



August 2, 1993

93 AUG -3 AM 11:05

241.0101.002

Mr. Tom Gram  
Eastshore Partners  
5800 Shellmound Street, Suite 210  
Emeryville, California 94608

**RECOMMENDED SCOPE OF WORK  
INVESTIGATION AND REMEDIATION PROGRAM  
POWELL STREET PLAZA (FORMER P.I.E. FREIGHT TERMINAL)  
EMERYVILLE, CALIFORNIA**

Dear Mr. Gram:

This letter describes a recommended scope of work for investigation and remediation of petroleum hydrocarbon contamination from former underground storage tanks at the Powell Street Plaza site in Emeryville, California. PES Environmental, Inc. (PES) has prepared these recommendations in response to an Alameda County Department of Environmental Health ACDEH) letter, dated June 4, 1993, to Aetna Real Estate Associates, L.P., (the current owner) requesting information on the site. PES understands that Eastshore Partners (Eastshore) acquired the site from Pacific Intermountain Express (P.I.E.), redeveloped the site, and subsequently sold the property to Aetna.

The recommendations contained herein are based on: (1) PES' experience at the subject site and the adjacent Shellmound III site which has been affected by the fuel releases on the Powell Street Plaza site; (2) our ~~June 13, 1993~~ <sup>July 15, 1993</sup> meeting with Susan Hugo of ACDEH and Rich Hiatt of the San Francisco Bay Regional Water Quality Control Board (RWQCB) during which we discussed site conditions and remedial objectives; and (3) a telephone conversation with Ms. Hugo on July 29, 1993 during which PES described these recommendations and received her concurrence.

**RECOMMENDED SCOPE OF WORK**

As we have discussed, there is a considerable amount of site characterization data that has been collected since the underground fuel storage tanks were removed in 1986. This includes investigations and/or remediation work for P.I.E. conducted by Blymyer Engineering Company, Cytoculture, Alton Geosciences and Groundwater Technology. Additionally, PES has conducted an investigation and prepared a Preliminary Endangerment Assessment (dated September 27, 1991) for the Shellmound III site for Shellmound Ventures Partners III, the owner of that site. Earlier this year, PES conducted a Phase I free-phase hydrocarbon product removal program for groundwater monitoring wells on both sites (results attached). Notwithstanding the availability of considerable environmental data, there

Mr. Tom Gram  
August 2, 1993  
Page 2

is an absence of current information on the site. Therefore, it is recommended as an initial task, that a single round of groundwater monitoring be performed for all wells on the Powell Street Plaza and Shellmound III sites. This new data will then be used to evaluate the adequacy of the characterization and guide further investigation, as needed.

Other recommended activities that should be performed at this time include a tidal influence study, free-phase hydrocarbon product removal, product characterization, and initiation of a remedial feasibility evaluation to be performed concurrently with the characterization process. Each of these activities and a schedule are described below.

### **Task 1 - Groundwater Monitoring / First Monitoring Quarter**

To obtain current information on the degree and extent of dissolved-phase hydrocarbon contamination, PES recommends collecting and analyzing groundwater samples from all groundwater monitoring wells (except those containing free-phase product at the time of sampling) on the subject site and Shellmound III site during the first quarter. There are 23 wells on the two sites (Wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-18, MG-1, MG-2, MG-3, MG-4, MG-7 and PZ-1). These are shown on the attached Plate 1.

The wells will be purged and samples will be collected and sent to a State-certified laboratory for analysis. Samples will be analyzed by EPA Test Method 8240/8260 for total petroleum hydrocarbons (TPH) quantified as gasoline and diesel, and the aromatic gasoline constituents benzene, toluene, ethylbenzene and total xylenes (BTEX).

### **Task 2 - Free-phase Product Removal**

Because the free-phase product remaining on the two site constitutes a continuing source of dissolved-phase groundwater contamination, PES has recommended continuation of the free-phase product removal that was begun earlier this year. In the attached June 9, 1993 letter, PES described a Phase II product removal program utilizing passive skimmer devices placed in wells. This program should be implemented at this time.

