



May 17, 2004

BY FEDERAL EXPRESS AND U.S. MAIL

Allan V. Patton, Fund Manager, Claim #017971
Underground Storage Tank Cleanup Fund
State Water Resources Control Board
Division of Financial Assistance
P.O. Box 944212
Sacramento, California 94244-2120

Re: **Signature at the Estuary LLC**
Underground Storage Tank Cleanup Fund Claim Number 017971
Site Address 303 & 315 Derby Avenue, Oakland

Dear Mr. Patton:

Signature at the Estuary LLC (Signature) hereby appeals the determination set forth in the March 22, 2004 letter from Ms. Shari Knieriem of the Claims Review Unit that the above claim is ineligible for placement on the Priority List.¹ The letter states that Fund staff denied the claim "because of the lack of data whether the UST is attributable for the contamination at the site."

Enclosed please find a report from Lowney Associates (Lowney) titled Evaluation of Petroleum Related Impacts From Former Underground Storage Tank Releases At 303 and 315 Derby Avenue Oakland, California (May 17, 2004). The report analyzes the impacts of petroleum releases from former underground storage tanks (USTs) at the site. Based on historic aerial photographs, documents detailing prior investigation and remediation at the site, and Lowney's observations during implementation of the approved Corrective Action Plan for the site, the report concludes, conservatively, that approximately 34 percent of costs associated with contaminated soil at the site and 50 percent of costs associated with contaminated ground water at the site are the direct result of releases from five USTs formerly located at the site.

Based on the evidence, it is undeniable that a significant portion of the petroleum impacts at the site are directly attributable to historic UST releases. Signature is damaged by the March 22 Staff decision because the decision improperly denies Signature reimbursement for cleanup costs that Signature has properly incurred and that are otherwise eligible for reimbursement from the Fund. Signature seeks a determination by your office that, consistent with the conclusions in the enclosed Lowney report, Signature is eligible for reimbursement from the Fund for at least 34 percent of all eligible soil remediation expenses and at least 50 percent of all eligible ground water remediation expenses at the site.

¹ At Signature's request, Ms. Knieriem graciously extended Signature's time to gather additional information and prepare its appeal on these issues through and including May 21, 2004.

Once Fund staff concludes that Signature's claim is proper for placement on the Priority List, Signature will promptly supplement its prior application with a breakdown of eligible response costs identifying and allocating specific soil and ground water expenses, to facilitate calculation of appropriate reimbursement based on the enclosed analysis of UST impacts.

We appreciate your consideration of the enclosed report and review of these issues. If you have any questions concerning Signature's claim, the site, or the information contained in the Lowney report, please contact me. I would also be pleased to arrange a meeting or conference call, at your convenience, among Fund staff and appropriate representatives from Signature and/or Lowney to facilitate your review and analysis.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Van Ness', with a long horizontal line extending to the right.

Patrick Van Ness
Project Manager

Enclosure

39416/48910v2

cc: (By U.S. Mail)
Ms. Shari Knieriem
Mr. Chuck Headlee
Ms. Donna Dragos



California Regional Water Quality Control Board

San Francisco Bay Region



Terry Tamminen
Secretary for
Environmental
Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
<http://www.swrcb.ca.gov/rwqcb2>

Arnold Schwarzenegger
Governor

Alameda County

MAY 21 2004

Environmental Health

Certified Mail Nos.

70033110000265564012

Signature Properties

Attn: Mr. Mark Stice

4670 Willow Road, Suite 200

Pleasanton, CA 94588

70033110000265564029

Friends of California Men's Crew, a California nonprofit corporation:

c/o Bingham McCutchen LLP

Attention: Sanford M. Skaggs

PO Box V

Walnut Creek, CA 94596-1270

Date: **MAY 14 2004**

File No. 01S0576 (BG)

SUBJECT: Tentative Order Proposing Final Site Cleanup Requirements for Properties at 2901 and 2909 Glascock Street, 303 and 315 Derby Avenue, Oakland, Alameda County.

Dear Sir/Madam:

Enclosed is the tentative order to set final site cleanup requirements for the subject properties (site). This matter will be considered by the Board at its meeting of June 16, 2004. The meeting starts at 9:00 a.m., in the Auditorium of the Elihu Harris State Building at 1515 Clay Street, Oakland. You will be notified of any change in the meeting date or meeting cancellation.

Please submit any comments you may have no later than 5 p.m. on May 28, 2004. Please direct your comments to Betty Graham. She may be contacted at (510) 622-2358 or by e-mail at bg@rb2.swrcb.ca.gov.

Sincerely,

Stephen A. Hill, Chief
Toxics Cleanup Division

Attachment: Tentative Order
cc w/attach: Mailing List

Mailing List

Joel Hubscher
Shell Oil Company
910 Louisiana
1 Shell Plaza, Room 1116
Houston, TX 77002

ICONCO
4700 Coliseum Way
Oakland CA 94601

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Oakland, CA 94612

✓ Donna Drogas
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Alameda County

MAY 21 2004

Environmental Health

Robert Batha
BCDC
50 California Street, Suite 2600
San Francisco, CA 94111

Leroy Griffin
Hazardous Materials Supervisor
City of Oakland
505 14th Street, 7th Floor
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Barbara J. Cook
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700 Heinz Avenue
Berkeley, CA 94710-2721

California Department of Fish and Game
Region III
P.O. Box 47
Yountville, CA 94599

U.S. Fish and Wildlife Service
Habitat Conservation Division
3310 El Camino Avenue, Suite 130
Sacramento, CA 95821

United Anglers of California
425 California Street, Suite 2025
San Francisco, CA 94104
ATTN: Mr. Beaven

San Francisco BayKeeper
Presidio, Bldg. 1004
P.O. Box 29921
San Francisco, CA 94129-0921
ATTN: Jonathan Kaplan

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE ORDER

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS FOR:

SIGNATURE AT THE ESTUARY, LLC
FRIENDS OF CALIFORNIA MEN'S CREW, A CALIFORNIA NON-PROFIT
CORPORATION

for the properties located at

2901 & 2909 GLASCOCK STREET
303 & 315 DERBY AVENUE
OAKLAND
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location:**

The site is located immediately adjacent to the Oakland Estuary, and is about five acres in size. It consists of four adjoining properties, 2901 and 2909 Glascock Street, and 303 and 315 Derby Avenue, Oakland, Alameda County (Figure 1). The site is located in a mixed use neighborhood initially developed in the early 1900s for industrial uses. Many of the former industrial buildings have been renovated for live/work occupancy.

