

PORT OF OAKLAND

June 7, 1999

Ms. Madhulla Logan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Risk Evaluation Report for the former Cryer Boatyard Site, 1899 Dennison Street, Oakland

Dear Ms. Logan:

Please find enclosed the final *Risk Evaluation Report* for the former Cryer Boatyard Site, 1899 Dennison Street, Oakland. As discussed in the transmittal letter for the *Supplemental Site Investigation and Risk Evaluation Report*, dated September 1998, the Port would be providing this follow-up report once a better understanding of the future use of the site was confirmed. The enclosed risk evaluation focuses on the proposed future use of the property as a park.

As indicated in my voicemail to you on June 4, 1999, the Port would like to discuss the findings of the report and the future use of the site, with both you and Stephen Hill of the RWQCB. The proposed meeting dates are June 11, or June 15, 1999. Please let me know at your earliest convenience if these dates are amenable to your schedule.

Thank you for your attention in this matter, and your ongoing efforts at reviewing the risk evaluation report.

Sincerely,

Douglas P. Herman
Port of Oakland, EH&SC

encl.

cc w/encl: Stephen Hill, RWQCB
Chris Noma, Wendel Rosen
Michel Heffes
Diane Heinze

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ENVIRONMENTAL PROTECTION

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June 4, 1999

Mr. Douglas Herman
Port of Oakland
530 Water Street
Oakland, California 94607

SUBJECT: Risk Evaluation for the Former Cryer Boatyard

Dear Doug:

As you requested, this letter report summarizes the results of the more detailed risk evaluation performed for the combined Port-owned and Steam Valve owned portions of the former Cryer Boatyard, and provides recommendation regarding remediation of the property. The data were provided in the *Supplemental Site Investigation and Risk Evaluation Report - Former Cryer Boatyard, Oakland California* (dated September 28, 1998) previously submitted to you. This risk evaluation focuses on the proposed future use of the property as a park; if the site is to be reused for industrial activities, additional risk evaluation may be required.

BACKGROUND AND METHODOLOGY

The sample data collected from the Steam Valve and Port-owned portions of the Cryer site were combined into one data set to evaluate the potential human health and ecological risks associated with the entire site (i.e., both the Steam Valve and Port-owned portions of the property). The data set evaluated included the most recent data, as well as the data collected in prior years. The data from the slag investigation were not included in the analysis because there is no direct pathway for exposures to the slag. The slag is a relatively solid mass. Some type of heavy construction, which would result in the slag being broken up or ground into dust, would have to be occurring for exposures to be created to the slag. This type of exposure is likely only if the slag has to be removed; the redevelopment of the former Cryer Boatyard into a park area would not require removal of the slag (utilities could be rerouted, if necessary, around the slag). Appropriate (OSHA) worker

precautions would be required during slag removal. The evaluation focused on current receptors and potential future receptors, based on the proposed reuse.

The human health and ecological risk evaluations are provided below.

1.0 Human Health Risk Evaluation

As described in the previous report, the human health risk evaluation consisted of the following steps:

- Identification of potential current and future receptors;
- Identification of potential exposure pathways;
- Development and evaluation of a risk estimate for complete or potentially complete exposure pathways; and
- Identification of risk management techniques suitable for addressing the concerns identified.

1.1 Identification of Potential Receptors

Current receptors at the Cryer site are limited to adult workers at the Steam Valve portion of the property. The Port-owned portion of the property is fenced off and not in use. Potential future receptors for the entire site include construction workers (during the development of the park), adult and child park users, and landscape and utility workers maintaining the park and associated infrastructure. Because landscape workers and utility workers would have lower exposures than construction workers (i.e., landscape or utility workers would only be at the site for a limited number of days per year), the landscape and utility worker scenarios were not evaluated separately. Instead potential exposures to these two types of potential receptors were assumed to be addressed by the risk evaluation conducted for construction workers.

1.2 Identification of Exposure Pathways

Currently, the site is unpaved. In the future, the site is expected to be landscaped and partially paved (i.e., contain part of the park and a portion of the parking area associated with the park). The large building at the site may remain after the park is constructed. Groundwater at the site is not being used, and will not be used for any purpose in the future. As discussed in the Supplemental Site Investigation Report, all borings showed evidence of tidal influence; thus, saltwater intrusion will prohibit use of shallow groundwater. Given the current and proposed future uses of the site, the following exposure pathways may be complete:

- Dermal contact with soil (construction workers, current and future site workers, and future park users);

- dermal*
- Inhalation of soil (construction workers, current and future workers, and future park users);
 - Inhalation of volatile compounds volatilizing from soil or groundwater into indoor or outdoor air (construction workers, current and future site workers, and future park users);
 - Incidental ingestion of soil (construction workers, current and future workers, and future park users);
 - Incidental dermal contact with and ingestion of groundwater (construction and utility workers only, during construction activities involving excavation or trenching to groundwater).

It should be noted that the degree of dermal, inhalation, and ingestion exposure associated with future park user is likely to be much lower than that for current site workers and future utility and maintenance workers. Park users will be at the site for a much shorter period of time, on average, than the current workers, or than construction workers during the construction phase. In addition, the presence of maintained landscaping in the park will significantly reduce the potential for contact with site soils. Because groundwater is and will not be used, non-volatile constituents in groundwater are not of concern for current site workers and future park users. Construction workers may have incidental contact with groundwater if construction/maintenance activities at the site require that work be carried out below the groundwater table. Construction workers and maintenance workers are not expected to be in the building; thus indoor air exposures are minimal for these receptors.

1.3 Development and Evaluation of Risk Estimates

The risk evaluation consisted of assessing the potential risk associated with each sample point to identify a maximum potential site-related risk. To evaluate the potential risk associated with each sample point, detected concentrations of compounds were divided by the applicable PRG. The PRG ratios were then summed. For non-carcinogenic compounds, each PRG ratio is the hazard quotient for the respective compound, and the sum of the ratios is the hazard index. For carcinogenic compounds, the sum of ratios was multiplied by 1×10^{-6} (the carcinogenic risk level represented by the PRGs) to provide an estimate of the cumulative carcinogenic risk posed by the specific sample point. Sample points that did not have any detected compounds were removed from the tables. Similarly, constituents that were not detected in any sample collected at the site were removed from the evaluation. For the park user scenario, samples collected below 2.0 feet bgs that contained only non-volatile compounds were eliminated from the analysis; there is no direct contact pathway between park users and nonvolatile compounds in deeper soils.

Industrial PRGs were used to screen potential soil exposures to current site workers and construction workers. Groundwater screening levels were calculated separately,

following the PRGs/RBCA guidance. Groundwater screening levels for current site workers require only consideration of the groundwater to indoor air volatilization pathway because there is no direct contact with groundwater. The construction worker scenario requires consideration of the full range of groundwater exposure pathways (inhalation, ingestion, and dermal contact); however, the inhalation pathway is based on outdoor rather than indoor air exposures.

Park Use PRGs developed by the RWQCB for the Catellus Emeryville Crescent and Albany/Berkeley sites were used to screen potential exposures to future park users. Again, RCBA/PRG guidance were used to develop screening levels to assess the potential migration of volatile compounds into indoor air. Fluorene was the only non-volatile compound detected at the site that was not included in the RWQCB orders; the risk evaluation conservatively used the residential PRG for this compound. This approach is conservative because actual park use frequency and exposure duration is likely to be much less than 24 hours per day, 350 days per year. The human health risk evaluation calculations are shown in Tables 1 (future construction workers), 2 (future park users) and 3 (current site workers).

None of the cumulative carcinogenic risks for current site workers or future construction workers exceed 1×10^{-4} . The greatest carcinogenic risk is associated with boring location SV-10; due to the potential for inhalation exposures if the benzene migrates under the building, the estimated potential risk is 1.54×10^{-5} . All other carcinogenic risk estimates for current and future workers are below 5×10^{-6} . For current site workers, hazard indices for shallow soil samples (collected at 1.5 feet bgs or less) are all less than 1.0. Because there is no direct contact exposure pathway to deeper soils for current site workers, deeper soil samples are not of concern. For the construction worker scenario, several shallow and deep soil samples had an estimated hazard index greater than 1.0. These elevated hazard indices were generally due to the presence of heavy metals, especially lead, in soil. Thus, worker safety precautions (to avoid ingestion of contaminated soil or groundwater) may be required when construction activities occur at the site.

While several samples exceeded a carcinogenic risk of 1×10^{-6} , the highest estimated risk to future park users was 4.55×10^{-6} . Thus potential carcinogenic risks are generally not of concern for future park users. However, the extent of the benzene plume at SV-10 has not been defined; thus, potential risks associated with the presence of benzene in groundwater have not been fully characterized. Further investigation is required before a final decision can be made regarding the potential risks associated with the presence of VOCs in the shallow groundwater at the Steam Valve portion of the property. The only other potential exposures of concern for future park users are due to the presence of lead and other heavy metals in shallow soils. Several samples had estimated hazard indices greater than 1.0. The elevated hazard indices were due largely to the presence of lead, copper, and/or TPH-diesel in shallow soil. The TPH-diesel Park PRG is not a true health-based screening level; it is based on appearance. Thus, the primary constituents of concern under the park use scenario are heavy metals in shallow soils.

1.4 Risk Management

The potential human health risks identified at the former Cryer Boatyard are limited to the presence of heavy metals in soil. Both future construction workers and future park users could be exposed to soils posing an estimated hazard index of greater than 1.0. Direct contact with the slag material found on the Port-owned portion of the property was not evaluated, because there is no direct exposure pathway (i.e., the material is a relatively solid mass). However, should removal of the slag become necessary for any reason (e.g., installation of deep utilities), precautions will be required to protect workers from the elevated levels of heavy metals found in the slag. Potential risks to construction workers from either shallow soils or slag are easily managed by ensuring that the proper health and safety precautions are followed on the job site. Because the property would be managed by either the Port of Oakland or the City of Oakland, there would be no difficulty with ensuring that construction workers and future utility and maintenance workers are properly protected.

Direct contact exposures to non-volatile constituents in soil for future park users can be managed easily by placing a layer of clean top soil (at least one foot thick, in accordance with the Catellus orders) over the entire Port-owned portion of the property. Given the nature of the soil currently present at the site, it is likely that some top soil would have to be imported anyway, to allow plants to thrive. Thus potential human health risks are easily addressed.

2.0 Ecological Risk Evaluation

The ecological risk evaluation consisted of comparing the detected concentrations of the various compounds to the ecological buffer and upland screening levels developed for the Catellus Emeryville and Albany/Berkeley sites. Currently, the site provides only very limited habitat for terrestrial species (small strips of ruderal vegetation along the northern, eastern, and southern fence line on the Port-owned portion of the property, as well as trees and ground cover outside of the eastern and northern fence line of the entire site). Due to the presence of slag on the Port-owned portion of the property, and the hard-packed soil and active use of the Steam Valve portion of the property, it is unlikely that burrowing mammals are currently present at the site. The site does not contain any plant species (e.g., pickleweed) that are preferred habitat for endangered species.