### **Task 3 - Chemical Characterization of Free-phase Product**

This task consists of the chemical characterization of the free-phase product currently found in monitoring wells. The purpose of the chemical characterization is to verify that no contaminants are present other than fuel constituents from the former fuel tanks. This information will be used to: (1) evaluate waste management alternatives for the recovered product; and (2) verify the adequacy of groundwater monitoring for dissolved-phase contaminants.

**Mr. Tom Gram**  
**August 2, 1993**  
**Page 3**

This task will consist of collecting two composite product samples from wells historically shown to consistently contain product. The samples will be analyzed for the following constituents:

- TPH quantified as gasoline and diesel by EPA Test Method 8260;
- Total Oil and Grease by Standard Method 5520 D & F;
- Volatile organic compounds (including BTEX) by EPA Test Method 8240;
- Semivolatile organic compounds by EPA Test Method 8270;
- Chlorinated hydrocarbons (including PCBs) by EPA Test Method 8080;
- Total metals (Title 22, Section 66261.24 list) by EPA Test Method 6010/7000 series;  
and
- Organic lead by California DHS HML Method 338.

#### **Task 4 - Tidal Influence Study**

There has been conflicting information regarding the influence of tidal changes in San Francisco Bay and Temescal Creek (located along the southern boundary of the Shellmound III site) on groundwater levels on the Powell Street Plaza and Shellmound III sites. PES therefore recommends conducting a continuous tidal influence study, covering a 48-hour period, to identify whether tidal influence is occurring. The study will consist of continuous water-level determinations in four selected wells using pressure transducers and dataloggers. The 48-hour period is intended to cover at least two complete tidal cycles (two high/low tide cycles). Periodic water level measurements will be made in wells without transducers during the study period.

Tidal cycles will be determined from published tide tables, corrected to the site.

#### **Task 5 - Groundwater Monitoring / Subsequent Quarters**

Based upon the results of the preceding four tasks, PES will recommend a groundwater monitoring program for subsequent quarterly periods (beginning in November 1993). The scope of the monitoring will be discussed with ACDEH and described in a groundwater monitoring plan for ACDEH's review and approval.

Mr. Tom Gram  
August 2, 1993  
Page 4

#### **Task 6 - Site Characterization Data Evaluation**

Upon receipt of the data from Tasks 1 through 4, PES will compile and summarize all environmental data related to the hydrocarbon contamination on the Powell Street Plaza and Shellmound III sites. PES will evaluate the adequacy of the data with respect to defining the extent of free- and dissolved-phase hydrocarbon contamination. PES will make recommendations for further investigation, if needed, to provide the additional data to characterize the contamination. If additional investigation is appropriate, it will be described in a workplan for ACDEH's review and approval.

#### **Task 7 - Remedial Alternative Feasibility Study**

PES will conduct a remedial feasibility study that will begin immediately and continue throughout the completion of Tasks 1 through 6. This analysis will include: (1) identification of cleanup objectives and setting remedial goals; (2) identification of cleanup technologies and specific alternatives to accomplish the objectives; (3) evaluating the alternatives; and (4) proposing a conceptual remedial plan. Remedial design, as needed, will be part of a subsequent task.

As we discussed during our meeting with ACDEH and RWQCB on July 15, CalTRANS' reconstruction of the Interstate 80/580 interchange will include substantial construction activities within the Powell Street Plaza and Shellmound III sites. This work will also require that East Bay Municipal Utilities District (EBMUD) relocate their North Interceptor, a major sanitary sewer collection and transport pipeline that currently parallels Interstate 80 adjacent to the subject site. The interceptor will be relocated approximately 50 feet east of its current location. PES will be in communication with CalTRANS and EBMUD throughout their respective construction processes so that the construction work and any future remedial activities are coordinated to the advantage of all parties.

#### **Task 8 - Site Characterization and Feasibility Study Reporting**

Upon completion of the above tasks (and additional site investigation activities, if needed), PES will prepare a report that will: (1) present all pertinent data related to fuel releases at the Powell Street Plaza site; (2) summarize environmental conditions related to fuel contamination on the Powell Street Plaza and Shellmound III sites; (3) summarize the results of the feasibility evaluation; and (4) present remedial objectives and a conceptual remedial plan. This report will be submitted to ACDEH for review and approval.