2. **Site History:**

2901 Glascock Street: In 1911, this property was developed with manufacturing facilities for boats and gasoline engines. A wharf extended into the Oakland Estuary, and the property was developed with various structures. In 1927, a large warehouse was constructed that covered most of the property. Between 1927 and 1996, the property was successively occupied by Oliver United Filters, Dorr-Oliver Inc., Barker Machinery Company and American Building Components. In 1996, the John E. and Charlene A. Weber Trust purchased the property for use by ICONCO, Inc., their demolition contracting business.

2909 Glascock Street: The California Men's Crew Boathouse was constructed in about 1925 and has been used since that time for the storage and maintenance of crew boats, meetings, and caretaker residence.

303 and 315 Derby Avenue: The bulk fuel distribution terminal was constructed in 1925 by Shell Oil Company. Petroleum products were delivered to the property by pipeline from Shell's refinery in Martinez and by railcar, and stored in several above ground storage tanks (AGTs) and underground storage tanks (USTs). The reported storage capacity was 69,730 barrels (2,028,660 gallons). Shell Oil Company owned and operated the facility until 1980. In 1980, Simmons Terminal Corporation (aka Simmons Petroleum, Simmons Oil Corporation), purchased the property from Shell Oil Company and continued operation as a bulk fuel distribution terminal until 1985. In August 1985, the John E. and Charlene A. Weber Trust purchased the property for use by ICONCO, Inc., their demolition contracting business. ICONCO, Inc. used the property for storage of heavy equipment and building materials salvaged from its demolition activities. ICONCO, Inc. retained two AGTs and the loading rack for its use, demolished the remaining USTs, AGTs, and associated above ground facilities, and left underground pipelines and facilities in place.

In June 2003, Signature at the Estuary, LLC acquired the site and commenced construction activities to develop a 100 unit residential townhouse development and to relocate/expand the existing California Men's Crew use. In December 2003, Friends of California Men's Crew, a California non-profit corporation acquired a portion of the site from Signature at the Estuary, LLC

3. **Named Dischargers:**

Signature at the Estuary, LLC is named as a discharger because it owned the property during or after the time of the activity that resulted in the discharge, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to prevent the discharge.

Friends of California Men's Crew, a California non-profit corporation, is named as a discharger because it owned a portion of the property during or after the time of the activity that resulted in the discharge, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to prevent the discharge.

Friends of California Men's Crew, a California non-profit corporation, current owner of a portion of the property, will be responsible for compliance for the portion of the property it owns only if the Board or Executive Officer finds that other named dischargers have failed to comply with the requirements of this order.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

303 and 315 Derby Avenue: The bulk fuel distribution terminal was constructed in 1925 by Shell Oil Company. Petroleum products were delivered to the property by pipeline from Shell's refinery in Martinez and by railcar, and stored in several above ground storage tanks (AGTs) and underground storage tanks (USTs). The reported storage capacity was 69,730 barrels (2,028,660 gallons). Shell Oil Company owned and operated the facility until 1980. In 1980, Simmons Terminal Corporation (aka Simmons Petroleum, Simmons Oil Corporation), purchased the property from Shell Oil Company and continued operation as a bulk fuel distribution terminal until 1985. In August 1985, the John E. and Charlene A. Weber Trust purchased the property for use by ICONCO, Inc., their demolition contracting business. ICONCO, Inc. used the property for storage of heavy equipment and building materials salvaged from its demolition activities. ICONCO, Inc. retained two AGTs and the loading rack for its use, demolished the remaining USTs, AGTs, and associated above ground facilities, and left underground pipelines and facilities in place.

In June 2003, Signature at the Estuary, LLC acquired the site and commenced construction activities to develop a 100 unit residential townhouse development and to relocate/expand the existing California Men's Crew use. In December 2003, Friends of California Men's Crew, a California non-profit corporation acquired a portion of the site from Signature at the Estuary, LLC

3. Named Dischargers:

Signature at the Estuary, LLC is named as a discharger because it owned the property during or after the time of the activity that resulted in the discharge, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to prevent the discharge.

Friends of California Men's Crew, a California non-profit corporation, is named as a discharger because it owned a portion of the property during or after the time of the activity that resulted in the discharge, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to prevent the discharge.

Friends of California Men's Crew, a California non-profit corporation, current owner of a portion of the property, will be responsible for compliance for the portion of the property it owns only if the Board or Executive Officer finds that other named dischargers have failed to comply with the requirements of this order.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

4. **Regulatory Status:** This site is currently not subject to Board order.

5. **Site Hydrogeology:**

Prior to recent remediation activities pursuant to an October 31, 2003, *Corrective Action Plan* the upper four to six feet of fill materials consisted of stiff to very stiff silty clays and medium dense to very dense gravelly sands with varying amounts of fines.

Remediation activities replaced contaminated fill materials within the upper seven to twelve feet with fine grained, low permeability materials imported from an adjacent property (the Harbor Walk development) and from the La Vista quarry in Hayward, California. Below the fill, a layer of fat to lean clay was found to depths of 12 to 14 feet below ground surface (bgs). At a depth of 12 to 14 feet bgs to 25 feet bgs, a layer of dense to very dense sand to silty sand was encountered. Below the sandy layer and to the maximum depth explored of 50 feet, alternating layers of silty clay and clayey silt were encountered.

Groundwater was typically encountered within the sandy/silty sandy layer at depths of 12 to 15 feet bgs. Groundwater levels in the exploratory borings rose to a depth of about 10 feet, indicating confined conditions. However, unconfined conditions may occur periodically during low tide in the adjacent estuary. Groundwater elevations are tidally influenced and the net groundwater flow direction is likely towards the Oakland Estuary.