The data indicate that potential transport of heavy metals or TPH to the Bay is limited. As shown by the DI WET data presented in the Supplemental Site Investigation Report, the metals in the slag have only very low solubility under ambient conditions. In addition, groundwater data indicate that, with two exceptions, dissolved metals concentrations are below ecological screening levels. Dissolved TPH-diesel concentrations are also below ecological screening levels. Thus, current ecological risks are expected to be minimal.

Future ecological exposures are speculative, but were assessed to determine whether precautions were required in converting the site to a park area (which will be more attractive to ecological receptors). Again, transport of metals and TPH-diesel to the

Why soil was used!

Bay is not expected to be of concern. Thus, potential future ecological risks are limited to terrestrial receptors. Ingestion of contaminated soil clinging to food is the most significant potential exposure pathway. Standard ecological risk assessment guidance also indicates that small burrowing mammals (large burrowing mammals are not anticipated in this urban setting) may penetrate as deep as two feet. This assumption apparently resulted in the requirement of 2.0 feet of clean cover in areas potentially presenting ecological risks on the Catellus Emeryville and Albany/Berkeley sites. In addition, plants may take up contaminants through their roots and concentrate them in their leaves, further contributing to the ingestion exposure.

Data collected on the Steam Valve portion of the site were compared to the upland (non-buffer) screening levels because the Steam Valve portion of the site is clearly upland, and greater than 50 feet from the high tide line. Elevated level of metals in the shallow soil samples collected by SCI in 1991 are not of concern, because follow-up sampling has shown that the soil containing elevated levels of metals has been removed. In addition, two feet of clean fill were placed over the Steam Valve portion of the property, thus providing sufficient clean soil for ecological receptors. Only two of the groundwater samples collected on the Steam Valve portion of the property exceeded ecological screening levels. Samples 3A17 and 6A17 contained 77 $\mu\text{g}/\text{l}$ and 90 $\mu\text{g}/\text{l}$ mercury, respectively; the upland (non-buffer) ecological screening level for mercury in groundwater is 71 $\mu\text{g}/\text{l}$. Because the detected concentrations are so close to the screening levels, they are not expected to be of concern for future receptors. Table 10 in the Supplemental Site Investigation Report identified the constituents detected at concentrations exceeding the ecological screening levels.

Data from the Port-owned portion of the property were compared to the more conservative buffer screening levels, although certain portions of the Port-owned property could also qualify as upland/non-buffer. Exceedances of ecological screening levels were generally limited to metals in soil. Throughout the Port-owned portion of the property, metals in soil are present at concentrations exceeding the ecological buffer screening criteria. Levels of PNAs and TPH-diesel exceeding ecological buffer screening criteria are apparently associated with the oily soil/gravel layer identified in several borings in the northwestern portion of the Port-owned portion of the property. Typically, the oily soil/gravel layer was identified at depths near the bottom of the range that small mammals would burrow to, and more importantly, was encountered at or near the groundwater. Thus, even under existing conditions, it is unlikely that ecological receptors would come into contact with the oily soil/gravel, either directly or through ingestion of contaminated plants.

Risk management for ecological receptors can therefore easily be accomplished with a sufficiently-thick layer of clean top soil and a requirement to plant only shallow-rooted plants. Consistent with the requirements of the Catellus orders, the clean top soil layer should be at least 2.0 feet thick (i.e., ecological risk management requires a thicker layer of clean fill than human health risk management).

3.0 Recommendations

The investigations performed at the former Cryer Boatyard have resulted in an understanding of site conditions and potential human health and ecological risk associated with the contaminants detected in slag, soil, and groundwater at the site. This section presents recommendations for remediation for both portions of the property.

3.1 Recommendations for Port-Owned Portion of Property

The risk evaluation indicates that the following remedial actions will be sufficient to control potential exposures associated with redevelopment of the Port-owned portion of the site into a park area:

- Require construction workers to observe appropriate health and safety precautions to avoid contact with contaminated soil and slag;
- Place two feet of clean top soil on the Port-owned portion of the property prior to landscaping for the park (two feet of top soil will provide sufficient depth to protect both human and ecological receptors);
- Plant only shallow-rooted plants to ensure that ecological receptors are not exposed to elevated levels of contaminants from ingestion of plant materials; and,
- Require that future utility and maintenance workers observe appropriate health and safety precautions to avoid contact with contaminated soil and slag.

Clearly, the shoreline of the future park will require some type of protection to hold the cover soils in place. Riprap would be consistent with the landscaping to the north of the Cryer site, and if properly designed would be adequate to hold the soil in place.

Although the extent of the slag has not been fully defined, the available data suggest that under ambient conditions the slag does not pose a risk to future site users and ecological receptors. Thus, as long as the precautions outlined above are followed, the site is suitable for redevelopment into a park area. Please call if you have any questions.

3.2 Recommendations for Steam Valve-Owned Portion of the Property

Limited additional investigation is required at the Steam Valve-owned portion of the property. While the detected levels of benzene in groundwater are within the acceptable risk range for future outdoor park use, and it does not appear that the benzene extends under the building at this time, the extent of the plume at SV-10 has not been defined. Once the extent of the benzene and related compounds in the vicinity of SV-10 has been established, the need for BTEX remediation in this area can be assessed. In addition, the plume should be monitored to determine whether bioattenuation is occurring.

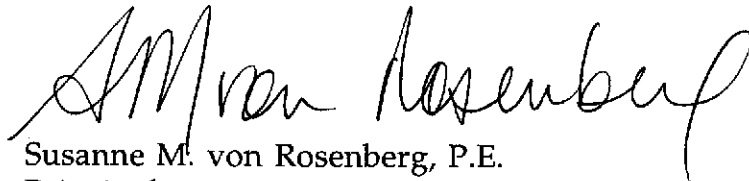
The risk evaluation indicates that the following actions will be sufficient to control potential exposures (other than benzene) associated with redevelopment of the Steam Valve-owned portion of the site into a park area:

- Require construction workers to observe appropriate health and safety precautions to avoid potential contact with contaminated soil and slag in the vicinity of the Port-owned portion of the property; and,
- Plant only shallow-rooted plants near the Port-owned portion of the property to ensure that ecological receptors are not exposed to elevated levels of contaminants from ingestion of plant materials.

Please contact us if you have any questions or require further information.

Cordially,

GAIA CONSULTING, INC.

A handwritten signature in black ink, appearing to read "Susanne M. von Rosenberg". The signature is written in a cursive, flowing style.

Susanne M. von Rosenberg, P.E.
Principal

TABLE I
HUMAN HEALTH RISK EVALUATION -- CONSTRUCTION WORKER SCENARIO
FORMER CRYER BOAT YARD

DATE	SAMPLE NUMBER	DEPTH (FT)	Worker Scenario	2/13/91	2/13/91	2/13/91	2/13/91	3/5/93	3/16/93	3/16/93							
				5	6	Composite 201.0	B-1	B-1									
				4	10	501.0 & 601.0	2.0-2.5	4.0-4.5									
Site Area			Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve								
COMPOUND	MATRIX	UNITS	Carcinogenic PRC	Non-Carcinogenic PRC	Carcinogenic PRC Ratio	Non-Carcinogenic PRC Ratio	Carcinogenic PRC Ratio	Non-Carcinogenic PRC Ratio	Carcinogenic PRC Ratio	Non-Carcinogenic PRC Ratio							
Metals																	
Antimony	Soil	mg/kg	--	750		ND<5		ND<5		11							
Antimony	Water	ug/L	--	5110						--							
Arsenic*	Soil	mg/kg	14	480	0.35	0.01	ND<2.5	5.8	0.41	0.01							
Arsenic	Water	ug/L	47.8	3830													
Barium	Soil	mg/kg	--	100,000		0.00	100	0.00		77							
Barium	Water	ug/L	--	SAT													
Beryllium	Soil	mg/kg	1.2	3,700			ND<0.5			ND<0.5							
Cadmium	Soil	mg/kg	9	930		0.00	1.1	0.00	5.1	0.01							
Chromium	Soil	mg/kg	450	--	0.06		33		31	0.07							
Chromium	Water	ug/L	--	63,900													
Cobalt	Soil	mg/kg	--	29,000		0.00	7.7	0.00	10								
Copper	Soil	mg/kg	--	70,000		0.01	25	0.00	490	0.01							
Lead	Soil	mg/kg	--	1,000		0.19	2.9	0.00	190	0.19							
Lead	Water	ug/L	--	4.0													
Mercury	Soil	mg/kg	--	56		0.01	ND<0.1			ND<0.1							
Mercury	Water	ug/L	--	1280													
Molybdenum	Soil	mg/kg	--	9,400			ND<0.5			ND<0.5							
Nickel	Soil	mg/kg	--	37,000		0.00	54	0.00	22								
Nickel	Water	ug/L	--	2,560,000													
Silver	Soil	mg/kg	--	9,400			ND<1			ND<1							
Thallium	Soil	mg/kg	--	150			ND<5			ND<5							
Vanadium	Soil	mg/kg	--	13,000		0.00	9.7	0.00	25	0.00							
Zinc	Soil	(mg/kg)	--	100,000		0.00	45	0.00	130	0.00							
Zinc	Water	ug/L	--	3,830,000													
Petroleum Compounds																	
Benzene	Soil	mg/kg	1.4	24													
Benzene	Water	ug/L	51.9	12,100													
TPH-Diesel**	Soil	mg/kg	--	--			3										
TPH-Diesel	Water	ug/L	--	--													
Ethyl Benzene	Soil	mg/kg	--	5,800													
Ethylbenzene	Water	ug/L	--	750,000													
TPH-Gasoline**	Soil	mg/kg	--	--													
TPH-Gasoline	Water	ug/L	--	--													
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			ND<50										
Toluene	Soil	mg/kg	--	2,000													
Toluene	Water	ug/L	--	2,090,000													
m,p-Xylenes	Soil	mg/kg	--	4,500													
m,p-Xylenes	Water	ug/L	--	1,540,000													
o-Xylene	Water	ug/L	--	1,540,000													
Total Xylenes	Soil	mg/kg	--	4,500													
Xylenes, Total	Water	ug/L	--	1,540,000													
Unknown Hydrocarbons	Soil	mg/kg	--	--													
Semivolatile Organic Compounds																	
2-Methylnaphthalene	Soil	mg/kg	--	--				0.380									
Acenaphthene	Soil	mg/kg	--	28,000				ND<0.330									
Acenaphthylene	Soil	mg/kg	--	--				ND<0.330									
Anthracene	Soil	mg/kg	--	220,000				ND<0.330									
Benzo(a)anthracene	Soil	mg/kg	3.6	--				ND<0.330									
Benzo(a)pyrene	Soil	mg/kg	0.36	--				ND<0.330									
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--				0.24	0.07								
Benzo(g,h,i)perylene	Soil	mg/kg	--	--				ND<0.330									
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--				ND<0.330									
Chrysene	Soil	mg/kg	360	--				ND<0.330									
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--				ND<0.330									
Fluoranthene	Soil	mg/kg	--	37,000				0.24	0.00								
Fluorene	Soil	mg/kg	--	22,000				0.19	0.00								
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--				ND<0.330									
Naphthalene	Soil	mg/kg	--	1,900				ND<0.330									
Naphthalene	Water	ug/L	--	490													
Phenanthrene	Soil	mg/kg	--	--				0.26									
Pyrene	Soil	mg/kg	--	26,000				0.18	0.00								
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	--	4.08E-07	0.23	0.00E+00	0.01	4.83E-07	0.22	6.67E-08	0.00	6.60E-07	0.03	1.83E-07	0.02	2.65E-07