Mr. Tom Gram  
 August 2, 1993  
 Page 5

### Task 9 - Remedial Design and Workplan Preparation

Upon receiving ACDEH's approval of the conceptual remedial plan, PES will conduct the appropriate remedial design and prepare a detailed workplan for implementing the remediation.

### **SCHEDULE**

The following is a schedule for implementing the activities described above. Several tasks should begin immediately and/or have definitive timetables. Because of the uncertainty regarding the need for further investigation to fully characterize hydrocarbon contamination, the timing of subsequent tasks is less certain.

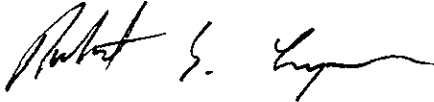
<u>Task Description</u>	<u>Schedule</u>
Groundwater Monitoring/First Quarter	Complete by August 31, 1993
Free-phase Product Removal	Initiate August 1993 and ongoing
Product Characterization	Complete by August 31, 1993
Tidal Influence Study	Complete by September 15, 1993
Groundwater Monitoring/Subsequent Quarters	Complete by November 30, 1993 quarterly thereafter
Site Characterization Data Evaluation	Complete by September 31, 1993
Subsequent Site Investigation	To be determined, as needed
Remedial Feasibility Study	To be determined based on need for additional investigation
Site Characterization and Feasibility Study Report	To be determined (estimated completion November 30, 1993)
Remedial Design and Workplan	To be determined (projected December 31, 1993)

Mr. Tom Gram  
August 2, 1993  
Page 6

PES trusts this is the information you require at this time. Please feel free to contact me if you have any questions.

Yours very truly,

PES ENVIRONMENTAL, INC.



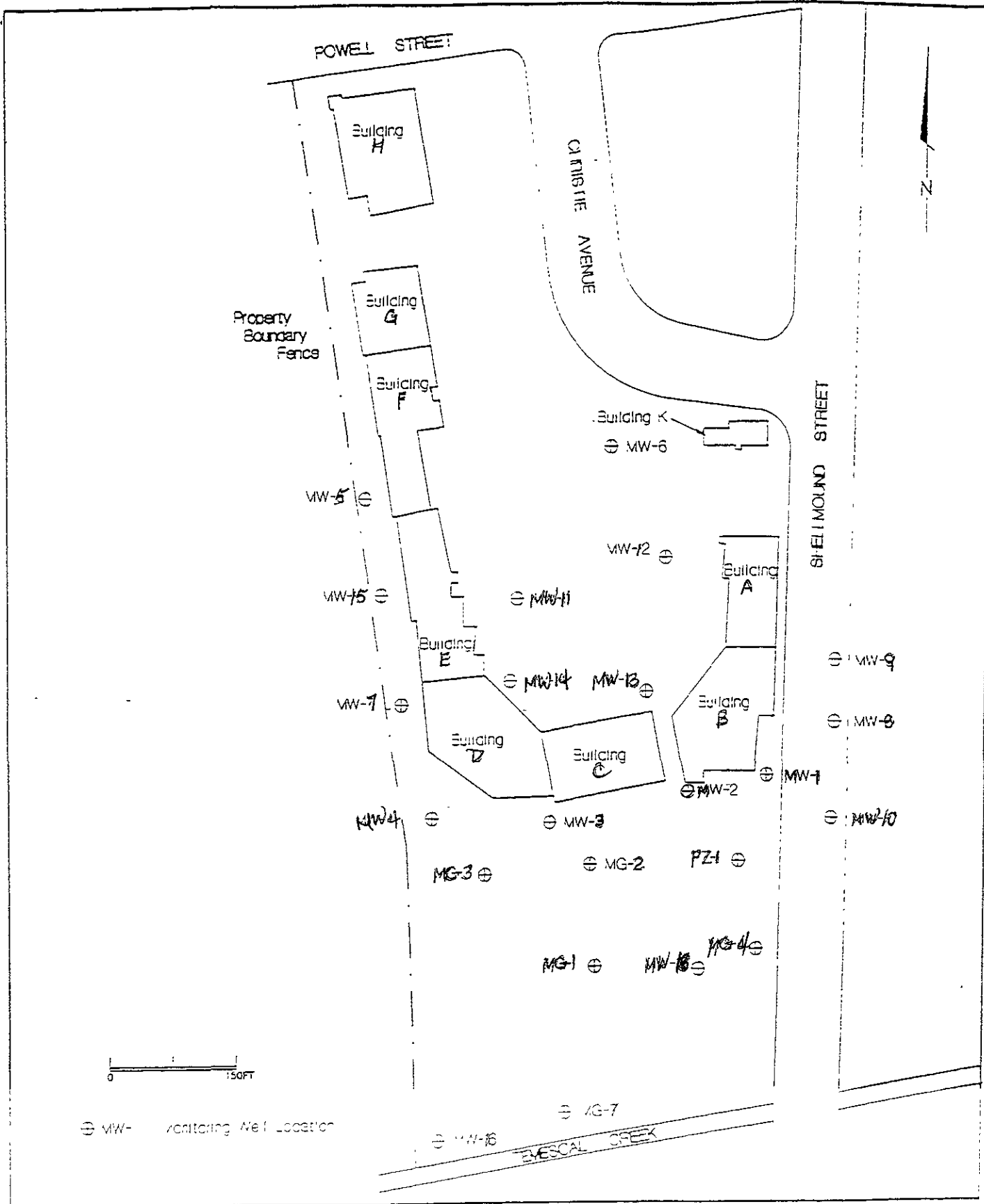
Robert S. Creps, P.E.  
Associate Engineer