6. **Remedial Investigation:**

Investigations of soil and groundwater quality at the 2901 Glascock Street property began in 1992 and were completed in 2003. Prior to implementation of the *Corrective Action Plan*, soil and groundwater was known to be contaminated due to the presence of two leaking USTs (4,000 gallon and 20,000 gallon capacities), historic use of an oil fired boiler, and on-site disposal of metal containing wastes.

No investigations of soil and groundwater quality at the 2909 Glascock Street property were conducted prior to redevelopment of the property by Signature at the Estuary, LLC because review of the site history for the 2909 Glascock Street property suggested that no soil or groundwater contamination was present.

Releases from the former bulk fuel distribution terminal were first reported in 1942 and an oil recovery system consisting of extraction wells, stormwater drainage controls, oil-water separator, and oil absorbant booms was reportedly operated at the property from the early 1970s to the late 1980s.

Investigations of soil and groundwater quality at the 303 and 315 Derby Avenue property were conducted in 1982, 1985, and 2001 on behalf of Simmons Terminal Corporation, the John E. and Charlene A. Weber Trust, and Signature at the Estuary, LLC, respectively. These investigations identified widespread petroleum hydrocarbon contamination with pockets of free product residual in soil and groundwater. These investigations did not include investigation of soils surrounding the two product pipelines which underlie Glascock Street and were used historically to deliver petroleum products to the former bulk fuel distribution terminal.

Maximum contaminant concentrations, before and after implementation of the *Corrective Action Plan* are summarized by property, below. The contaminants of concern for the site are: total petroleum hydrocarbons (TPHt); gasoline (TPHg); diesel (TPHd); benzene, toluene, ethylbenzene, and xylene (BTEX); methyl tert butyl ether (MTBE); arsenic; lead; and polychlorinated biphenyls (PCBs). The areas of the site exceeding cleanup goals prior to remediation are shown in Figure 2, attached. The areas of the site exceeding 1,000 mg/kg TPHg at a depth greater than seven feet are shown in Figure 3, attached.

Table 1. Maximum Contaminant Concentrations in Soil and Groundwater before implementation of the *Corrective Action Plan*.

Contaminant	2901 Glascock Street		303 & 315 Derby Avenue	
	Soil (mg/kg)	Groundwater (ug/l)	Soil (mg/kg)	Groundwater (ug/l)
TPHg	1,700	14,000	220,000	200,000
TPHd	9,600	59,000	140,000	270,000
Benzene	3.3	500	36	20,000
Ethylbenzene	19	2.6	20	51
Toluene	9.9	73	13	150
Xylene	81	56	36	82
MTBE	0.62	890	20	5,000
Arsenic	100	NA	4.8	NA
Lead	5,300	NA	410	NA
PCB	35	NA	NA	NA

Table 2. Maximum Contaminant Concentrations in Soil and Groundwater after implementation of the *Corrective Action Plan*.

Contaminant	2901 Glascock Street		303 & 315 Derby Avenue	
	Soil (mg/kg)	Groundwater (ug/l)	*Soil (mg/kg)	Groundwater (ug/l)
TPHg	370	110	3,900	7,900
TPHd	2,800	1,400	3,200	2,900
Benzene	ND	ND	4.6	1,600
Ethylbenzene	1.3	ND	51	110
Toluene	ND	ND	3.8	73
Xylene	8.1	1.1	14	150
MTBE	ND	25	3.1	4,600
Arsenic	14	NA	NA	NA
Lead	18	NA	6.1	NA
PCBs	0.062	NA	NA	NA

Note: *Post-remediation soil samples from ground surface to top of capillary fringe (approximately 10 foot depth) and inside property line boundaries.

7. Adjacent Sites:

Remediation at the site may be affected by residual contamination surrounding the two product pipelines that underlie Glascock Street and were used to deliver petroleum products to the former bulk fuel distribution terminal. Remediation of the former bulk fuel distribution terminal did not include remediation or removal of these product pipelines. The pipelines are reportedly owned by Shell Oil Company and Simmons Terminal Corporation. Subsurface contamination may be present due to releases from these pipelines in association with operation of the former bulk fuel distribution terminal.

Directly across Glascock Street from the 303 and 315 Derby Avenue property is the former Industrial Steam site at 2985 Ford Street. Two USTs (beneath the Glascock Street sidewalk and used historically for fuel oil) were closed in place by grouting under regulatory oversight of the City of Oakland Fire Department during 2003 and 2004. Investigations of soil and groundwater quality for the remainder of the property are ongoing under Board oversight.

The former City of Oakland animal shelter at 3041, 3061, and 3065 Ford Street (the corner of Glascock and Lancaster Streets) is located about one block south of the 303 and 315 Derby Avenue property. Signature at Harborwalk, LLC purchased this property in 2003 and is redeveloping it for residential use as the Harbor Walk Development. Soils at this site were investigated for potential reuse as clean, fine grained fill material. These investigations determined that subsurface soils at depths of two to eight feet bgs were free of contamination and Board staff approved reuse as backfill at the Glascock Street and Derby Avenue properties.

8. **Interim Remedial Measures:**

Investigations of soil and groundwater quality at the 2901 Glascock Street property began in 1992 when metal containing wastes were identified within (and subsequently removed from) the intertidal zone. In February 1993, two USTs were removed from the property, the tank pits were overexcavated to the extent possible, and monitoring wells were installed. In 1997 and 1999, oxygen reducing compound (ORC) was injected to enhance biodegradation of residual petroleum hydrocarbon contamination.

Releases from the former bulk fuel terminal were first reported in 1942. Investigations of soil and groundwater quality at the 303 and 315 Derby Avenue property began in 1982 following an oil release to the Oakland Estuary. Interim remedial measures included: removal of all but two AGTs and all then known USTs in 1985; and operation of an oil recovery/stormwater collection system from the early 1970's until the late 1980's.