* Concentration based on Bay Area background
** No PRC available; risk addressed by constituent compounds

**TABLE 1
HUMAN HEALTH RISK EVALUATION -- CONSTRUCTION WORKER SCENARIO
FORMER CRYER BOAT YARD**

DATE				4/27/98		4/27/98		4/27/98		4/27/98		4/27/98		4/27/98				
SAMPLE NUMBER				SB-14		SB-14		SB-14		SB-15		SB-15		SB-16				
DEPTH (FT)				0.5		3.0		7.5		0.5		1.5		0.5				
Site Area		Worker Scenario		Port		Port		Port		Port		Port		Port				
COMPOUND	MATRIX	UNITS	Carcinogenic PRG	Non-Carcinogenic PRG	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		
Metals																		
Antimony	Soil	mg/kg	--	750	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony	Water	ug/L	--	5110	--	0.01	--	--	--	--	--	--	--	--	--	--		
Arsenic*	Soil	mg/kg	14	480	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic	Water	ug/L	47.8	3830	0.31	0.00	--	--	--	--	--	--	--	--	--	--		
Barium	Soil	mg/kg	--	100,000	--	--	--	--	--	--	--	--	--	--	--	--		
Barium	Water	ug/L	--	SAT	--	--	--	--	--	--	--	--	--	--	--	--		
Beryllium	Soil	mg/kg	1.2	3,700	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium	Soil	mg/kg	9	930	--	--	--	--	--	--	--	--	--	--	--	--		
Chromium	Soil	mg/kg	450	--	--	76	0.17	--	38	0.08	--	58	0.13	--	150	0.33		
Chromium	Water	ug/L	--	63,900	--	--	--	--	ND<10	--	--	--	--	--	ND<10	--		
Cobalt	Soil	mg/kg	--	29,000	--	--	--	--	--	--	--	--	--	--	--	--		
Copper	Soil	mg/kg	--	70,000	--	3700	0.05	--	62	0.00	--	38	0.00	1100	0.02	35		
Lead	Soil	mg/kg	--	1,000	--	640	0.64	--	16	0.02	--	21	0.02	450	0.45	16		
Lead	Water	ug/L	--	4.0	--	--	--	--	ND<3.0	--	--	--	--	--	8.2	2.05		
Mercury	Soil	mg/kg	--	56	--	16	0.29	--	0.83	0.01	--	0.28	0.01	1.8	0.03	53		
Mercury	Water	ug/L	--	1280	--	--	--	--	ND<0.20	--	--	--	--	--	ND<0.20	--		
Molybdenum	Soil	mg/kg	--	9,400	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel	Soil	mg/kg	--	37,000	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel	Water	ug/L	--	2,560,000	--	0.00	--	--	--	--	--	--	--	--	--	--		
Silver	Soil	mg/kg	--	9,400	--	--	--	--	--	--	--	--	--	--	--	--		
Thallium	Soil	mg/kg	--	150	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium	Soil	mg/kg	--	13,000	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc	Soil	mg/kg	--	100,000	--	950	0.01	--	56	0.00	--	66	0.00	450	0.00	50		
Zinc	Water	ug/L	--	3,830,000	--	--	--	--	41	--	--	41	0.00	--	24	0.00		
Petroleum Compounds																		
Benzene	Soil	mg/kg	1.4	24	--	--	--	--	--	--	--	--	--	--	--	--		
Benzene	Water	ug/L	51.9	12,100	--	--	--	--	--	--	--	--	--	--	--	--		
TPH-Diesel**	Soil	mg/kg	--	--	--	4800	--	--	220	--	--	84	--	300	--	4700		
TPH-Diesel	Water	ug/L	--	--	--	--	--	--	--	--	--	ND<70	--	--	--	ND<69		
Ethyl Benzene	Soil	mg/kg	--	5,800	--	--	--	--	--	--	--	--	--	--	--	--		
Ethylbenzene	Water	ug/L	--	750,000	--	--	--	--	--	--	--	--	--	--	--	--		
TPH-Gasoline**	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
TPH-Gasoline	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Toluene	Soil	mg/kg	--	2,000	--	--	--	--	--	--	--	--	--	--	--	--		
Toluene	Water	ug/L	--	2,090,000	--	--	--	--	--	--	--	--	--	--	--	--		
m,p-Xylenes	Soil	mg/kg	--	4,500	--	--	--	--	--	--	--	--	--	--	--	--		
m,p-Xylenes	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	--	--	--	--	--		
o-Xylene	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	--	--	--	--	--		
Total Xylenes	Soil	mg/kg	--	4,500	--	--	--	--	--	--	--	--	--	--	--	--		
Xylenes, Total	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	--	--	--	--	--		
Unknown Hydrocarbons	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Semivolatile Organic Compounds																		
2-Methylnaphthalene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Acenaphthene	Soil	mg/kg	--	28,000	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Acenaphthylene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Anthracene	Soil	mg/kg	--	220,000	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Benzo(a)anthracene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--	1.2	0.33		
Benzo(a)pyrene	Soil	mg/kg	0.36	--	--	--	--	--	--	--	--	--	--	--	1.4	3.89		
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--	2.3	0.64		
Benzo(g,h,i)perylene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chrysene	Soil	mg/kg	360	--	--	--	--	--	--	--	--	--	--	--	1.5	0.00		
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Fluoranthene	Soil	mg/kg	--	37,000	--	--	--	--	--	--	--	--	--	--	4.4	0.00		
Fluorene	Soil	mg/kg	--	22,000	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Naphthalene	Soil	mg/kg	--	1,900	--	--	--	--	--	--	--	--	--	--	ND<1.0	--		
Naphthalene	Water	ug/L	--	490	--	--	--	--	--	--	--	--	--	--	--	--		
Phenanthrene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--		
Pyrene	Soil	mg/kg	--	26,000	--	--	--	--	--	--	--	--	--	--	3.7	--		
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	--	3.14E-07	0.02	1.69E-07	0.99	8.44E-08	0.03	1.29E-07	0.03	3.33E-07	0.50	5.00E-06	3.01	4.67E-07	0.43

* Concentration based on Bay Area background

** No PRG available; risk addressed by constituent compounds

TABLE 1
HUMAN HEALTH RISK EVALUATION -- CONSTRUCTION WORKER SCENARIO
FORMER CRYER BOAT YARD

DATE		8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98	8/12/98						
SAMPLE NUMBER		SV-9	SV-9	SV-10	SV-10	SV-10	SV-10	SV-10	SV-10	SV-11	SV-11	SV-11						
DEPTH (FT)		2.5	6.0	2.5	6.0	2.5	6.0	2.5	6.0	5.5	5.5	5.5						
Site Area	Worker Scenario	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve	Steam Valve						
COMPOUND	MATRIX	UNITS	Carcinogenic PRG	Non-Carcinogenic PRG	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio			
Metals																		
Antimony	Soil	mg/kg	--	750	--	--	--	--	--	--	--	--	--	--	--			
Antimony	Water	ug/L	--	5110	--	--	--	--	--	--	--	--	--	--	--			
Arsenic*	Soil	mg/kg	14	480	--	--	--	--	--	--	--	--	--	--	--			
Arsenic	Water	ug/L	47.8	3830	--	--	--	--	--	--	--	--	--	--	--			
Barium	Soil	mg/kg	--	100,000	--	--	--	--	--	--	--	--	--	--	--			
Barium	Water	ug/L	--	SAT	--	--	--	--	--	--	--	--	--	--	--			
Beryllium	Soil	mg/kg	1.2	3,700	--	--	--	--	--	--	--	--	--	--	--			
Cadmium	Soil	mg/kg	9	930	--	--	--	--	--	--	--	--	--	--	--			
Chromium	Soil	mg/kg	450	--	40	0.09	--	39	0.09	46	0.10	49	0.11	57	0.13			
Chromium	Water	ug/L	--	63,900	--	--	--	ND<10	--	--	--	ND<10	--	--	ND<10			
Cobalt	Soil	mg/kg	--	29,000	--	--	--	--	--	--	--	--	--	--	--			
Copper	Soil	mg/kg	--	70,000	0.00	10	0.00	15	0.00	85	0.00	36	0.00	16	0.00			
Lead	Soil	mg/kg	--	1,000	0.01	6.9	0.01	4.7	0.00	250	0.25	74	0.07	20	0.02			
Lead	Water	ug/L	--	4.0	1.20	--	--	ND<3	--	--	--	ND<3	--	--	ND<3			
Mercury	Soil	mg/kg	--	56	0.17	--	0.00	0.15	0.00	0.26	0.00	0.096	0.00	0.11	0.00			
Mercury	Water	ug/L	--	1,280	--	--	--	ND<0.2	--	--	--	ND<0.2	--	--	ND<0.2			
Molybdenum	Soil	mg/kg	--	9,400	--	--	--	--	--	--	--	--	--	--	--			
Nickel	Soil	mg/kg	--	37,000	--	--	--	--	--	--	--	--	--	--	--			
Nickel	Water	ug/L	--	2,560,000	--	--	--	--	--	--	--	--	--	--	--			
Silver	Soil	mg/kg	--	9,400	--	--	--	--	--	--	--	--	--	--	--			
Thallium	Soil	mg/kg	--	150	--	--	--	--	--	--	--	--	--	--	--			
Vanadium	Soil	mg/kg	--	13,000	--	--	--	--	--	--	--	--	--	--	--			
Zinc	Soil	mg/kg	--	100,000	0.00	33	0.00	1	0.00	160	0.00	100	0.00	44	0.00			
Zinc	Water	ug/L	--	3,830,000	0.00	--	--	ND<20	--	--	--	ND<20	--	--	ND<20			
Petroleum Compounds																		
Benzene	Soil	mg/kg	1.4	74	--	--	--	--	--	ND<0.005	--	0.57	0.41	0.02	--			
Benzene	Water	ug/L	51.9	12,100	--	--	--	--	--	--	--	770	14.84	0.06	--			
TPH-Diesel**	Soil	mg/kg	--	--	--	--	--	--	--	100	--	28	--	--	--			
TPH-Diesel	Water	ug/L	--	--	--	--	--	--	--	--	--	250	--	--	--			
Ethyl Benzene	Soil	mg/kg	--	5,800	--	--	--	0.0074	0.00	0.63	0.00	210	0.00	--	--			
Ethylbenzene	Water	ug/L	--	750,000	--	--	--	--	--	--	--	9.9	--	--	--			
TPH-Gasoline**	Soil	mg/kg	--	--	--	--	--	1.3	--	--	--	7,500	--	--	--			
TPH-Gasoline	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--			
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--			
Toluene	Soil	mg/kg	--	2,000	--	--	--	0.0064	0.00	0.02	0.00	10	0.00	--	--			
Toluene	Water	ug/L	--	2,090,000	--	--	--	--	--	--	--	10	0.00	--	--			
m,p-Xylenes	Soil	mg/kg	--	4,500	--	--	--	0.008	0.00	0.014	0.00	110	0.00	--	--			
m,p-Xylenes	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	5.9	0.00	--	--			
o-Xylene	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	--	--	--	--			
Total Xylenes	Soil	mg/kg	--	4,500	--	--	--	--	--	--	--	--	--	--	--			
Xylenes, Total	Water	ug/L	--	1,540,000	--	--	--	--	--	--	--	--	--	--	--			
Unknown Hydrocarbons	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--			
Semivolatile Organic Compounds																		
2-Methylnaphthalene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--			
Acenaphthene	Soil	mg/kg	--	28,000	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Acenaphthylene	Soil	mg/kg	--	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Anthracene	Soil	mg/kg	--	220,000	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Benzo(a)anthracene	Soil	mg/kg	3.6	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Benzo(a)pyrene	Soil	mg/kg	0.36	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	0.120	0.03	ND<0.05	--	ND<0.05	--	--	--			
Benzo(g,h,i)perylene	Soil	mg/kg	--	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--	--			
Chrysene	Soil	mg/kg	360	--	--	--	--	0.062	0.00	ND<0.05	--	ND<0.05	--	--	--			
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Fluoranthene	Soil	mg/kg	--	37,000	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Fluorene	Soil	mg/kg	--	22,000	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Naphthalene	Soil	mg/kg	--	1,900	--	--	--	ND<0.05	--	0.170	0.00	150	0.31	--	--			
Naphthalene	Water	ug/L	--	490	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	Soil	mg/kg	--	--	--	--	--	ND<0.05	--	ND<0.05	--	ND<0.05	--	--	--			
Pyrene	Soil	mg/kg	--	26,000	--	--	--	0.060	0.00	ND<0.05	--	ND<0.05	--	--	--			
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	--	1.21	8.89E-08	0.01	8.67E-08	0.01	1.36E-07	0.26	ND<0.05	1.54E-05	0.47	1.27E-07	0.02	1.44E-07	0.01