cc: Rich Hiatt - San Francisco Bay RWQCB

Attachments: Plate 1 - Well Location Map

Summary of Phase I Results and Phase II Workplan  
Product Removal Program  
Powell Street Plaza and Shellmound III Sites  
Emeryville, California



Well Location Map  
P.E. and Shellmound Sites  
Former Advanced Packaging Systems Facility  
Emeryville, California



August 2, 1993

93 AUG -3 AM 11:05

241.0101.002

Mr. Tom Gram  
Eastshore Partners  
5800 Shellmound Street, Suite 210  
Emeryville, California 94608

**RECOMMENDED SCOPE OF WORK  
INVESTIGATION AND REMEDIATION PROGRAM  
POWELL STREET PLAZA (FORMER P.I.E. FREIGHT TERMINAL)  
EMERYVILLE, CALIFORNIA**

Dear Mr. Gram:

This letter describes a recommended scope of work for investigation and remediation of petroleum hydrocarbon contamination from former underground storage tanks at the Powell Street Plaza site in Emeryville, California. PES Environmental, Inc. (PES) has prepared these recommendations in response to an Alameda County Department of Environmental Health ACDEH) letter, dated June 4, 1993, to Aetna Real Estate Associates, L.P., (the current owner) requesting information on the site. PES understands that Eastshore Partners (Eastshore) acquired the site from Pacific Intermountain Express (P.I.E.), redeveloped the site, and subsequently sold the property to Aetna.

The recommendations contained herein are based on: (1) PES' experience at the subject site and the adjacent Shellmound III site which has been affected by the fuel releases on the Powell Street Plaza site; (2) our ~~June 13, 1993~~ <sup>July 15, 1993</sup> meeting with Susan Hugo of ACDEH and Rich Hiatt of the San Francisco Bay Regional Water Quality Control Board (RWQCB) during which we discussed site conditions and remedial objectives; and (3) a telephone conversation with Ms. Hugo on July 29, 1993 during which PES described these recommendations and received her concurrence.