9. **Environmental Risk Assessment:**

- a. **Screening Level Assessment:** A summary of the site investigation results and Tier 1 environmental risk assessment is presented in the October 31, 2002, *Corrective Action Plan* prepared for the site. The primary chemicals of concern in groundwater are gasoline and diesel range petroleum compounds. Site data were compared to the July 2003 Environmental Screening Levels (ESLs) prepared by Board staff in order to identify potential threats to human health and the environment. Board staff used soil and groundwater screening levels for residential land use where groundwater is not a potential source of drinking water. Screening levels for human health concerns are based on a target excess cancer risk of one-in-a-million (10^{-6}) and a target, noncancer hazard quotient of 0.2. A summary of this screening level assessment is provided below.

b. **Post Remediation Soil Assessment:**

Chemicals of Concern	*Maximum Reported Concentration (mg/kg)	Results of Screening Assessment				
		*Direct Exposure	Vapor Intrusion	Ecotoxicity	Leaching	*Nuisances
TPHg	3,900	No	nv	nv	No	No
TPHd	3,200	No	nv	nv	No	No
Benzene	4.6	No	No	No	No	No
Ethylbenzene	51	No	No	nv	No	No
Toluene	3.8	No	No	No	No	No
Xylene	14	No	No	nv	No	No
MTBE	3.1	No	No	nv	No	No
Arsenic	14	No	na	No	No	No
Lead	18	No	na	No	No	No
PCBs	0.062	No	na	No	No	No

Note: *Post-remediation soil samples from ground surface to top of capillary fringe (approximately 10 foot depth) and inside property line boundaries. "Yes" indicates that respective ESL was exceeded. "No" indicates that respective ESL was not exceeded ("nv" = no screening level value; "na" = not applicable). Based on comparison to site-specific cleanup goals as presented and approved in October 31, 2002, Corrective Active Plan (CAP). Assumes shallow soils, residential land use, underlying groundwater is not a potential source of drinking water.

c. **Post Remediation Groundwater Assessment:**

Chemicals of Concern	Maximum Reported Concentration (ug/L)	Results of Screening Assessment		
		Potential Vapor Intrusion Concerns	Potential Aquatic Habitat Concerns	Nuisances
TPHg	7,900	nv	Yes	Yes
TPHd	2,900	nv	Yes	Yes
Benzene	1,600	No	Yes	No
Ethylbenzene	110	No	No	No
Toluene	73	No	No	No
Xylene	150	No	Yes	No
MTBE	4,600	No	No	Yes

Note: "Yes" indicates that respective ESL was exceeded. "No" indicates that respective ESL was not exceeded ("nv" = no screening level value). Based on comparison to site-specific cleanup goals as presented and approved in October 31, 2002, Corrective Active Plan (CAP). Assumes residential land use, groundwater is not a potential source of drinking water.

Based on the results of the groundwater screening level assessment, maximum-reported levels of contaminants in groundwater impacts at the site pose potential concerns for impacts to aquatic habitats should the groundwater migrate offsite and discharge into the Estuary. Reported levels of TPH and MTBE could also pose nuisance concerns for vapor intrusion into future, overlying buildings, exposure to groundwater during future construction or releases to a surface water body.

- d. **Site-Specific Assessment:** Site-specific soil and groundwater cleanup levels were included in the approved October 31, 2002, *Corrective Action Plan*. The *Corrective Action Plan* identified leaching of chemicals from soil, direct exposure to contaminated soils, releases of contaminated groundwater to surface waters, and vapor emissions from both contaminated soils and groundwater as the principal environmental concerns at the site. The cleanup levels take into account the actual volume of contaminated soil present and the potential for contaminated groundwater situated more than fifty feet from the Oakland Estuary to migrate to and impact aquatic habitats.

Due to the site's location on the Oakland Estuary, a shoreline buffer zone, 50 feet inland of top of bank, is defined to differentiate the portions of the site to be developed for residential use (including California Men's Crew's use) and for public shoreline access. Within the 50 foot shoreline buffer zone, cleanup levels are based on the protection of ecological receptors and are set equivalent to chronic surface water quality objectives. Inland of the shoreline buffer zone, cleanup levels are intended to address potential vapor emissions to future buildings, gross contamination concerns and the potential for contaminated groundwater to migrate to the Oakland Estuary. Because the contaminants of concern at this site are considered less toxic to human receptors than to ecological receptors and on the condition that building design elements preclude soil vapor emissions to indoor air, residential occupancy is permitted prior to the attainment of cleanup levels for the protection of ecological receptors. To further assure the protection of human health and indoor air quality, institutional restrictions are required.

Site-specific soil cleanup levels for Total Petroleum Hydrocarbons and benzene were developed. The cleanup levels are intended to address leaching, vapor intrusion, direct-exposure and nuisance concerns within shallow soils at the site (≤ 7 feet deep) and leaching, vapor intrusion and gross contamination concerns in deeper soils (> 7 feet deep).

- e. **Conclusions:** Initial levels of contaminants in soil and groundwater posed an unacceptable risk to human health and the environment given the range of uses currently permitted by the zoning. Remedial action was therefore warranted.

Due to residual contamination that will be present at the site pending full remediation, institutional constraints are appropriate to limit on-site exposure to acceptable levels. Institutional constraints include a deed restriction that notifies future owners of sub-surface contamination and requires implementation of a Risk Management Plan.

10. **Feasibility Study:**

Signature at the Estuary, LLC submitted a feasibility study and remedial action plan for the site in its document titled *Corrective Action Plan*, dated October 31, 2002.

In 1997 and 1999, ORC was injected at the 2901 Glascock Street property to reduce contaminant concentrations in groundwater. Quarterly monitoring results following ORC treatment suggested that ORC injection was an effective remediation measure for the site.

In February 2002, a soil vapor extraction test was performed at the site. Test results revealed a low flow of vapor, limited radius of influence, and high moisture content in the vapor. Due to these results, soil vapor extraction was not considered feasible or cost effective.

Soil borings completed between 1982 and 2003 suggested that the fine grained materials within the capillary fringe at depths of eight to twelve feet bgs effectively separated contaminated groundwater from contaminated surface soils, and that the bulk of soil contamination was encountered within the upper seven feet of soil.

Due to these results, the *Corrective Action Plan* recommended a remediation strategy to: 1) remove contaminated soils from above the capillary fringe, and 2) use ORC for in-situ treatment of groundwater and the capillary fringe.