* Concentration based on Bay Area background
** No PRG available; risk addressed by constituent compounds

TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD

DATE			2/13/91			9/27/93		9/27/93		9/27/93		9/27/93		9/27/93		9/27/93			
SAMPLE NUMBER			Composite:201.0			Boring 1		Boring 2		Boring 3		Boring 5							
DEPTH (FT)			501.0, & 601.0																
Site Area			Park Use			Steam Valve		Steam Valve		Steam Valve		Steam Valve							
COMPOUND	MATRIX	UNITS	Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	
Metals																			
Antimony	Soil	mg/kg	--	--						ND<5		ND<5				ND<5			
Arsenic*	Soil	mg/kg	14	--				3	0.21	0.01	4	0.29	0.01	ND<1					
Barium	Soil	mg/kg	--	--				56		0.00	54		0.00	34				0.00	
Beryllium	Soil	mg/kg	1.7	--				ND<0.5			ND<0.5			ND<0.5					
Cadmium	Soil	mg/kg	--	--				ND<0.5			0.6		0.00	ND<0.5					
Chromium	Soil	mg/kg	2,700	--				52	0.02		77	0.03		38	0.01				
Cobalt	Soil	mg/kg	--	--				12		0.00	11		0.00	7				0.00	
Copper	Soil	mg/kg	--	--				18		0.00	30		0.00	6				0.00	
Lead	Soil	mg/kg	--	--				ND<5			8		0.01	ND<5					
Mercury	Soil	mg/kg	--	--				ND<0.5			0.13		0.00	ND<0.5					
Molybdenum	Soil	mg/kg	--	--				ND<5			ND<5			ND<5					
Nickel	Soil	mg/kg	--	--				76		0.00	84		0.00	33				0.00	
Silver	Soil	mg/kg	--	--				ND<5			ND<5			ND<5					
Thallium	Soil	mg/kg	--	--				ND<5			ND<5			ND<5					
Vanadium	Soil	mg/kg	--	--				36		0.01	36		0.01	37				0.01	
Zinc	Soil	(mg/kg)	--	--				51		0.00	64		0.00	23				0.00	
Petroleum Compounds																			
Benzene	Soil	mg/kg	2.3	--			0.14	0.06	0.02	0.013	0.01	0.00	ND<0.003				ND<0.003		
Benzene	Water	ug/L	303	--															
TPH-Diesel**	Soil	mg/kg	--	--				89	0.09		ND<10			ND<10					
Ethyl Benzene	Soil	mg/kg	--	--			0.38		0.00	0.021		0.00	ND<0.003					ND<0.003	
Ethylbenzene	Water	ug/L	--	--															
TPH-Gasoline**	Soil	mg/kg	--	--				17			ND<1			ND<1				ND<1	
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			ND<50				73			ND<50				ND<50	
Toluene	Soil	mg/kg	--	--			1.1		0.00	0.075		0.00	ND<0.003					ND<0.003	
Toluene	Water	ug/L	--	--															
m,p-Xylenes	Soil	mg/kg	--	--															
m,p-Xylenes	Water	ug/L	--	--															
o-Xylene	Water	ug/L	--	--															
Total Xylenes	Soil	mg/kg	--	--			1.6		0.00	0.084		0.00	ND<0.009					ND<0.009	
Xylenes, Total	Water	ug/L	--	--															
Unknown Hydrocarbons	Soil	mg/kg	--	--															
Semivolatile Organic Compounds																			
2-Methylnaphthalene	Soil	mg/kg	--	0.380		0.00													
Acenaphthene	Soil	mg/kg	--	ND<0.330															
Acenaphthylene	Soil	mg/kg	--	ND<0.330															
Anthracene	Soil	mg/kg	--	ND<0.330															
Benzo(a)anthracene	Soil	mg/kg	3.9	ND<0.330															
Benzo(a)pyrene	Soil	mg/kg	0.39	ND<0.330															
Benzo(b)fluoranthene	Soil	mg/kg	3.9	0.24		0.06													
Benzo(g,h,i)perylene	Soil	mg/kg	--	ND<0.330															
Benzo(k)fluoranthene	Soil	mg/kg	3.9	ND<0.330															
Chrysene	Soil	mg/kg	39	ND<0.330															
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	ND<0.330															
Fluoranthene	Soil	mg/kg	--	0.24		0.00													
Fluorene	Soil	mg/kg	--	0.19		0.00													
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	ND<0.330															
Naphthalene	Soil	mg/kg	--	ND<0.330															
Phenanthrene	Soil	mg/kg	--	0.26		0.00													
Pyrene	Soil	mg/kg	--	0.18		0.00													
TOTAL ESTIMATED RISK OR HAZARD INDEX			--			6.15E-08	0.00		6.09E-08	0.11		2.39E-07	0.02		3.14E-07	0.03		1.41E-08	0.01