**RECOMMENDED SCOPE OF WORK**

As we have discussed, there is a considerable amount of site characterization data that has been collected since the underground fuel storage tanks were removed in 1986. This includes investigations and/or remediation work for P.I.E. conducted by Blymyer Engineering Company, Cytoculture, Alton Geosciences and Groundwater Technology. Additionally, PES has conducted an investigation and prepared a Preliminary Endangerment Assessment (dated September 27, 1991) for the Shellmound III site for Shellmound Ventures Partners III, the owner of that site. Earlier this year, PES conducted a Phase I free-phase hydrocarbon product removal program for groundwater monitoring wells on both sites (results attached). Notwithstanding the availability of considerable environmental data, there



Mr. Tom Gram  
August 2, 1993  
Page 2

is an absence of current information on the site. Therefore, it is recommended as an initial task, that a single round of groundwater monitoring be performed for all wells on the Powell Street Plaza and Shellmound III sites. This new data will then be used to evaluate the adequacy of the characterization and guide further investigation, as needed.

Other recommended activities that should be performed at this time include a tidal influence study, free-phase hydrocarbon product removal, product characterization, and initiation of a remedial feasibility evaluation to be performed concurrently with the characterization process. Each of these activities and a schedule are described below.

### **Task 1 - Groundwater Monitoring / First Monitoring Quarter**

To obtain current information on the degree and extent of dissolved-phase hydrocarbon contamination, PES recommends collecting and analyzing groundwater samples from all groundwater monitoring wells (except those containing free-phase product at the time of sampling) on the subject site and Shellmound III site during the first quarter. There are 23 wells on the two sites (Wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-18, MG-1, MG-2, MG-3, MG-4, MG-7 and PZ-1). These are shown on the attached Plate 1.

The wells will be purged and samples will be collected and sent to a State-certified laboratory for analysis. Samples will be analyzed by EPA Test Method 8240/8260 for total petroleum hydrocarbons (TPH) quantified as gasoline and diesel, and the aromatic gasoline constituents benzene, toluene, ethylbenzene and total xylenes (BTEX).

### **Task 2 - Free-phase Product Removal**

Because the free-phase product remaining on the two site constitutes a continuing source of dissolved-phase groundwater contamination, PES has recommended continuation of the free-phase product removal that was begun earlier this year. In the attached June 9, 1993 letter, PES described a Phase II product removal program utilizing passive skimmer devices placed in wells. This program should be implemented at this time.

### **Task 3 - Chemical Characterization of Free-phase Product**

This task consists of the chemical characterization of the free-phase product currently found in monitoring wells. The purpose of the chemical characterization is to verify that no contaminants are present other than fuel constituents from the former fuel tanks. This information will be used to: (1) evaluate waste management alternatives for the recovered product; and (2) verify the adequacy of groundwater monitoring for dissolved-phase contaminants.

Mr. Tom Gram  
August 2, 1993  
Page 3

This task will consist of collecting two composite product samples from wells historically shown to consistently contain product. The samples will be analyzed for the following constituents:

- TPH quantified as gasoline and diesel by EPA Test Method 8260;
- Total Oil and Grease by Standard Method 5520 D & F;
- Volatile organic compounds (including BTEX) by EPA Test Method 8240;
- Semivolatile organic compounds by EPA Test Method 8270;
- Chlorinated hydrocarbons (including PCBs) by EPA Test Method 8080;
- Total metals (Title 22, Section 66261.24 list) by EPA Test Method 6010/7000 series; and
- Organic lead by California DHS HML Method 338.

#### **Task 4 - Tidal Influence Study**

There has been conflicting information regarding the influence of tidal changes in San Francisco Bay and Temescal Creek (located along the southern boundary of the Shellmound III site) on groundwater levels on the Powell Street Plaza and Shellmound III sites. PES therefore recommends conducting a continuous tidal influence study, covering a 48-hour period, to identify whether tidal influence is occurring. The study will consist of continuous water-level determinations in four selected wells using pressure transducers and dataloggers. The 48-hour period is intended to cover at least two complete tidal cycles (two high/low tide cycles). Periodic water level measurements will be made in wells without transducers during the study period.

Tidal cycles will be determined from published tide tables, corrected to the site.

#### **Task 5 - Groundwater Monitoring / Subsequent Quarters**

Based upon the results of the preceding four tasks, PES will recommend a groundwater monitoring program for subsequent quarterly periods (beginning in November 1993). The scope of the monitoring will be discussed with ACDEH and described in a groundwater monitoring plan for ACDEH's review and approval.