11. **Remedial Action Plan:**

The *Corrective Action Plan* for the site includes the following elements and is consistent with all the features of a Remedial Action Plan.:

1. excavation and off-site disposal of soils that exceed site-specific objectives for soil remediation or on-site soil reuse (completed March 2004);
2. placement of a layer of ORC at the bottom of the excavation and backfilling with imported fine grained clean fill (completed March 2004);

3. ORC injection to deeper groundwater (10 to 20 feet bgs) across the site and as a reactive barrier along the shoreline (completed March 2004);
4. removal of any residual free phase product, to the extent practicable (completed March 2004);
5. building design criteria to include engineering controls such as organic/water vapor barriers or sub-floor ventilation systems to minimize potential adverse effects on indoor air quality; and
6. protection of human health and ecological resources through the attainment of site specific cleanup standards.

The *Corrective Action Plan* was approved by letter dated December 3, 2002. By letter dated March 1, 2004, Board staff concurred that the first four of the six elements listed above had been completed.

12. **Basis for Cleanup Standards**

- a. **General:** State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. The previously-cited cleanup plan confirms the Board's initial conclusion that background levels of water quality cannot be restored. This order and its requirements are consistent with Resolution No. 68-16.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

- b. **Beneficial Uses:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and

November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23, California Code of Regulations, Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the site does not qualify as a potential source of drinking water due to high TDS, and due to contamination.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the site:

- o Freshwater replenishment to surface waters

The existing and potential beneficial uses of the Oakland Estuary include:

- o Ocean, Commercial, and Sport Fishing
- o Industrial process supply or service supply
- o Water contact and non-contact recreation
- o Wildlife habitat
- o Fish migration and spawning
- o Navigation
- o Estuarine habitat
- o Shellfish harvesting
- o Preservation of rare and endangered species

- c. **Basis for Groundwater Cleanup Standards:** The groundwater cleanup standards for the site are based on applicable water quality objectives for the protection of ecological receptors, prevention of nuisance conditions, and protection of human health under an indoor air exposure scenario. Cleanup to this level will protect beneficial uses of groundwater and will result in acceptable residual risk to humans.
- d. **Basis for Soil Cleanup Standards:** The soil cleanup standards for the site are the more stringent of ESLs for the protection of ecological receptors, prevention of nuisance conditions, and protection of human health under an indoor air exposure scenario. Cleanup to this level is intended to prevent leaching of contaminants to groundwater or volatilizing of contaminants to soil vapor and will result in acceptable residual risk to humans.

13. **Future Changes to Cleanup Standards:** The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the discharger may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.
14. **Reuse or Disposal of Extracted Groundwater:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.
15. **Basis for 13304 Order:** California Water Code Section 13304 authorizes the Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
16. **Cost Recovery:** Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
17. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
18. **Notification:** The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.
19. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. REMEDIAL ACTION PLAN AND CLEANUP STANDARDS

1. **Implement Remedial Action Plan:** The discharger shall implement the remedial action plan described in finding 11.
2. **Groundwater Cleanup Standards:** The following groundwater cleanup standards shall be met in all wells identified in the Self-Monitoring Program and located within the Shoreline Buffer Zone:

Constituent	Standard (ug/l)	Basis
TPHg	3,700	ESL
TPHd	640	ESL
Benzene	71	ESL
Toluene	130	ESL
Ethylbenzene	290	ESL
Xylene	130	ESL
MTBE	1,800	ESL

ESL = July 2003 Environmental Screening Levels (by Board staff).

3. **Soil Cleanup Standards:** The following soil cleanup standards shall be met in all on-site vadose-zone soils.

Constituent	Standard (mg/kg)	Depth (feet bgs)	Basis
TPHt	500	0 - 3	ESL
TPHt	1,000	3 - 7	ESL
TPHt	5,000, and removal of free product	7 - top of capillary fringe	ESL
TPHg	100	0 - 3, within the shoreline buffer zone	ESL
TPHg	500	3 - 7	ESL
Benzene	2.4	0 - 7	ESL
Benzene	4.4	7 - top of capillary fringe	ESL
Toluene	8.4	all depths	ESL
Ethylbenzene	24	all depths	ESL
Xylene	10	all depths	ESL
Arsenic	8	all depths	ESL
MTBE	10	all depths	ESL
Lead	200	all depths	ESL
PCBs	0.22	all depths	ESL

ESL = July 2003 Environmental Screening Levels (by Board staff).

C. TASKS

1. **PROPOSED INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: September 30, 2004

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by the dischargers to prevent or minimize human and ecological exposure to soil and groundwater contamination prior to meeting cleanup standards. Such procedures shall include: 1) a deed restriction which includes a risk management plan and requires implementation of the risk management plan; 2) a Fact Sheet that advises prospective purchasers of the potential risks and responsibilities due to residual contamination; 3) the California Department of Real Estate's Public Report, and 4) final Conditions, Covenants, and Restrictions for the residential development.

With respect to the vapor intrusion pathway, the dischargers have two options. Under option 1, they can conduct post-remediation subsurface soil gas monitoring to demonstrate to the Executive Officer's satisfaction that building design elements are not needed to prevent excessive vapor intrusion. Under option 2, they can incorporate into the above risk-management plan the following features to address vapor intrusion: (i) documentation that building design elements to preclude soil vapor emissions to indoor air and to protect human health and indoor air quality were properly implemented, (ii) requirement that these design elements shall remain in place until the time of site closure, (iii) requirement for regular inspection of the integrity of these design elements by a qualified professional and regular reporting of inspection results to the City of Oakland and the Regional Board, and (iv) requirement for establishment and maintenance of a financial assurance mechanism sufficient to pay for risk management plan implementation in the event of non-performance by the subsequent owners.

2. **IMPLEMENTATION OF INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting that the proposed institutional constraints have been implemented.