* Concentration based on Bay Area background

** PRG based on appearance, not risk

**TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD**

DATE			9/27/93			3/30/95			3/30/95			10/14/96			10/14/96			10/14/96			
SAMPLE NUMBER			Boring 6			SB-5			SB-6			WELL #1			WELL #2			WELL#4			
DEPTH (FT)						1.5			1.5			3.5			3.5						
Site Area			Park Use	Steam Valve								Steam Valve			Steam Valve					Steam Valve	
COMPOUND	MATRIX	UNITS	Carcinogenic Park PRG		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio
Metals																					
Antimony	Soil	mg/kg	--	ND<5			3		0.01		12		0.04		ND<5					--	
Arsenic*	Soil	mg/kg	14	5	0.36	0.01	2	0.14	0.00		14	1.00	0.03	6.1	0.44	0.01	ND<5			--	
Barium	Soil	mg/kg	--	54		0.00	24		0.00		75		0.00			0.00	37		0.00	--	
Beryllium	Soil	mg/kg	1.7	ND<0.5			ND<0.1				ND<0.1			0.28	0.16	0.00	0.28	0.16	0.00	--	
Cadmium	Soil	mg/kg	--	ND<0.5			ND<0.5				1.5		0.00	ND<0.25			ND<0.25			--	
Chromium	Soil	mg/kg	2,700	51	0.02		26	0.01			16	0.01		28	0.01		24	0.01		--	
Cobalt	Soil	mg/kg	--	12		0.00	6		0.00		12		0.00	7.4		0.00	7.1		0.00	--	
Copper	Soil	mg/kg	--	12		0.00	51		0.00		1100		0.03	10		0.00	14		0.00	--	
Lead	Soil	mg/kg	--	ND<5			33		0.04		220		0.26	3.9		0.00	5		0.01	--	
Mercury	Soil	mg/kg	--	0.3		0.00	0.4		0.00		20		0.08	0.29		0.00	0.42		0.00	--	
Molybdenum	Soil	mg/kg	--	ND<5			ND<1				ND<1			ND<1			ND<1			--	
Nickel	Soil	mg/kg	--	68		0.00	20		0.00		45		0.00	51		0.00	49		0.00	--	
Silver	Soil	mg/kg	--	ND<5			ND<0.5				ND<0.5			ND<1			ND<1			--	
Thallium	Soil	mg/kg	--	ND<5			ND<1				ND<1			ND<10			ND<10			--	
Vanadium	Soil	mg/kg	--	26		0.00	25		0.00		18		0.00	18		0.00	16		0.00	--	
Zinc	Soil	(mg/kg)	--	42		0.00	220		0.00		780		0.00	33		0.00	30		0.00	--	
Petroleum Compounds																					
Benzene	Soil	mg/kg	2.3	ND<0.003			--				--		0.15	0.07			ND<0.005			--	
Benzene	Water	ug/L	303	--			--				--		55	0.18	0.00	25	0.08	0.00	0.5	0.00	0.00
TPH-Diesel**	Soil	mg/kg	--	26		0.03	530		0.53		240		0.24	ND<1			ND<1			--	
Ethyl Benzene	Soil	mg/kg	--	ND<0.003			--				--			0.78		0.00	ND<0.005			--	
Ethylbenzene	Water	ug/L	--	--			--				--			2.1		0.00	1.1		0.00	ND<0.5	
TPH-Gasoline**	Soil	mg/kg	--	ND<1			--				--			5.9		0.01	ND<1			--	
Hydrocarbons (oil and grease)	Soil	mg/kg	--	ND<50			--				--			--			--			--	
Toluene	Soil	mg/kg	--	ND<0.003			--				--			0.01		0.00	ND<0.005			--	
Toluene	Water	ug/L	--	--			--				--			0.9		0.00	0.6		0.00	0.7	0.00
m,p-Xylenes	Soil	mg/kg	--	--			--				--			--			--			--	
m,p-Xylenes	Water	ug/L	--	--			--				--			--			--			--	
o-Xylene	Water	ug/L	--	--			--				--			--			--			--	
Total Xylenes	Soil	mg/kg	--	ND<0.009			--				--			0.43		0.00	ND<0.005			--	
Xylenes, Total	Water	ug/L	--	--			--				--			4.2			2.4			0.6	
Unknown Hydrocarbons	Soil	mg/kg	--	--			--				--			10			5			--	
Semivolatile Organic Compounds																					
2-Methylnaphthalene	Soil	mg/kg	--	--			--				--			--			--			--	
Acenaphthene	Soil	mg/kg	--	--			--				--			--			--			--	
Acenaphthylene	Soil	mg/kg	--	--			--				--			--			--			--	
Anthracene	Soil	mg/kg	--	--			--				--			--			--			--	
Benzo(a)anthracene	Soil	mg/kg	3.9	--			--				--			--			--			--	
Benzo(a)pyrene	Soil	mg/kg	0.39	--			--				--			--			--			--	
Benzo(b)fluoranthene	Soil	mg/kg	3.9	--			--				--			--			--			--	
Benzo(g,h,i)perylene	Soil	mg/kg	--	--			--				--			--			--			--	
Benzo(k)fluoranthene	Soil	mg/kg	3.9	--			--				--			--			--			--	
Chrysene	Soil	mg/kg	39	--			--				--			--			--			--	
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	--			--				--			--			--			--	
Fluoranthene	Soil	mg/kg	--	--			--				--			--			--			--	
Fluorene	Soil	mg/kg	--	--			--				--			--			--			--	
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	--			--				--			--			--			--	
Naphthalene	Soil	mg/kg	--	--			--				--			--			--			--	
Phenanthrene	Soil	mg/kg	--	--			--				--			--			--			--	
Pyrene	Soil	mg/kg	--	--			--				--			--			--			--	
TOTAL ESTIMATED RISK OR HAZARD INDEX			--		3.76E-07	0.05		1.52E-07	0.59		1.01E-06	0.69		8.58E-07	0.04		2.56E-07	0.02		1.65E-09	0.00

* Concentration based on Bay Area background
 ** PRG based on appearance, not risk

**TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD**

DATE				5/1/97		5/1/97		5/1/97		5/1/97		5/1/97		5/1/97		5/1/97			
SAMPLE NUMBER				SB-9		SB-10		SB-11		SB-12		SB-13		SB-13		SB-13			
DEPTH (FT)				0.5		0.5		0.4		0.5		0.5		0.5		0.5			
Site Area			Park Use	Port		Port		Port		Port		Port		Port		Port			
COMPOUND	MATRIX	UNITS	Carcinogenic Park PRG		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio	
Metals																			
Antimony	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Arsenic*	Soil	mg/kg	14	--				--	--		--	--		--	--		--	--	
Barium	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Beryllium	Soil	mg/kg	1.7	--				--	--		--	--		--	--		--	--	
Cadmium	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Chromium	Soil	mg/kg	2,700	--				--	--		--	--		--	--		--	--	
Cobalt	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Copper	Soil	mg/kg	--	164		0.01	1130		0.04	95.6		0.00	49.4		0.00	136		0.00	
Lead	Soil	mg/kg	--	308		0.37	321		0.38	196		0.23	7.53		0.01	164		0.20	
Mercury	Soil	mg/kg	--	0.286		0.00	0.638		0.00	0.17		0.00	0.138		0.00	0.726		0.00	
Molybdenum	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Nickel	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Silver	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Thallium	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Vanadium	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Zinc	Soil	(mg/kg)	--	--				--	--		--	--		--	--		--	--	
Petroleum Compounds																			
Benzene	Soil	mg/kg	2.3	--				--	--		--	--		--	--		--	--	
Benzene	Water	ug/L	303	--				--	--		--	--		--	--		--	--	
TPH-Diesel**	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Ethyl Benzene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Ethylbenzene	Water	ug/L	--	--				--	--		--	--		--	--		--	--	
TPH-Gasoline**	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Toluene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Toluene	Water	ug/L	--	--				--	--		--	--		--	--		--	--	
m,p-Xylenes	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
m,p-Xylenes	Water	ug/L	--	--				--	--		--	--		--	--		--	--	
o-Xylene	Water	ug/L	--	--				--	--		--	--		--	--		--	--	
Total Xylenes	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Xylenes, Total	Water	ug/L	--	--				--	--		--	--		--	--		--	--	
Unknown Hydrocarbons	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Semivolatile Organic Compounds																			
2-Methylnaphthalene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Acenaphthene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Acenaphthylene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Anthracene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Benzo(a)anthracene	Soil	mg/kg	3.9	--				--	--		--	--		--	--		--	--	
Benzo(a)pyrene	Soil	mg/kg	0.39	--				--	--		--	--		--	--		--	--	
Benzo(b)fluoranthene	Soil	mg/kg	3.9	--				--	--		--	--		--	--		--	--	
Benzo(g,h,i)perylene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Benzo(k)fluoranthene	Soil	mg/kg	3.9	--				--	--		--	--		--	--		--	--	
Chrysene	Soil	mg/kg	39	--				--	--		--	--		--	--		--	--	
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	--				--	--		--	--		--	--		--	--	
Fluoranthene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Fluorene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	--				--	--		--	--		--	--		--	--	
Naphthalene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Phenanthrene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
Pyrene	Soil	mg/kg	--	--				--	--		--	--		--	--		--	--	
TOTAL ESTIMATED RISK OR HAZARD INDEX			--			0.00E+00	0.37		0.00E+00	0.42		0.00E+00	0.24		0.00E+00	0.01		0.00E+00	0.20

* Concentration based on Bay Area background

** PRG based on appearance, not risk

**TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD**

DATE			5/13/97		5/13/97		4/27/98		4/27/98		4/27/98		4/27/98		4/27/98		4/27/98		
SAMPLE NUMBER			1AB		2AB		SB-14		SB-15		SB-15		SB-15		SB-15		SB-15		
DEPTH (FT)							0.5		0.5		0.5		0.5		0.5		0.5		
Site Area			Park Use	Steam Valve		Steam Valve	Port		Port		Port		Port		Port		Port		
COMPOUND	MATRIX	UNITS	Carcinogenic Park PRG		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio	
Metals																			
Antimony	Soil	mg/kg	--	--			--			--			--			--			
Arsenic*	Soil	mg/kg	14	--			--			--			--			--			
Barium	Soil	mg/kg	--	--			--			--			--			--			
Beryllium	Soil	mg/kg	1.7	--			--			--			--			--			
Cadmium	Soil	mg/kg	--	--			--			--			--			--			
Chromium	Soil	mg/kg	2,700	--			76	0.03		150	0.06		62	0.02					
Cobalt	Soil	mg/kg	--	--			--			--			--			--			
Copper	Soil	mg/kg	--	--			3700		0.12	1100		0.03	35		0.00				
Lead	Soil	mg/kg	--	--			640		0.76	450		0.54	16		0.02				
Mercury	Soil	mg/kg	--	--			16		0.06	1.8		0.01	53		0.20				
Molybdenum	Soil	mg/kg	--	--			--			--			--			--			
Nickel	Soil	mg/kg	--	--			--			--			--			--			
Silver	Soil	mg/kg	--	--			--			--			--			--			
Thallium	Soil	mg/kg	--	--			--			--			--			--			
Vanadium	Soil	mg/kg	--	--			--			--			--			--			
Zinc	Soil	(mg/kg)	--	--			950		0.00	450		0.00	50		0.00				
Petroleum Compounds																			
Benzene	Soil	mg/kg	2.3	--			--			--			--			--			
Benzene	Water	ug/L	303	ND<0.5			ND<0.5			--			--			--			
TPH-Diesel**	Soil	mg/kg	--	--			4800		4.80	300		0.30	4700		4.70				
Ethyl Benzene	Soil	mg/kg	--	--			--			--			--			--			
Ethylbenzene	Water	ug/L	--	ND<0.5			ND<0.5			--			--			--			
TPH-Gasoline**	Soil	mg/kg	--	--			--			--			--			--			
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			--			--			--			--			
Toluene	Soil	mg/kg	--	--			--			--			--			--			
Toluene	Water	ug/L	--	0.92		0.00	0.79		0.00	--			--			--			
m,p-Xylenes	Soil	mg/kg	--	--			--			--			--			--			
m,p-Xylenes	Water	ug/L	--	--			--			--			--			--			
o-Xylene	Water	ug/L	--	--			--			--			--			--			
Total Xylenes	Soil	mg/kg	--	--			--			--			--			--			
Xylenes, Total	Water	ug/L	--	1.4			1.5			--			--			--			
Unknown Hydrocarbons	Soil	mg/kg	--	--			--			--			--			--			
Semivolatile Organic Compounds																			
2-Methylnaphthalene	Soil	mg/kg	--	--			--			--			--			--			
Acenaphthene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Acenaphthylene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Anthracene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Benzo(a)anthracene	Soil	mg/kg	3.9	--			--			--			1.2	0.31		--			
Benzo(a)pyrene	Soil	mg/kg	0.39	--			--			--			1.4	3.59		--			
Benzo(b)fluoranthene	Soil	mg/kg	3.9	--			--			--			2.3	0.59		--			
Benzo(g,h,i)perylene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Benzo(k)fluoranthene	Soil	mg/kg	3.9	--			--			--			--			--			
Chrysene	Soil	mg/kg	39	--			--			--			1.5	0.04		--			
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	--			--			--			ND<1.0			--			
Fluoranthene	Soil	mg/kg	--	--			--			--			4.4		0.00	--			
Fluorene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	--			--			--			ND<1.0			--			
Naphthalene	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Phenanthrene	Soil	mg/kg	--	--			--			--			1.9		0.00	--			
Pyrene	Soil	mg/kg	--	--			--			--			3.7		0.04	--			
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	--		0.00E+00	0.00		0.00E+00	0.00		2.81E-08	5.74		5.56E-08	0.88		4.55E-06	4.96