Mr. Tom Gram  
August 2, 1993  
Page 4

**Task 6 - Site Characterization Data Evaluation**

Upon receipt of the data from Tasks 1 through 4, PES will compile and summarize all environmental data related to the hydrocarbon contamination on the Powell Street Plaza and Shellmound III sites. PES will evaluate the adequacy of the data with respect to defining the extent of free- and dissolved-phase hydrocarbon contamination. PES will make recommendations for further investigation, if needed, to provide the additional data to characterize the contamination. If additional investigation is appropriate, it will be described in a workplan for ACDEH's review and approval.

**Task 7 - Remedial Alternative Feasibility Study**

PES will conduct a remedial feasibility study that will begin immediately and continue throughout the completion of Tasks 1 through 6. This analysis will include: (1) identification of cleanup objectives and setting remedial goals; (2) identification of cleanup technologies and specific alternatives to accomplish the objectives; (3) evaluating the alternatives; and (4) proposing a conceptual remedial plan. Remedial design, as needed, will be part of a subsequent task.

As we discussed during our meeting with ACDEH and RWQCB on July 15, CalTRANS' reconstruction of the Interstate 80/580 interchange will include substantial construction activities within the Powell Street Plaza and Shellmound III sites. This work will also require that East Bay Municipal Utilities District (EBMUD) relocate their North Interceptor, a major sanitary sewer collection and transport pipeline that currently parallels Interstate 80 adjacent to the subject site. The interceptor will be relocated approximately 50 feet east of its current location. PES will be in communication with CalTRANS and EBMUD throughout their respective construction processes so that the construction work and any future remedial activities are coordinated to the advantage of all parties.

**Task 8 - Site Characterization and Feasibility Study Reporting**

Upon completion of the above tasks (and additional site investigation activities, if needed), PES will prepare a report that will: (1) present all pertinent data related to fuel releases at the Powell Street Plaza site; (2) summarize environmental conditions related to fuel contamination on the Powell Street Plaza and Shellmound III sites; (3) summarize the results of the feasibility evaluation; and (4) present remedial objectives and a conceptual remedial plan. This report will be submitted to ACDEH for review and approval.

Mr. Tom Gram  
 August 2, 1993  
 Page 5

**Task 9 - Remedial Design and Workplan Preparation**

Upon receiving ACDEH's approval of the conceptual remedial plan, PES will conduct the appropriate remedial design and prepare a detailed workplan for implementing the remediation.

**SCHEDULE**

The following is a schedule for implementing the activities described above. Several tasks should begin immediately and/or have definitive timetables.. Because of the uncertainty regarding the need for further investigation to fully characterize hydrocarbon contamination, the timing of subsequent tasks is less certain.

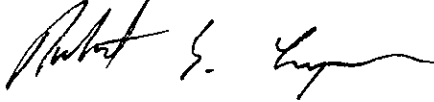
<u>Task Description</u>	<u>Schedule</u>
Groundwater Monitoring/First Quarter	Complete by August 31, 1993
Free-phase Product Removal	Initiate August 1993 and ongoing
Product Characterization	Complete by August 31, 1993
Tidal Influence Study	Complete by September 15, 1993
Groundwater Monitoring/Subsequent Quarters	Complete by November 30, 1993 quarterly thereafter
Site Characterization Data Evaluation	Complete by September 31, 1993
Subsequent Site Investigation	To be determined, as needed
Remedial Feasibility Study	To be determined based on need for additional investigation
Site Characterization and Feasibility Study Report	To be determined (estimated completion November 30, 1993)
Remedial Design and Workplan	To be determined (projected December 31, 1993)

Mr. Tom Gram  
August 2, 1993  
Page 6

PES trusts this is the information you require at this time. Please feel free to contact me if you have any questions.

Yours very truly,

PES ENVIRONMENTAL, INC.



Robert S. Creps, P.E.  
Associate Engineer



cc: Rich Hiatt - San Francisco Bay RWQCB

Attachments: Plate 1 - Well Location Map

Summary of Phase I Results and Phase II Workplan  
Product Removal Program  
Powell Street Plaza and Shellmound III Sites  
Emeryville, California