3. **TWO-YEAR STATUS REPORT**

COMPLIANCE DATE: December 31, 2005

Submit a technical report acceptable to the Executive Officer which describes the actions to be taken if groundwater or soil vapor concentrations do not stabilize and decline, as expected, or if groundwater concentration trend analysis indicates that groundwater cleanup standards will not be met within the initial five year time period. The report should also evaluate the effectiveness of the approved *Corrective Action Plan*. The report should include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup standards
- c. Summary of additional investigations (including results) and significant modifications to remediation strategy
- d. Additional remedial actions proposed to meet cleanup standards by January 2009, including a time schedule

If cleanup standards are not projected to be met by January 2009, the report should assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

4. **FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: June 30, 2009

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved remedial action plan. The report should include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup standards
- c. Comparison of anticipated versus actual costs of cleanup activities
- d. Performance data (e.g. groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted)
- e. Cost effectiveness data (e.g. cost per pound of contaminant removed)
- f. Summary of additional investigations (including results) and significant modifications to remediation systems
- g. Additional remedial actions proposed to meet cleanup standards (if applicable) including time schedule

If cleanup standards have not been met and are not projected to be met within the five year time period, the report should assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

5. **EVALUATION OF NEW HEALTH CRITERIA**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved remedial action plan of revising one or more cleanup standards in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

6. **EVALUATION OF NEW TECHNICAL INFORMATION**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new technical information which bears on the approved remedial action plan and cleanup standards for this site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be requested unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved remedial action plan or cleanup standards.

7. **Delayed Compliance:** If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good O&M:** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that

program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
5. **Self-Monitoring Program:** The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Oakland, Public Works Agency
 - b. Alameda County Environmental Health

9. **Reporting of Changed Owner or Operator:** The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

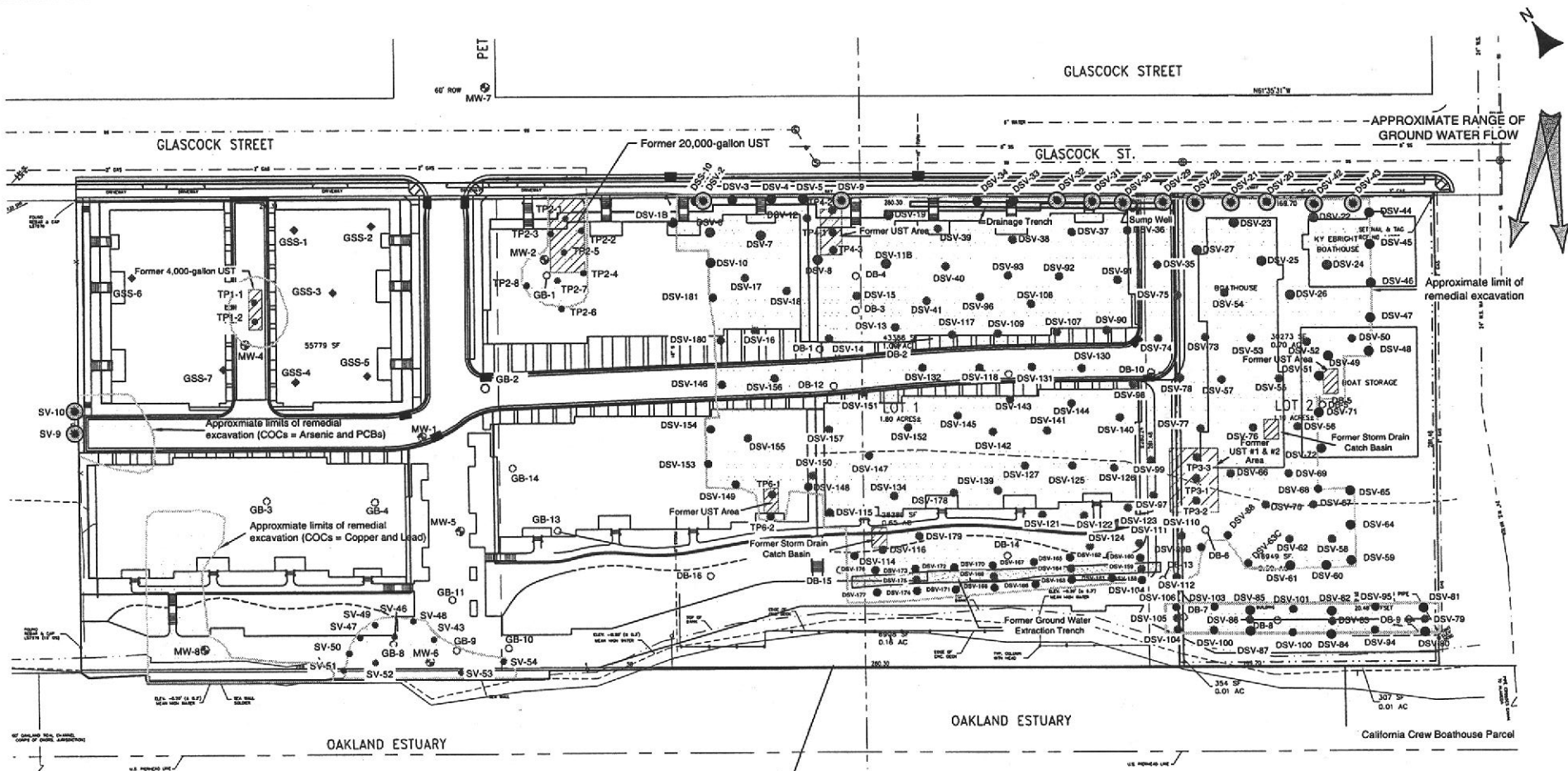
11. **Secondarily-Responsible Discharger:** Within 60 days after being notified by the Executive Officer that other named dischargers have failed to comply with this order, Friends of California Men's Crew shall then be responsible for complying with this order for the portion of the property they own. Task deadlines above will be automatically adjusted to add 60 days (e.g. if an RI workplan was due on 1/1/95, an RI report was due on 4/1/95, the RI workplan was never submitted, and the EO notification was sent on 7/1/95, then the secondarily-responsible discharger must submit an RI workplan by 9/1/95 and an RI report by 12/1/95).
12. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