* Concentration based on Bay Area background

** PRG based on appearance, not risk

**TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD**

DATE				4/27/98			4/27/98			4/27/98			4/27/98			4/28/98			
SAMPLE NUMBER				SB-16			SB-16			SB-17			SB-17			SB16A			
DEPTH (FT)				0.5			2.0			0.5			3.0			1.5			
Site Area			Park Use	Port			Port			Port			Port			Port			
COMPOUND	MATRIX	UNITS	Carcinogenic Park PRG		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non- Carcinogenic PRG Ratio	
Metals																			
Antimony	Soil	mg/kg	--	--			--			--			--			--			
Arsenic*	Soil	mg/kg	14	--			--			--			--			--			
Barium	Soil	mg/kg	--	--			--			--			--			--			
Beryllium	Soil	mg/kg	1.7	--			--			--			--			--			
Cadmium	Soil	mg/kg	--	--			--			--			--			--			
Chromium	Soil	mg/kg	2,700	210	0.08		92	0.03		65	0.02		68	0.03		--			
Cobalt	Soil	mg/kg	--	--			--			--			--			--			
Copper	Soil	mg/kg	--	1700	0.05		1700	0.05		6700	0.21		600	0.02		--			
Lead	Soil	mg/kg	--	250	0.30		3100	3.69		800	0.95		150	0.18		--			
Mercury	Soil	mg/kg	--	8.2	0.03		6.0	0.02		4.4	0.02		0.91	0.00		--			
Molybdenum	Soil	mg/kg	--	--			--			--			--			--			
Nickel	Soil	mg/kg	--	--			--			--			--			--			
Silver	Soil	mg/kg	--	--			--			--			--			--			
Thallium	Soil	mg/kg	--	--			--			--			--			--			
Vanadium	Soil	mg/kg	--	--			--			--			--			--			
Zinc	Soil	(mg/kg)	--	950	0.00		1700	0.01		7500	0.03		510	0.00		--			
Petroleum Compounds																			
Benzene	Soil	mg/kg	2.3	--			--			--			ND<0.005			--			
Benzene	Water	ug/L	303	--			--			--			ND<0.5			--			
TPH-Diesel**	Soil	mg/kg	--	--			--			--			--		1500			1.50	
Ethyl Benzene	Soil	mg/kg	--	--			--			--			ND<0.005			--			
Ethylbenzene	Water	ug/L	--	--			--			--			ND<0.5			--			
TPH-Gasoline**	Soil	mg/kg	--	--			--			--			ND<1.0			--			
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			--			--			--			--			
Toluene	Soil	mg/kg	--	--			--			--			0.0069	0.00		--			
Toluene	Water	ug/L	--	--			--			--			ND<0.5			--			
m,p-Xylenes	Soil	mg/kg	--	--			--			--			ND<0.005			--			
m,p-Xylenes	Water	ug/L	--	--			--			--			--			--			
o-Xylene	Water	ug/L	--	--			--			--			--			--			
Total Xylenes	Soil	mg/kg	--	--			--			--			--			--			
Xylenes, Total	Water	ug/L	--	--			--			--			--			--			
Unknown Hydrocarbons	Soil	mg/kg	--	--			--			--			--			--			
Semivolatile Organic Compounds																			
2-Methylnaphthalene	Soil	mg/kg	--	--			--			--			--			--			
Acenaphthene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Acenaphthylene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Anthracene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Benzo(a)anthracene	Soil	mg/kg	3.9	--			--			--			--			ND<0.25			
Benzo(a)pyrene	Soil	mg/kg	0.39	--			--			--			--			ND<0.25			
Benzo(b)fluoranthene	Soil	mg/kg	3.9	--			--			--			--			0.53			
Benzo(g,h,i)perylene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Benzo(k)fluoranthene	Soil	mg/kg	3.9	--			--			--			--			--			
Chrysene	Soil	mg/kg	39	--			--			--			--			ND<0.25			
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	--			--			--			--			ND<0.25			
Fluoranthene	Soil	mg/kg	--	--			--			--			--			0.39		0.00	
Fluorene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	--			--			--			--			ND<0.25			
Naphthalene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Phenanthrene	Soil	mg/kg	--	--			--			--			--			ND<0.25			
Pyrene	Soil	mg/kg	--	--			--			--			--			0.67		0.01	
TOTAL ESTIMATED RISK OR HAZARD INDEX				--		7.78E-08	0.39		3.41E-08	3.77		2.41E-08	1.21		2.52E-08	0.20		0.00E+00	1.51

* Concentration based on Bay Area background
** PRG based on appearance, not risk

TABLE 2
HUMAN HEALTH RISK EVALUATION -- PARK USER SCENARIO
FORMER CRYER BOAT YARD

DATE				8/12/98		8/12/98			
SAMPLE NUMBER				SV-10		SV10			
DEPTH (FT)				2.5		5.5			
Site Area			Park Use	Steam Valve		Steam Valve			
COMPOUND	MATRIX	UNITS	Carcinogenic Park PRG		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio
Metals									
Antimony	Soil	mg/kg	--	--			--		
Arsenic*	Soil	mg/kg	14	--			--		
Barium	Soil	mg/kg	--	--			--		
Beryllium	Soil	mg/kg	1.7	--			--		
Cadmium	Soil	mg/kg	--	--			--		
Chromium	Soil	mg/kg	2,700	46	0.02		49	0.02	
Cobalt	Soil	mg/kg	--	--			--		
Copper	Soil	mg/kg	--	85		0.00	36		0.00
Lead	Soil	mg/kg	--	250		0.30	74		0.09
Mercury	Soil	mg/kg	--	0.26		0.00	0.096		0.00
Molybdenum	Soil	mg/kg	--	--			--		
Nickel	Soil	mg/kg	--	--			--		
Silver	Soil	mg/kg	--	--			--		
Thallium	Soil	mg/kg	--	--			--		
Vanadium	Soil	mg/kg	--	--			--		
Zinc	Soil	(mg/kg)	--	160		0.00	100		0.00
Petroleum Compounds									
Benzene	Soil	mg/kg	2.3	ND<0.005			0.57	0.25	0.08
Benzene	Water	ug/L	303	--			770	2.54	0.01
TPH-Diesel**	Soil	mg/kg	--	100		0.10	28		0.03
Ethyl Benzene	Soil	mg/kg	--	0.0074		0.00	0.063		0.00
Ethylbenzene	Water	ug/L	--	--			210		
TPH-Gasoline**	Soil	mg/kg	--	1.3		0.00	9.9		0.01
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			--		
Toluene	Soil	mg/kg	--	0.0064		0.00	0.02		0.00
Toluene	Water	ug/L	--	--			10		
m,p-Xylenes	Soil	mg/kg	--	0.008		0.00	0.014		0.00
m,p-Xylenes	Water	ug/L	--	--			110		
o-Xylene	Water	ug/L	--	--			5.6		
Total Xylenes	Soil	mg/kg	--	--			--		
Xylenes, Total	Water	ug/L	--	--			--		
Unknown Hydrocarbons	Soil	mg/kg	--	--			--		
Semivolatile Organic Compounds									
2-Methylnaphthalene	Soil	mg/kg	--	--			--		
Acenaphthene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Acenaphthylene	Soil	mg/kg	--	0.140			ND<0.05		
Anthracene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Benzo(a)anthracene	Soil	mg/kg	3.9	ND<0.05			ND<0.05		
Benzo(a)pyrene	Soil	mg/kg	0.39	ND<0.05			ND<0.05		
Benzo(b)fluoranthene	Soil	mg/kg	3.9	0.120	0.03		ND<0.05		
Benzo(g,h,i)perylene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Benzo(k)fluoranthene	Soil	mg/kg	3.9	--			--		
Chrysene	Soil	mg/kg	39	0.062	0.00		ND<0.05		
Dibenzo(a,h)anthracene	Soil	mg/kg	0.39	ND<0.05			ND<0.05		
Fluoranthene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Fluorene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.9	ND<0.05			ND<0.05		
Naphthalene	Soil	mg/kg	--	ND<0.05			0.170		0.00
Phenanthrene	Soil	mg/kg	--	ND<0.05			ND<0.05		
Pyrene	Soil	mg/kg	--	0.060		0.00	ND<0.05		
TOTAL ESTIMATED RISK OR HAZARD INDEX			--		4.94E-08	0.40	ND<0.05	2.81E-06	0.22

