK OF AMERICA

VACANT PROPERTY

ARROW RENTALS

<10 µg/L MTBE ISOCONCENTRATION CONTOUR

1 µg/L BENZENE ISOCONCENTRATION CONTOUR

NORTH P STREET

NORTH L STREET

RAILROAD AVENUE

MILL SPRINGS PARK APARTMENTS

GROTH BROTHERS OLDSMOBILE

MIKE'S CLEANERS

SOUTH L STREET

B & C GAS MINI MART

FORMER LIVERMORE ARCADE SHOPPING CENTER (Currently Vintner's Square)

SOUTH P STREET

BEACON STATION

FIRST STREET

UNOCAL STATION

SOUTH O STREET

SOUTH N STREET

SOUTH M STREET

ABANDONED GAS STATION

SECOND STREET

EXPLANATION

MW-1	Groundwater monitoring well
D-1	Deep groundwater monitoring well
MW-5	Groundwater monitoring well (from other regulated sites)
B97-3	Soil boring with grab groundwater sample (1997)
H-11	Soil boring with grab groundwater sample (1995)
CWS#3	Municipal water supply well
[37.3, 160]	Benzene, MTBE concentration (ug/L), sampled September 12-13, 2000

SCALE 0 200 400 FEET

APPROXIMATE

GROUNDWATER MONITORING
B & C GAS MINI MART
LIVERMORE, CALIFORNIA

SITE VICINITY AND PROPOSED WELL LOCATIONS

FIGURE 2

PROJECT NO. BNC102