Bruce H. Wolfe
Executive Officer

FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

Attachments: Figure 1. Site Map
Figure 2. Pre Remediation Areas Exceeding Cleanup Standards
Figure 3. Post Remediation Areas Exceeding 1,000 ppm TPHt
Self-Monitoring Program



LEGEND

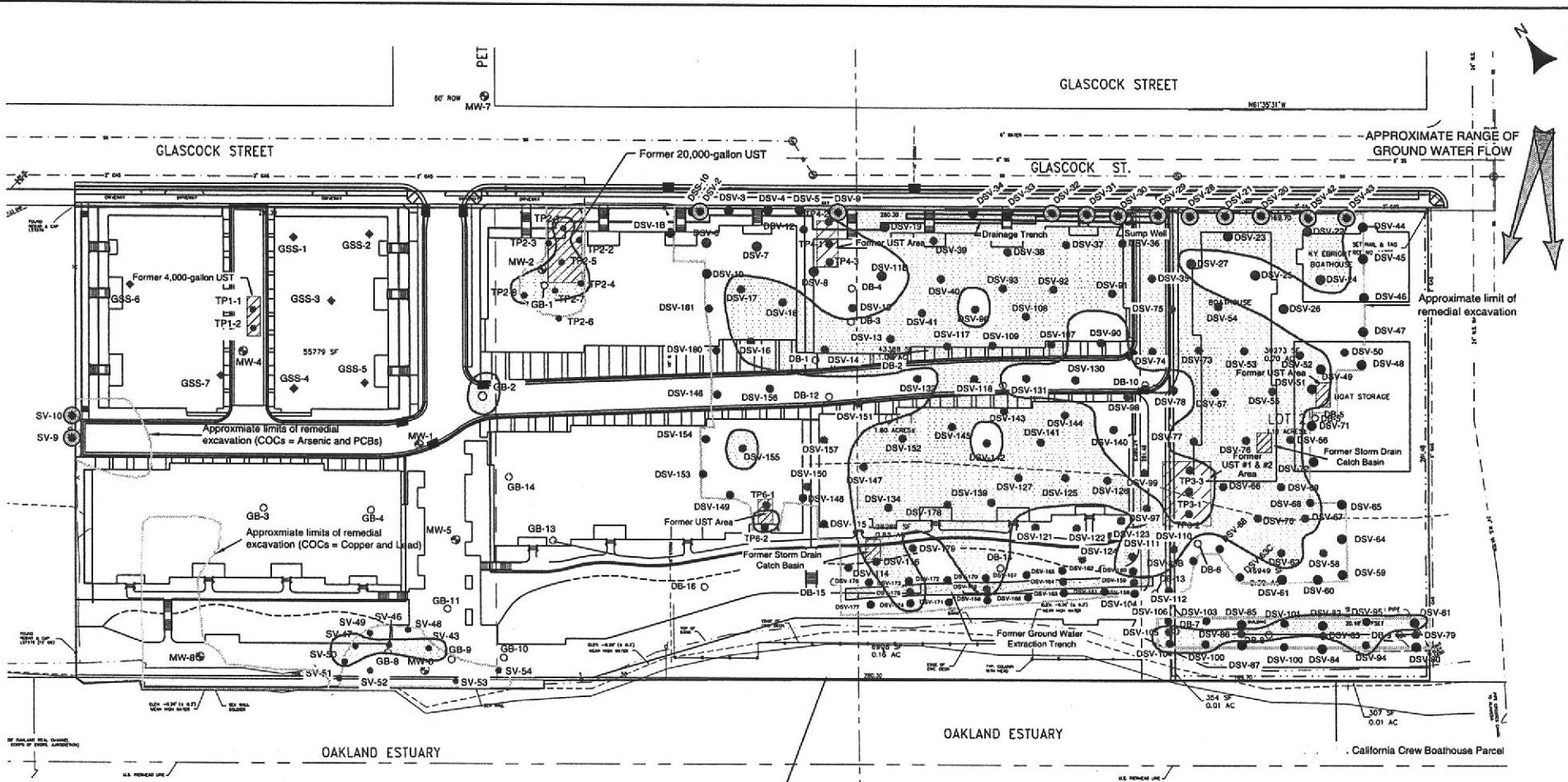
- - Approximate location of side-wall soil verification sample
- - Approximate location of bottom soil verification sample
- - Approximate location of ground water grab sample
- ⊕ - Approximate Location of former ground water monitoring well (destroyed July, 2003)
- ⊙ - Property Line Soil Verification Sample exceeding Clean-up Goals
- - - - - Approximate limits of remedial excavation
- - Approximate extent of areas exceeding cleanup goals



**PRE REMEDIATION AREAS EXCEEDING
CLEANUP GOALS**
303/315 DERBY, 2901 AND 2909 GLASCOCK STREET
Oakland, California

LOWNEY ASSOCIATES Environmental/Geotechnical/Engineering Services	FIGURE 2 1731-2G
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Base by KCA Engineers.



LEGEND

- - Approximate location of side-wall soil verification sample
- - Approximate location of bottom soil verification sample
- - Approximate Location of Ground Water Grab Sample
- - Approximate Location of former Ground Water Monitoring Well (destroyed July, 2003)
- ⊙ - Property Line Soil Verification Sample exceeding Clean-up Goals
- - - - - Approximate limits of remedial excavation
- - > 1,000 ppm TPHd + TPHg, 7 feet or deeper

**POST CLEANUP AREAS EXCEEDING
1,000 PPM TPH CONCENTRATIONS
303/315 DERBY, 2901 AND 2909 GLASCOCK STREET
Oakland, California**

LOWNEY ASSOCIATES Environmental/Geotechnical/Engineering Services	FIGURE 3
	1731-2G

Base by KCA Engineers.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

SIGNATURE AT THE ESTUARY, LLC
FRIENDS OF CALIFORNIA MEN'S CREW, A CALIFORNIA NON-PROFIT
CORPORATION

for the properties located at

2901 & 2909 GLASCOCK STREET
303 & 315 DERBY AVENUE
OAKLAND
ALAMEDA COUNTY

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. ~~XX-XXX~~ (site cleanup requirements).
2. **Monitoring:** The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following table:

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
EMW-1	Q	8015/8260	EMW-10	Q	8015/8260
EMW-2	Q	8015/8260	EMW-11	Q	8015/8260
EMW-3	Q	8015/8260	EMW-12	Q	8015/8260
EMW-4	Q	8015/8260	EMW-13	Q	8015/8260
EMW-5	Q	8015/8260	EMW-14	Q	8015/8260

EMW-6	Q	8015/8260	EMW-15	Q	8015/8260
EMW-7	Q	8015/8260	EMW-16	Q	8015/8260
EMW-8	Q	8015/8260	EMW-17	Q	8015/8260
EMW-9	Q	8015/8260			

Key: Q = Quarterly 8015 = EPA Method 8015 or equivalent
A = Annually 8260 = EPA Method 8260 or equivalent
8015/8260 = EPA Method 8260 in lieu of 8015 for fourth quarter

The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** The discharger shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. report for first quarter of the year due April 30). The first quarterly monitoring report shall be due **on September 30, 2004**. The reports shall include:
 - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
 - b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the fourth quarterly report each year.
 - c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater

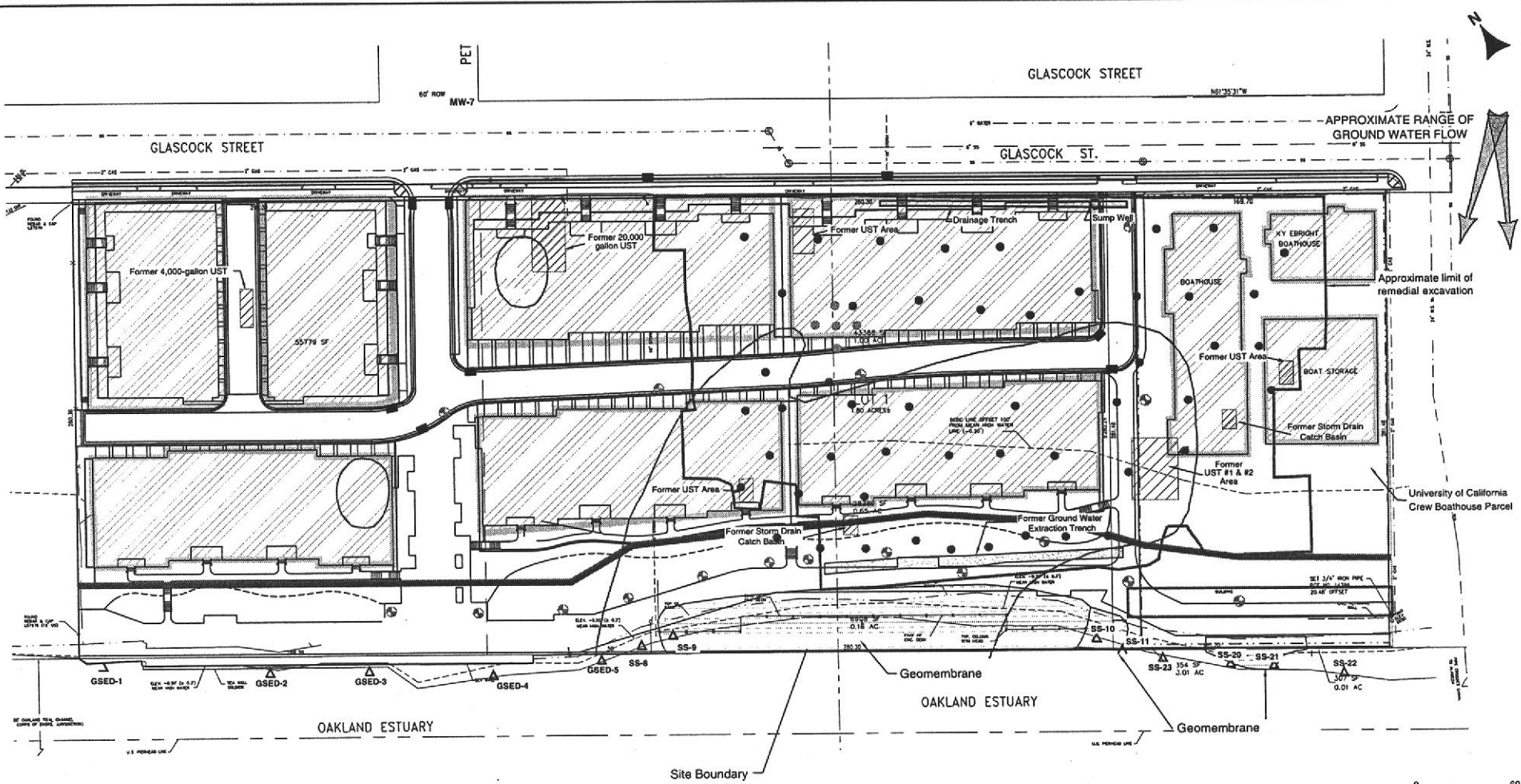
sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

- d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.
 - e. **Status Report:** The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.
5. **Violation Reports:** If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.
 6. **Other Reports:** The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.
 7. **Record Keeping:** The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
 8. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on _____.

Bruce H. Wolfe
Executive Officer

Attachment: Figure 4. Proposed Monitoring Well Locations



LEGEND

- - Approximate Location of ORC Injection Point (March, 2003)
- ⊙ - Approximate Location of ORC Injection Point (June, 2003)
- ⊕ - Approximate Location of proposed Ground Water Monitoring Well
- ▭ - Approximate Boundary of Ecologic Buffer Zone (50 feet from top of bank)
- ⤿ - Approximate Extent of Petroleum Hydrocarbons in Ground Water exceeding Ecological Buffer Zone Ground Water Clean-up Goals September to November, 2003



PROPOSED GROUND WATER MONITORING WELL LOCATIONS
 303/315 DERBY, 2901 AND 2909 GLASCOCK STREET
 Oakland, California

LOWNEY ASSOCIATES
 Environmental/Geotechnical/Engineering Services

FIGURE 4
1731-2G

Base by KCA Engineers.