* Concentration based on Bay Area background

** PRG based on appearance, not risk

**TABLE 3
HUMAN HEALTH RISK EVALUATION -- CURRENT SITE WORKER SCENARIO
FORMER CRYER BOAT YARD**

DATE			2/13/91			2/13/91		2/13/91		2/13/91		3/5/93		3/16/93		3/16/93					
SAMPLE NUMBER			5			5		6		Composite:201.0		B-1		B-1		B-4					
DEPTH (FT)			1			4		10		501.0, & 601.0		2.0-2.5		4.0-4.5		2.5-3.0					
Site Area			Workteam Valve			Steam Valve			Steam Valve			Steam Valve			Steam Valve						
COMPOUND	MATRIX	UNITS	Carcinogenic PRG		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio						
Metals																					
Antimony	Soil	mg/kg	--	ND<5				ND<5						ND<5			11				
Antimony	Water	ug/L	--	--				--						--			--				
Arsenic*	Soil	mg/kg	14	4.9	0.35	0.01	ND<2.5			5.8	0.41	0.01	--	8	0.57	0.02	2				
Barium	Soil	mg/kg	--	120		0.00	100		0.00	77		0.00	--	32		0.00	280				
Beryllium	Soil	mg/kg	1.2	ND<0.5			ND<0.5			ND<0.5			--	ND<0.5			ND<0.5				
Cadmium	Soil	mg/kg	9	3.4		0.00	1.1		0.00	5.1		0.01	--	ND<1			ND<1				
Chromium	Soil	mg/kg	450	26	0.06		33		0.07	31			--	40	0.09		18				
Cobalt	Soil	mg/kg	--	7.5		0.00	7.7		0.00	10		0.00	--	ND<10			ND<10				
Copper	Soil	mg/kg	--	770		0.01	25		0.00	490		0.01	--	18		0.00	18				
Lead	Soil	mg/kg	--	190		0.19	2.9		0.00	190		0.19	--	9		0.01	9				
Mercury	Soil	mg/kg	--	0.5		0.01	ND<0.1			ND<0.1			--	ND<0.5			ND<0.5				
Molybdenum	Soil	mg/kg	--	ND<0.5			ND<0.5			ND<0.5			--	ND<10			ND<10				
Nickel	Soil	mg/kg	--	33		0.00	54		0.00	22		0.00	--	23		0.00	17				
Silver	Soil	mg/kg	--	ND<1			ND<1			ND<1			--	ND<5			ND<5				
Thallium	Soil	mg/kg	--	ND<5			ND<5			ND<5			--	ND<5			ND<5				
Vanadium	Soil	mg/kg	--	19		0.00	9.7		0.00	25		0.00	--	29		0.00	30				
Zinc	Soil	(mg/kg)	--	350		0.00	45		0.00	130		0.00	--	41		0.00	42				
Petroleum Compounds																					
Benzene	Soil	mg/kg	1.4	--			--			--			--	--			--				
Benzene	Water	ug/L	73.9	--			--			--			--	--			--				
TPH-Diesel**	Soil	mg/kg	--	--			3			--			--	--			--				
Ethyl Benzene	Soil	mg/kg	--	--			--			--			--	--			--				
Ethylbenzene	Water	ug/L	--	--			--			--			--	--			--				
TPH-Gasoline**	Soil	mg/kg	--	--			--			--			--	--			--				
TPH-Gasoline**	Water	ug/L	--	--			--			--			--	--			--				
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--			ND<50			--			--	--			--				
Toluene	Soil	mg/kg	--	--			--			--			--	--			--				
Toluene	Water	ug/L	--	--			--			--			--	--			--				
m,p-Xylenes	Soil	mg/kg	--	--			--			--			--	--			--				
m,p-Xylenes	Water	ug/L	--	--			--			--			--	--			--				
o-Xylene	Water	ug/L	--	--			--			--			--	--			--				
Total Xylenes	Soil	mg/kg	--	--			--			--			--	--			--				
Xylenes, Total	Water	ug/L	--	--			--			--			--	--			--				
Unknown Hydrocarbons	Soil	mg/kg	--	--			--			--			--	--			--				
Semivolatile Organic Compounds																					
2-Methylnaphthalene	Soil	mg/kg	--	--			--			0.380			--	--			--				
Acenaphthene	Soil	mg/kg	--	--			--			ND<0.330			--	--			--				
Acenaphthylene	Soil	mg/kg	--	--			--			ND<0.330			--	--			--				
Anthracene	Soil	mg/kg	--	--			--			ND<0.330			--	--			--				
Benzo(a)anthracene	Soil	mg/kg	3.6	--			--			ND<0.330			--	--			--				
Benzo(a)pyrene	Soil	mg/kg	0.36	--			--			ND<0.330			--	--			--				
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--			--			0.24	0.07		--	--			--				
Benzo(g,h,i)perylene	Soil	mg/kg	--	--			--			ND<0.330			--	--			--				
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--			--			ND<0.330			--	--			--				
Chrysene	Soil	mg/kg	360	--			--			ND<0.330			--	--			--				
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--			--			ND<0.330			--	--			--				
Fluoranthene	Soil	mg/kg	--	--			--			0.24		0.00	--	--			--				
Fluorene	Soil	mg/kg	--	--			--			0.19		0.00	--	--			--				
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--			--			ND<0.330			--	--			--				
Naphthalene	Soil	mg/kg	--	--			--			ND<0.330			--	--			--				
Naphthalene	Water	ug/L	--	--			--			--			--	--			--				
Phenanthrene	Soil	mg/kg	--	--			--			0.26			--	--			--				
Pyrene	Soil	mg/kg	--	--			--			0.18		0.00	--	--			--				
TOTAL ESTIMATED RISK OR HAZARD INDEX			--			4.08E-07	0.23		0.00E+00	0.01		4.83E-07	0.22		6.67E-08	0.00	6.60E-07	0.03		1.83E-07	0.02

* Concentration based on Bay Area background

** No PRG available; risk addressed by constituent compounds

**TABLE 3
HUMAN HEALTH RISK EVALUATION -- CURRENT SITE WORKER SCENARIO
FORMER CRYER BOAT YARD**

DATE			10/14/96		5/1/97		5/1/97		5/1/97		5/1/97		5/1/97			
SAMPLE NUMBER			WELL#4		SB-9		SB-9		SB-10		SB-10		SB-11			
DEPTH (FT)					0.5		3		0.5		3		0.4			
Site Area			Worker	Steam Valve	Port		Port		Port		Port		Port			
COMPOUND	MATRIX	UNITS	Carcinogenic PRG		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		
Metals																
Antimony	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Antimony	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic*	Soil	mg/kg	14	--	--	--	--	--	--	--	--	--	--	--		
Barium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Beryllium	Soil	mg/kg	1.2	--	--	--	--	--	--	--	--	--	--	--		
Cadmium	Soil	mg/kg	9	--	--	--	--	--	--	--	--	--	--	--		
Chromium	Soil	mg/kg	450	--	--	--	--	--	--	--	--	--	--	--		
Cobalt	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Copper	Soil	mg/kg	--	--	164	0.00	108	0.00	1130	0.02	1140	0.02	95.6	0.00		
Lead	Soil	mg/kg	--	--	308	0.31	27.7	0.03	321	0.32	1740	1.74	196	0.20		
Mercury	Soil	mg/kg	--	--	0.286	0.01	0.0764	0.00	0.638	0.01	0.378	0.01	0.17	0.00		
Molybdenum	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Nickel	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Silver	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Thallium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc	Soil	(mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--		
Petroleum Compounds																
Benzene	Soil	mg/kg	1.4	--	--	--	--	--	--	--	--	--	--	--		
Benzene	Water	ug/L	73.9	0.5	0.01	--	--	--	--	--	--	--	--	--		
TPH-Diesel**	Soil	mg/kg	--	--	--	--	8	--	--	29	--	--	--	--		
Ethyl Benzene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Ethylbenzene	Water	ug/L	--	ND<0.5	--	--	--	--	--	--	--	--	--	--		
TPH-Gasoline**	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
TPH-Gasoline**	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--		
Hydrocarbons (oil and grease)	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Toluene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Toluene	Water	ug/L	--	0.7	--	0.00	--	--	--	--	--	--	--	--		
m,p-Xylenes	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
m,p-Xylenes	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--		
o-Xylene	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--		
Total Xylenes	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Xylenes, Total	Water	ug/L	--	0.6	--	--	--	--	--	--	--	--	--	--		
Unknown Hydrocarbons	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Semivolatile Organic Compounds																
2-Methylnaphthalene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Acenaphthene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Acenaphthylene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Anthracene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Benzo(a)anthracene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--		
Benzo(a)pyrene	Soil	mg/kg	0.36	--	--	--	--	--	--	--	--	--	--	--		
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--		
Benzo(g,h,i)perylene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--		
Chrysene	Soil	mg/kg	360	--	--	--	--	--	--	--	--	--	--	--		
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--	--	--	--	--	--	--	--	--	--	--		
Fluoranthene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Fluorene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--	--	--	--	--	--	--	--	--	--	--		
Naphthalene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Naphthalene	Water	ug/L	--	--	--	--	ND<1	--	--	ND<1	--	--	--	--		
Phenanthrene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
Pyrene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--		
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	--	6.77E-09	0.00	0.00E+00	0.32	0.00E+00	0.03	0.00E+00	0.35	0.00E+00	1.76	0.00E+00	0.20

* Concentration based on Bay Area background

** No PRG available; risk addressed by constituent compounds

TABLE 3
HUMAN HEALTH RISK EVALUATION -- CURRENT SITE WORKER SCENARIO
FORMER CRYER BOAT YARD

DATE	SAMPLE NUMBER	DEPTH (FT)	Site Area	5/1/97 SB-11	5/1/97 SB-12	5/1/97 SB-13	6/12/97 SB-13	5/13/97 1AB	5/13/97 2AB												
			Worker Port																		
COMPOUND	MATRIX	UNITS	Carcinogenic PRG	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio				
Metals																					
Antimony	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Antimony	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Arsenic*	Soil	mg/kg	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Barium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Beryllium	Soil	mg/kg	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Cadmium	Soil	mg/kg	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Chromium	Soil	mg/kg	450	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Cobalt	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Copper	Soil	mg/kg	--	74.9	0.00	49.4	0.00	394	0.01	136	0.00	5250	0.08	--	--	--	--	--			
Lead	Soil	mg/kg	--	1.96	0.00	7.53	0.01	513	0.51	164	0.16	138	0.14	--	--	--	--	--			
Mercury	Soil	mg/kg	--	0.286	0.01	0.138	0.00	5.76	0.10	0.726	0.01	1.78	0.03	--	--	--	--	--			
Molybdenum	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Nickel	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Silver	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Thallium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Vanadium	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Zinc	Soil	(mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Petroleum Compounds																					
Benzene	Soil	mg/kg	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Benzene	Water	ug/L	73.9	--	--	--	--	--	--	--	--	--	--	ND<0.5	--	--	--	ND<0.5			
TPH-Diesel**	Soil	mg/kg	--	23	--	--	--	8300	--	--	--	--	7.7	--	--	--	--	--			
Ethyl Benzene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Ethylbenzene	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	ND<0.5	--	--	--	ND<0.5			
TPH-Gasoline**	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
TPH-Gasoline**	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Hydrocarbons (oil and gre)	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Toluene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Toluene	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.92	--	0.00	0.79	--			
m,p-Xylenes	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
m,p-Xylenes	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
o-Xylene	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Total Xylenes	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Xylenes, Total	Water	ug/L	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	1.5			
Unknown Hydrocarbons	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Semi-volatile Organic Compounds																					
2-Methylnaphthalene	Soil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Acenaphthene	Soil	mg/kg	--	--	--	--	--	1.5	0.00	--	--	ND<1.7	--	--	--	--	--	--			
Acenaphthylene	Soil	mg/kg	--	--	--	--	--	ND<3.3	--	--	--	ND<3.3	--	--	--	--	--	--			
Anthracene	Soil	mg/kg	--	--	--	--	--	1.4	0.00	--	--	ND<1.7	--	--	--	--	--	--			
Benzo(a)anthracene	Soil	mg/kg	3.6	--	--	--	--	1.4	0.39	--	--	ND<1.7	--	--	--	--	--	--			
Benzo(a)pyrene	Soil	mg/kg	0.36	--	--	--	--	0.95	2.64	--	--	0.67	1.86	--	--	--	--	--			
Benzo(b)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	0.93	0.26	--	--	ND<1.7	--	--	--	--	--	--			
Benzo(g,h,i)perylene	Soil	mg/kg	--	--	--	--	--	0.56	--	--	--	ND<0.33	--	--	--	--	--	--			
Benzo(k)fluoranthene	Soil	mg/kg	3.6	--	--	--	--	1.4	0.39	--	--	ND<1.7	--	--	--	--	--	--			
Chrysene	Soil	mg/kg	360	--	--	--	--	2.8	0.01	--	--	ND<1.7	--	--	--	--	--	--			
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36	--	--	--	--	ND<3.3	--	--	--	ND<0.67	--	--	--	--	--	--			
Fluoranthene	Soil	mg/kg	--	--	--	--	--	5.6	--	0.00	--	5.9	--	0.00	--	--	--	--			
Fluorene	Soil	mg/kg	--	--	--	--	--	1.3	0.00	--	--	1.6	--	0.00	--	--	--	--			
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6	--	--	--	--	0.36	0.10	--	--	ND<0.170	--	--	--	--	--	--			
Naphthalene	Soil	mg/kg	--	--	--	--	--	ND<3.3	--	--	--	ND<1.7	--	--	--	--	--	--			
Naphthalene	Water	ug/L	--	ND<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	Soil	mg/kg	--	--	--	--	--	4.7	--	--	--	8.7	--	--	--	--	--	--			
Pyrene	Soil	mg/kg	--	--	--	--	--	5.1	0.00	--	--	4.4	--	0.00	--	--	--	--			
TOTAL ESTIMATED RISK OR HAZARD INDEX			--		0.00E+00	0.01		0.00E+00	0.01		3.78E-06	0.62		0.00E+00	0.18		1.86E-06	0.25		0.00E+00	0.00

* Concentration based on Bay Area background
 ** No PRG available; risk addressed by constituent compounds

**TABLE 3
HUMAN HEALTH RISK EVALUATION -- CURRENT SITE WORKER SCENARIO
FORMER CRYER BOAT YARD**

DATE	SAMPLE NUMBER	DEPTH (FT)	Site Area	5/13/97		5/13/97		4/27/98		4/27/98		4/27/98		4/27/98			
				3A17	6A17	SB-14	SB-14	SB-14	SB-14	SB-14	SB-14						
				Worker		Steam Valve		Port		Port		Port		Port			
COMPOUND	MATRIX	UNITS	Carcinogenic PRG	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio	Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		
Metals																	
Antimony	Soil	mg/kg	--			--		--		--		--		--			
Antimony	Water	ug/L	--			ND<50		59		3.93		--		--			
Arsenic*	Soil	mg/kg	14			--		--		--		--		--			
Barium	Soil	mg/kg	--			--		--		--		--		--			
Beryllium	Soil	mg/kg	1.2			--		--		--		--		--			
Cadmium	Soil	mg/kg	9			--		--		--		--		--			
Chromium	Soil	mg/kg	450			--		76		0.17		38		0.08			
Cobalt	Soil	mg/kg	--			--		--		--		--		--			
Copper	Soil	mg/kg	--			--		3700		0.05		62		0.00			
Lead	Soil	mg/kg	--			--		640		0.64		16		0.02			
Mercury	Soil	mg/kg	--			--		16		0.29		0.83		0.01			
Molybdenum	Soil	mg/kg	--			--		--		--		--		--			
Nickel	Soil	mg/kg	--			--		--		--		--		--			
Silver	Soil	mg/kg	--			--		--		--		--		--			
Thallium	Soil	mg/kg	--			--		--		--		--		--			
Vanadium	Soil	mg/kg	--			--		--		--		--		--			
Zinc	Soil	(mg/kg)	--			--		950		0.01		56		0.00			
Petroleum Compounds																	
Benzene	Soil	mg/kg	1.4			--		--		--		--		--			
Benzene	Water	ug/L	73.9			--		ND<1		--		--		--			
TPH-Diesel**	Soil	mg/kg	--			--		4800		220		84		300			
Ethyl Benzene	Soil	mg/kg	--			--		--		--		--		--			
Ethylbenzene	Water	ug/L	--			--		ND<1		--		--		--			
TPH-Gasoline**	Soil	mg/kg	--			--		--		--		--		--			
TPH-Gasoline**	Water	ug/L	--			--		--		--		--		--			
Hydrocarbons (oil and grease)	Soil	mg/kg	--			--		--		--		--		--			
Toluene	Soil	mg/kg	--			--		--		--		--		--			
Toluene	Water	ug/L	--		0.00	--		ND<1		--		--		--			
m,p-Xylenes	Soil	mg/kg	--			--		--		--		--		--			
m,p-Xylenes	Water	ug/L	--			--		--		--		--		--			
o-Xylene	Water	ug/L	--			--		--		--		--		--			
Total Xylenes	Soil	mg/kg	--			--		--		--		--		--			
Xylenes, Total	Water	ug/L	--			--		ND<1		--		--		--			
Unknown Hydrocarbons	Soil	mg/kg	--			--		--		--		--		--			
Semivolatile Organic Compounds																	
2-Methylnaphthalene	Soil	mg/kg	--			--		--		--		--		--			
Acenaphthene	Soil	mg/kg	--			--		--		--		--		--			
Acenaphthylene	Soil	mg/kg	--			--		--		--		--		--			
Anthracene	Soil	mg/kg	--			--		--		--		--		--			
Benzo(a)anthracene	Soil	mg/kg	3.6			--		--		--		--		--			
Benzo(a)pyrene	Soil	mg/kg	0.36			--		--		--		--		--			
Benzo(b)fluoranthene	Soil	mg/kg	3.6			--		--		--		--		--			
Benzo(g,h,i)perylene	Soil	mg/kg	--			--		--		--		--		--			
Benzo(k)fluoranthene	Soil	mg/kg	3.6			--		--		--		--		--			
Chrysene	Soil	mg/kg	360			--		--		--		--		--			
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36			--		--		--		--		--			
Fluoranthene	Soil	mg/kg	--			--		--		--		--		--			
Fluorene	Soil	mg/kg	--			--		--		--		--		--			
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6			--		--		--		--		--			
Naphthalene	Soil	mg/kg	--			--		--		--		--		--			
Naphthalene	Water	ug/L	--			ND<2.5		--		--		--		--			
Phenanthrene	Soil	mg/kg	--			--		--		--		--		--			
Pyrene	Soil	mg/kg	--			--		--		--		--		--			
TOTAL ESTIMATED RISK OR HAZARD INDEX			--		0.00E+00	0.00		0.00E+00	0.00	0.00E+00	3.93	1.69E-07	0.99	8.44E-08	0.03	1.29E-07	0.03

* Concentration based on Bay Area background

** No PRG available; risk addressed by constituent compounds

**TABLE 3
HUMAN HEALTH RISK EVALUATION -- CURRENT SITE WORKER SCENARIO
FORMER CRYER BOAT YARD**

DATE					8/12/98			8/12/98		8/12/98			
SAMPLE NUMBER					SV-13			SV-14		SV-14			
DEPTH (FT)					5.5			2.5		5.5			
Site Area			Worker:		Steam Valve			Steam Valve		Steam Valve			
COMPOUND	MATRIX	UNITS	Carcinogenic PRG	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio		Carcinogenic PRG Ratio	Non-Carcinogenic PRG Ratio
Metals													
Antimony	Soil	mg/kg	--		--			--			--		
Antimony	Water	ug/L	--		--			--			--		
Arsenic*	Soil	mg/kg	14		--			--			--		
Barium	Soil	mg/kg	--		--			--			--		
Beryllium	Soil	mg/kg	1.2		--			--			--		
Cadmium	Soil	mg/kg	9		--			--			--		
Chromium	Soil	mg/kg	450		46	0.10		52	0.12		39	0.09	
Cobalt	Soil	mg/kg	--		--			--			--		
Copper	Soil	mg/kg	--	0.00	10		0.00	21		0.00	14		0.00
Lead	Soil	mg/kg	--	0.01	3.2		0.00	4.9		0.00	3.7		0.00
Mercury	Soil	mg/kg	--	0.00	0.063		0.00	0.048		0.00	0.072		0.00
Molybdenum	Soil	mg/kg	--		--			--			--		
Nickel	Soil	mg/kg	--		--			--			--		
Silver	Soil	mg/kg	--		--			--			--		
Thallium	Soil	mg/kg	--		--			--			--		
Vanadium	Soil	mg/kg	--		--			--			--		
Zinc	Soil	(mg/kg)	--	0.00	32		0.00	150		0.00	35		0.00
Petroleum Compounds													
Benzene	Soil	mg/kg	1.4		--			--			--		
Benzene	Water	ug/L	73.9		--			--			--		
TPH-Diesel**	Soil	mg/kg	--		--			--			--		
Ethyl Benzene	Soil	mg/kg	--		--			--			--		
Ethylbenzene	Water	ug/L	--		--			--			--		
TPH-Gasoline**	Soil	mg/kg	--		--			--			--		
TPH-Gasoline**	Water	ug/L	--		--			--			--		
Hydrocarbons (oil and grea	Soil	mg/kg	--		--			--			--		
Toluene	Soil	mg/kg	--		--			--			--		
Toluene	Water	ug/L	--		--			--			--		
m,p-Xylenes	Soil	mg/kg	--		--			--			--		
m,p-Xylenes	Water	ug/L	--		--			--			--		
o-Xylene	Water	ug/L	--		--			--			--		
Total Xylenes	Soil	mg/kg	--		--			--			--		
Xylenes, Total	Water	ug/L	--		--			--			--		
Unknown Hydrocarbons	Soil	mg/kg	--		--			--			--		
Semivolatile Organic Compounds													
2-Methylnaphthalene	Soil	mg/kg	--		--			--			--		
Acenaphthene	Soil	mg/kg	--		--			--			--		
Acenaphthylene	Soil	mg/kg	--		--			--			--		
Anthracene	Soil	mg/kg	--		--			--			--		
Benzo(a)anthracene	Soil	mg/kg	3.6		--			--			--		
Benzo(a)pyrene	Soil	mg/kg	0.36		--			--			--		
Benzo(b)fluoranthene	Soil	mg/kg	3.6		--			--			--		
Benzo(g,h,i)perylene	Soil	mg/kg	--		--			--			--		
Benzo(k)fluoranthene	Soil	mg/kg	3.6		--			--			--		
Chrysene	Soil	mg/kg	360		--			--			--		
Dibenzo(a,h)anthracene	Soil	mg/kg	0.36		--			--			--		
Fluoranthene	Soil	mg/kg	--		--			--			--		
Fluorene	Soil	mg/kg	--		--			--			--		
Indeno(1,2,3-cd)pyrene	Soil	mg/kg	3.6		--			--			--		
Naphthalene	Soil	mg/kg	--		--			--			--		
Naphthalene	Water	ug/L	--		--			--			--		
Phenanthrene	Soil	mg/kg	--		--			--			--		
Pyrene	Soil	mg/kg	--		--			--			--		
TOTAL ESTIMATED RISK OR HAZARD INDEX			--	0.01		1.02E-07	0.00		1.16E-07	0.01		8.67E-08	0.01

* Concentration based on Bay Area background

** No PRG available; risk addressed by constituent compounds